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ART

ARTERY, in *Anatomy*, from αηρ, *air*, and τηρεω, *to keep*, is the name by which thoſe veſſels are diſtinguiſhed through which the blood flows from the heart to every part of the body. The term was firſt adopted by the anatomiſts of the Alexandrian ſchool, in conſequence of the erroneous opinion which they entertained, that theſe veſſels were deſigned for the diſtribution of air throughout the body.

ARTERIES, *Structure of.* The larger arteries have thick and elaſtic ſides, ſo that they remain open when divided, and preſent a regularly circular aperture. The ſides may be ſeparated into three ſtrata of diſſimilar ſubſtances, which are technically called coats. The innermoſt, which is generally termed the cuticular coat, is very thin, but very ſtrong and inelaſtic. Upon this circumſtance depends the regularly circular form of an injected artery; for if the cuticular coat burſts from too great force being uſed in injecting, the exterior elaſtic coats are diſtended into an irregular and uncertain figure. The internal ſurface of this coat is perfectly ſmooth, ſo that the blood glides along it without impediment; the external ſurface is a little rough, and is connected by cellular ſubſtance to that coat which ſurrounds it. The middle or muſcular coat conſiſts of circular fibres which are ſcarcely viſible in the largeſt arteries, but are very manifeſt and ſtrong in the ſmaller ones; they are ſeen projecting in circular ridges, beneath the thin cuticular coat of a ſmall artery, when it is ſlit open. The great increaſe of the muſcular power of the ſmall arteries is not only evident to the ſight, but has been demonſtrated by experiment. Mr. Hunter bled a horſe to death, and afterwards examined the ſtate of the arteries. The aorta was contracted about $\frac{1}{20}$th part of its natural area, the iliac $\frac{1}{6}$th, the radial $\frac{1}{2}$. See his Treatiſe on the Blood, Inflammation, &c. The external or elaſtic coat of the artery appears to be made of condenſed cellular ſubſtance; it is powerfully elaſtic, and abounds in the larger arteries, but gradually diminiſhes in quantity as the ſize of the veſſel decreaſes; ſo that the ſmall arteries are quite flaccid, and collapſe when divided. It is eaſy to perceive the uſe of theſe various degrees of elaſticity and muſcular power, which are given to the different ſets of arteries. In the large arteries, muſcular power ſeems unneceſſary, for the force of the heart is fully adequate to the propulſion of the blood; but in the ſmaller arteries, where the effect of the heart's action declines, a proportionate muſcular power is allotted to the veſſel to urge on the circulating fluids. The arteries hae their nutrient arteries and veins, their abſorbents, and their nerves. All the arteries proceed from one great veſſel, as the branches ſpring from the trunk of the tree; and we proceed to notice certain circumſtances obſervable in

ARTERIES, *the Ramification of the.* 1. When a large artery gives off a branch, the conjoined areas of the two veſſels make a greater ſpace for the blood to move in, than the area of the original veſſel. The increaſe of dimenſions in the branches of a large artery is ſlight, but in thoſe of a ſmall one it is ſo conſiderable, that Haller has eſtimated it as ſurpaſſing by $\frac{1}{3}$d that of the trunk from which they ſprung. The conjoined areas of all the ſmall arteries ſo greatly exceed that of the aorta, that the ſame anatomiſt, in oppoſition to former opinions, ſays, theſe veſſels may be conſidered as conical, the baſis of the cone being in the extreme arteries, and the apex in the heart.

2. When a large artery ſends off a branch, its courſe does not, in general, deviate further from that of the trunk, than an angle of 45 degrees. Sometimes a branch, which has gone off at an acute angle, returns, and proceeds in a contrary direction to that of the trunk; and theſe arteries are

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generally called circumflex. Sometimes, indeed, a large artery does proceed from the trunk at a greater angle, nearly a right angle, as the renal arteries, &c. Though the large arteries generally ramify at acute angles, there is great diverſity in the branching of the ſmaller ones.

3. Arteries, in general, do not purſue a ſtraight, but ſerpentine courſe; in ſome inſtances it is remarkably the caſe; as in the ſpermatics, thoſe of the face and occiput, and in moſt of the ſmaller arteries.

4. Though the ramification of arteries may be compared to the branching of trees, yet it differs materially in this particular, that the different branches frequently conjoin. This conjunction is technically termed, if we borrow the phraſe from the Greek language, their "Anaſtomoſis;" if from the Latin, their "Inoſculation." This union of arteries rarely happens among the larger ones, but frequently among the ſmaller; and increaſes in number in proportion to the minuteneſs of the veſſels. The utility of the inoſculation of arteries is evident: were it not for this circumſtance, if any arterious trunk were accidentally compreſſed, ſo that the current of blood in it ſhould be for ſome time obſtructed, the parts which it ſupplied muſt periſh. But in conſequence of the frequent communication of the arteries with one another, the blood can paſs from the adjacent arteries into all the branches of any one accidentally obſtructed.

When arteries inoſculate, two currents of blood, moving in oppoſite directions, muſt come together, and retard each other's motion. This probably is the reaſon that larger arteries, through which it ſeems neceſſary that the blood ſhould flow with rapidity, ſo ſeldom conjoin, whilſt the ſmall arteries, in which it is requiſite the blood ſhould move tardily, communicate in ſurpriſing numbers, and with a frequency proportionate to their minuteneſs. The very frequent communication of the minute arteries, almoſt as effectually prevents the prejudicial conſequences of obſtruction in the larger trunks, as if thoſe arteries themſelves were made to communicate by more direct and larger channels. All theſe minute arterious tubes are capable of enlargement, and it is an aſcertained fact, that even the aorta itſelf may be gradually obſtructed, without the parts which it ſupplies being deprived of nouriſhment. From an attentive conſideration of all theſe circumſtances, it has been concluded, that the moderate increaſe of the area of the branches of large arteries, the acute angles at which they divide, their nearly rectilinear courſe, and the rare occurrence of inoſculation between them, are deſigned to facilitate the rapid motion of the blood in them, ſo that it may arrive unchanged and in the ſame ſtate that it was projected from the heart, at that part of the body for the nouriſhment of which it is intended; whilſt, on the contrary, the great increaſe of the area of the ſmaller veſſels, the variety of their angles, their tortuous courſe, and their frequent communications, were deſigned to check the velocity of the blood's motion, when it has arrived at that part where ſecretion is to be performed, and nutrition is to take place. Contrary opinions have indeed been maintained; and for the further diſcuſſion of this ſubject, we muſt refer the reader to the *Circulation of the* Blood.

Arteries, *Termination of.* When the arteries have become very minute, they terminate in two ways; they either turn back again and become veins, and return the blood to the heart, or they ſend off fine veſſels which abſtract ſomething from the circulating blood, and which are therefore called the ſecerning arteries. Though none but minute arteries are ever reflected ſo as to become veins, yet many of them are of ſufficient magnitude to allow the paſſage of common waxen injection. The arrangement of the minute veins can be demonſtrated by impelling common waxen injection into the arteries, particularly if a degree of putrefaction be ſuffered to take place previouſly to the experiment. In the diſſection of ſuch a preparation, the continuity of the arteries and veins is very manifeſt. It ſeems therefore to follow from this facility of communication, that the maſs of blood is conſtantly and freely circulating, in order to undergo that change which is effected in the lungs, whilſt but a ſmall part of it proceeds into the very minute arteries, for the purpoſe of having ſecretions made from it. For theſe arteries, however minute, muſt be conſidered large in compariſon to the exility of others, which cannot be injected with wax and even reject the red globules of the blood, or admit them in ſuch ſmall proportion, that they do not impart the red colour to the fluid which moves in theſe veſſels. Now we may venture to affirm, that theſe globules do not much exceed, in diameter, the 150,000th part of an inch, which circumſtance ſufficiently ſhews the minuteneſs of the leſſer arteries. See the article Blood. But however minute arteries may become, ſtill they muſt all end in the ſame manner; they muſt be continued into veins, for that is the route which the blood, or ſubtile injections purſue, and from the moſt minute arteries thoſe which perform ſecretion ariſe.

The ſecerning arteries are too minute to admit commonly of demonſtration; they are however evident in ſome glands; in the kidney for inſtance, they may be ſeen continued into the excretory veſſels or tubuli uriniferi. Subtile injections, when thrown into the larger arterial trunks, may be ſeen oozing out on the ſurfaces of membranes, and into the cellular ſubſtance, and they are generally ſuppoſed to be poured forth from the open orifices of the ſecerning arteries. Analogy therefore, rather than actual demonſtration, leads us to believe, that the ſecerning arteries abſtract the particles of nutrition, or the materials which compoſe the fabric of the body, from the circulating fluids, and depoſit them from their open mouths, ſo as by this means to build up and keep in repair the ſtructure of the body.

Arteries, *Diſtribution of.* The great artery, whoſe branches ſupply the whole of the body, is named the "aorta." It comes off from the upper and back part of the left ventricle, where it is ſurrounded for a ſhort part of its courſe by the fleſhy fibres of the heart. Its origin appears externally to be divided into three diſtinct eminences, which denote the ſituation of its ſemilunar valves.

The aorta emerges from the baſis of the heart, between the pulmonary artery, and the right auricle. It aſcends at firſt rather to the right, till it arrives at the upper edge of the ſecond rib. Then it begins to bend backwards acroſs the diviſion of the pulmonary artery and of the trachea, till it reaches the left ſide of the ſpine, in which ſituation it deſcends from the fourth or fifth dorſal to the laſt lumbar vertebra.

By the "arch of the aorta," is meant that part of the veſſel which ariſes from the heart, and bends acroſs the cheſt. It ſends off the following branches: viz. the two coronary arteries, whoſe mouths are ſituated juſt above the upper edge of the ſemilunar valves. They depart from the trunk at right angles, and are diſtributed to the heart itſelf. The moſt convex part of the arch ſends off three large branches; firſt, the arteria innominata; ſecondly, the left carotid artery; and thirdly, the left ſubclavian artery. Varieties not unfrequently occur in the number of arteries which ariſe from this upper part of the arch: a long liſt of them may be ſeen in Soemmerring de corporis humani fabricâ, tom. v. p. 120.

The right coronary paſſes in the groove between the right auricle and ventricle, covered by fat, to the flat ſurface

face of the heart. It gives off five large branches chiefly to the right ventricle; the laſt of theſe, which is the longeſt, anaſtomoſes near the apex of the heart with the left coronary artery.

The left coronary artery is found between the pulmonary artery, and the left auricle. It divides into two branches. The anterior branch takes a ſerpentine courſe along the convex ſurface of the heart, in the direction of the ſeptum ventriculorum; it communicates at the apex with the right coronary. The poſterior branch paſſes between the left auricle and ventricle towards the left margin of the heart, and is diſtributed to the left ventricle.

Obſervation. Both the coronary arteries ſend branches to the roots of the great veſſels, as they come off from the heart, and they communicate with the phrenic, internal mammary, and bronchial arteries.

The arteria innominata paſſes obliquely in front of the trachea, and behind the ſubclavian vein. After a courſe of an inch or an inch and a half, during which it gives off no branch, it divides into the right carotid and right ſubclavian arteries: the reſt of the deſcription of theſe arteries, is the ſame on both ſides of the body.

The common carotid artery emerges from the cheſt by the ſide of the trachea, where it is covered by the inſertion of the ſternocleidomaſtoideus muſcle. It mounts upwards in front of the vertebræ, and parallel with the trachea, till it reaches the upper margin of the thyroid cartilage, without giving off a ſingle branch. During its courſe along the neck, it is cloſely connected to the internal jugular vein, and the eighth pair of nerves. At the upper margin of the thyroid cartilage, it divides into the external and internal carotid arteries, the former of which is diſtributed to the outſide of the head, the latter to the brain.

The external carotid continues its courſe upwards between the ramus of the jaw and the ear, being imbedded in the ſubſtance of the parotid gland. About the middle of the ramus of the jaw, it divides into the ſuperficial temporal, and the internal maxillary arteries.

The Branches of the External Carotid Artery.

The ſuperior thyroideal is the firſt branch of the external carotid artery. It purſues a tortuous courſe downwards and forwards to the upper part of the thyroid gland, to which it is almoſt entirely diſtributed, communicating freely with the thyroid branch of the inferior thyroideal artery. It ſends however a ſuperficial branch under the os hyoides, which unites with its fellow of the oppoſite ſide. Another branch goes to the lower part of the thyroid cartilage, and is diſtributed to the neighbouring muſcles. The laryngeal artery is the moſt conſtant branch of the ſuperior thyroideal; it enters the larynx between the thyroid and cricoid cartilages, together with the recurrent nerve, or at a hole in the ſide of the thyroid cartilage, and is diſtributed to the muſcles of the arytenoid cartilages, and to the membrane which lines the larynx.

The lingual artery comes off from the external carotid immediately above the former; it accompanies the lingual nerve, paſſing above the corner of the os hyoides, and within the hyogloſſus muſcle; it gives a branch (the ramus hyoideus of authors) to the muſcles above the os hyoides; then it ſends a pretty large artery (dorſalis linguæ) to the back of the tongue, epiglottis, &c. Afterwards the trunk divides into two branches: the ſublingual, which paſſes between the ſublingual gland and the geniohyoideus muſcle to the chin, where it terminates ſuperficially; and the ranine, which is the larger and more important branch: it continues its courſe along the inferior ſurface of the tongue, preſerving a conſiderable ſize to the very apex.

The labial artery, which is alſo called the facial, external maxillary, or angular artery, ariſes from the external carotid under the digaſtric and ſtylohyoideus muſcles; it advances in a tortuous manner to the baſis of the jaw, paſſing through a deep fiſſure which is made for it in the ſubmaxillary gland; by a bold and ſudden turn it bends over the baſis of the jaw at the anterior margin of the maſſeter muſcle, and then follows a ſerpentine courſe over the cheek to the ſide of the mouth and noſe, under the zygomatic muſcles.

Before it paſſes over the jaw, it ſends off the following branches. 1. The aſcending palatine artery, goes under the ſtyloid muſcles to the pharynx, Euſtachian tube, ſoft palate, and uvula. 2. An artery to the back of the tongue and tonſils. 3. A number of ſmall branches to the ſubmaxillary gland, the neighbouring lymphatic glands, the ſkin, the membrane of the mouth, &c. 4. The ſubmental comes off juſt before the artery makes its turn; it runs forward on the mylohyoideus muſcle towards the chin; there it turns over the ſymphyſis of the jaw, and is diſtributed to the ſkin and muſcles of the chin, communicating with the inferior labial artery.

When the artery has paſſed over the baſis of the jaw, it ſends off; 1. A branch to the ſurface of the maſſeter, which communicates with the maſſeteric branch of the temporal. 2. The inferior labial artery, which ſupplies the lower part of the lower lip, and communicates with the ſubmental, and with the coronary artery of the lower lip. 3. The coronary artery of the lower lip, which purſues a winding courſe under the orbicularis oris, till it meets and inoſculates with its fellow of the oppoſite ſide. It is ſometimes produced by the inferior labial. 4. The coronary artery of the upper lip may from its ſuperior magnitude be conſidered as the continuation of the trunk; it follows the edge of the upper lip, lying on the membrane of the mouth, and in the middle of the lip has a large and free communication with the oppoſite artery; it ſends off a large branch to the ſide of the noſe, and two ſmaller branches which run along the front of the ſeptum naſi; theſe communicate on the ala naſi with the branches of the ophthalmic and infraorbitary arteries. The branches which the labial ſends off to the face vary much in ſize and number; ſometimes it terminates in producing the coronary of the lower lip (vide Halleri Icon. faſc. ii. tab. arter. faciei); ſometimes the naſal arteries are entirely given off from the ophthalmic; ſometimes the naſal branches of the labial extend over the noſe to the forehead; ſometimes the branches of one ſide differ from thoſe of the other.

The aſcending pharyngeal artery of Haller (Halleri Icon. faſcic ii. tab. arter. pharyng.), which is the ſmalleſt branch of the external carotid except the poſterior auricular, either ariſes from the back of the carotid oppoſite the lingual, or from the point of bifurcation. Its courſe along the neck is ſtraight; it is found in front of the rectus capitis major, and on the ſide of the pharynx, being abſolutely hidden by the two carotids. Its anterior branches ſupply the bag of the pharynx; its poſterior branches go to the ſuperior cervical ganglion of the great ſympathetic nerve, to the par vagum, and ſternomaſtoideus muſcle: the termination of the trunk enters the ſkull at the foramen jugulare, and ramifies on the dura mater. The occipital artery is covered at its origin by the digaſtric muſcle; it paſſes in front of the jugular vein, then gets between the maſtoid proceſs and the atlas, under the muſcles of the neck. Arriving near the ligamentum nuchæ, it perforates the complexus muſcle, and becomes cutaneous. It ſends off branches to the muſcles along which it paſſes, one of which is much larger

than the reſt, deſcends along the outer ſide of the complexus, and communicates with the tranſverſalis colli. A branch of the occipital artery enters the ſkull at the foramen jugulare, and ſupplies the dura mater of the cerebellum. The trunk of the occipital artery branches over the back of the ſcalp, being diſtributed to the occipital portion of the occipito-frontalis, and to the ſkin. Its branches communicate freely with thoſe of the temporal artery.

The poſterior artery of the ear, the ſmalleſt branch of the external carotid is given off higher up than any of the above-mentioned branches. Indeed it does not ariſe until the trunk has entered the parotid gland. It follows the courſe of the digaſtric muſcle, aſcends behind the external ear, and diſtributes its branches to the ear and ſcalp, communicating with the temporal and occipital arteries. It ſends off the arteria ſtylomaſtoidea, which entering the foramen of that name, ſupplies the internal ear.

The ſuperficial temporal artery continues its courſe through the parotid gland; it mounts over the zygomatic arch, and diſtributes its widely ſpreading branches over the ſide of the head.

Branches of the Temporal Artery.

Branches to the parotid gland; one or two ſmall twigs to the front of the ear, called the anterior auricular arteries; a branch to the articulation of the lower jaw; and one or two branches to the maſſeter muſcle. The tranſverſe artery of the face is given off by the temporal, while it is paſſing through the parotid gland; it emerges from that gland in company with the parotid duct, croſſes over the maſſeter muſcle, and advances to the corner of the mouth, communicating with all the arteries of the face. The middle temporal artery, which is to be diſtinguiſhed from the ſuperficial temporal on the one hand, and the deep-ſeated temporal on the other, runs under the temporal aponeuroſis, and extends as far as the fronto-occipitalis muſcle.

After the temporal artery has paſſed over the zygoma, it divides ſooner or later into the anterior and poſterior temporal branches; theſe communicate with each other; the anterior branch communicates alſo with the frontal and ſupra-orbital branches of the ophthalmic; the poſterior branch communicates with the poſterior auricular and occipital arteries.

The internal maxillary artery is much larger than the temporal, and ſhould therefore, if ſize be adopted as the criterion, be conſidered as the continuation of the carotid. It paſſes forwards and downwards between the external pterygoid muſcle and the jaw; then following a ſerpentine courſe, it arrives at the ſphenomaxillary fiſſure, where it terminates by dividing into three branches.

Branches of the Internal Maxillary Artery.

A ſmall twig entering the tympanum by the fiſſura Glaſeri; another entering the ſkull at the foramen ovale.

The ſpinous or middle meningeal artery mounts ſtraight upwards through the ſpinous hole of the ſphenoid bone, and is diſtributed widely over the dura mater; it cauſes the deep grooves which impreſs the inner ſurface of the parietal bone; it communicates with the poſterior meningeal veſſels, which come from the vertebral and occipital arteries, and with the anterior ones from the ophthalmic.

The inferior maxillary artery enters the canal of the lower jaw, in company with the nerve of the ſame name; it ſends branches to the teeth and to the ſubſtance of the jaws; arriving at the foramen mentale, it divides into two branches; one of theſe goes forwards to ſupply the inciſor teeth; the other comes out at the foramen mentale, and communicates with the artery of the lower lip.

The pterygoid branches are diſtributed to the pterygoid muſcles.

The deep temporal arteries are two in number, and ramify deeply in the temporal muſcle.

The artery of the cheek (arteria buccalis) runs along the buccinator muſcle, and communicates with the arteries of the face.

The alveolar artery, or artery of the upper jaw, bends round the tubercle of the jaw, and advances towards the face. Its chief branch enters a canal in the upper jaw, and ſupplies the teeth.

The infra-orbitary artery enters and paſſes through the infra-orbitary canal of the ſuperior maxillary bone, and comes out upon the face at the infra-orbitary foramen. It is diſtributed chiefly to the muſcles of the face, and communicates with the coronary artery of the upper lip, and its naſal branches; with the tranſverſe artery of the face, and the artery of the cheek.

The ſuperior or deſcending palatine artery is one of the three branches, into which the internal maxillary divides at the ſpheno-maxillary fiſſure; it paſſes through the pterygo-palatine canal, and comes out at the poſterior palatine foramen. After ſending a branch backwards to the ſoft palate, the artery comes forwards under the arch of the teeth. A ſmall branch of it paſſes by the foramen inciſivum into the noſe.

The upper pharyngeal artery is ſent to the upper and back part of the pharynx.

The naſal artery, which is the continuation of the trunk, goes through the ſpheno-palatine foramen to the back of the noſtrils; there it gives ſmall twigs to the æthmoid and ſphenoid cells, and larger branches to the ſeptum and floor of the noſtrils and antrum maxillare.

The internal carotid artery purſues a ſerpentine courſe along the front of the bodies of the vertebræ, till it arrives at the entrance of the carotid canal. It is connected with the par vagum, and the great ſympathetic nerve, and alſo with the rectus anterior muſcle. It follows the courſe of the canal of the temporal bone, paſſing firſt directly upwards, then turning horizontally forwards, and then aſcending again in a ſtraight direction, and entering the cavernous ſinus. While in this ſinus, it paſſes from the back of the ſphenoid bone to the anterior clynoid proceſs, where it ſuddenly doubles back upon itſelf, and branches out to the brain.

Branches of the Internal Carotid Artery.

While in the cavernous ſinus, it ſends off the two arteries of the receptaculum, which are ſpread upon the neighbouring parts of the dura mater.

Having riſen to the anterior clinoid proceſs, it ſends off the ophthalmic artery, which enters the orbit with the optic nerve. This artery is ſituated at firſt on the outſide of the nerve; entering the orbit, it croſſes obliquely over the nerve, and arrives at the internal angle of the eye. It ſends off the following branches.—The lacrymal artery ſupplies the lacrymal gland, and ſends forward two ſmall branches to the tarſus of the upper and lower eye-lid. The poſterior æthmoidal artery paſſes through the poſterior orbitary hole to the æthmoid cells. The ſupra-orbitary or ſuperior muſcular artery paſſes along the upper part of the orbit, ſupplies the levator palpebræ, the rectus ſuperior, and rectus internus oculi, quits the orbit at the ſuperciliary foramen, and communicates with the arteries of the ſcalp. The central artery of the retina plunges into the optic nerve, runs along its axis, and ramifies beautifully on the retina. One of its branches penetrates the vitreus humor, and is diſtributed to the cryſtalline lens. The ciliary arteries do not all come off from the trunk of the ophthalmic, but many are produced by

by its branches. They may be divided into three claſſes.—The poſterior or ſhort ciliary arteries ſurround the optic nerve; they divide into twenty or thirty branches, which perforate the back of the ſclerotica, and are diſtributed to the choroid. The long ciliary arteries are two in number; they perforate the ſclerotica at one-third of the diſtance between the optic nerve and the cornea; arriving at the orbiculus ciliaris, they divide into two branches, which follow the outer circle of the iris, and communicating together, form the zona major of the iris; the branches of this form the zona minor on the inner circumference of the iris. The anterior ciliary arteries penetrate the front of the ſclerotica, and contribute to the formation of the zones of the iris. Theſe veſſels in the fœtus produce the arteries of the membrana pupillaris. The inferior muſcular artery goes to the muſcles which are found beneath the globe of the eye; viz. the obliquus minor, the rectus inferior and externus. The posterior ethmoidal artery paſſes through the anterior orbitary hole; and entering the ſkull, is diſtributed to the dura mater. The ſuperior and inferior palpebral arteries are deſtined for the upper and lower eyelids. The trunk, arriving at the inner angle of the eye, ſplits into two branches: the naſal branch croſſes the lacrymal bag, deſcends along the ala naſi, and communicates with the labial artery. The frontal branch is diſtributed to the ſcalp, and communicates with the temporal.

After the carotid has arrived at the anterior clinoid proceſs, it ſends off ſeveral ſmall branches, ſome one of which goes to the choroid plexus.

Then it ſends off the communicating artery, which meeting and anaſtomoſing with a ſimilar branch of the vertebral, contributes to form the celebrated circle of Willis.

The artery then divides into an anterior and a poſterior branch.

The anterior branch, or the artery of the corpus calloſum, comes forward in the diviſion between the two anterior lobes of the brain. Here it approaches the artery of the oppoſite ſide, and has a ſhort but large communication with it just above the junction of the optic nerves. This communication completes the circle of Willis in front. The reſt of the trunk paſſes firſt upwards, and then turns backward over the corpus calloſum, and between the two hemiſpheres of the brain.

The poſterior branch, or artery of the fiſſura Sylvii, runs directly outwards, and enters the fiſſura Sylvii; its branches ſupply the middle part of the brain chiefly.

Obſervation. All the arteries of the brain and cerebellum ramify firſt upon the pia mater, and then enter the cortical ſubſtance of the brain. They do not follow the directions of the convolutions. They are compoſed of thinner coats than other arteries, whence the blood may be ſeen even through the coats of the larger arteries.

The ſubclavian artery aſcends behind the head of the clavicle and the inſertion of the ſterno-cleidomaſtoideus muſcle, towards the ſcaleni muſcles; it paſſes between the anterior and middle ſcalenus, and then bends over the firſt rib into the axilla, where it takes the name of the axillary artery. The outer edge of the ſcalenus may be conſidered as the boundary between the ſubclavian and axillary portions of the veſſel.

Branches of the Subclavian Artery.

The internal mammary artery comes off from the front of the ſubclavian; it paſſes behind the articulation of the ſternum and clavicle, then goes along the middle of the cartilages of the ribs, and terminates on the rectus abdominis by communicating with the epigaſtric, intercoſtal, and lumbar arteries. It ſends an artery to the thymus; a ſmall branch which accompanies the phrenic nerve; two arteries to the pericardium; and ſome ſmall twigs to the anterior mediaſtinum, and back of the ſternum. Other branches come off at the intervals between the cartilages of the ribs, communicate with the intercoſtal arteries, and then go out to the muſcles on the outſide of the cheſt.

The inferior thyroideal artery ariſes from the upper part of the trunk, where it is covered by the ſterno-cleidomaſtoideus; it divides almoſt immediately into four branches. 1. The proper thyroid branch bends in a tortuous manner under the carotid artery, till it arrives at the thyroid gland, to which it is diſtributed, communicating with the ſuperior thyroideal artery. This branch ſends one or two ſmall twigs down along the trachea. 2. The aſcending thyroid branch is a ſmall but conſtant artery, which paſſes upwards in front of the tranſverſe proceſſes of the cervical vertebræ, and is diſtributed to the neighbouring muſcles and nerves. 3. The tranſverſe artery of the neck goes along the ſide of the neck, and is diſtributed to the trapezius and neighbouring muſcles of the ſcapula. 4. The tranſverſe artery of the ſhoulder (tranſverſalis ſcapularis, or ſcapularis ſuperior) paſſes along the root of the neck towards the ſcapula, giving off branches to the neighbouring muſcles. The trunk paſſing through the notch in the ſuperior coſta of the ſcapula, takes the name of the ſupra-ſcapulary artery; it ſends off many branches to the ſupra-ſpinatus muſcle, then deſcends under the acromion to the lower part of the ſcapula, where it communicates very largely and freely with the infra-ſcapulary artery.

Obſervation. Sometimes the tranſverſe artery of the ſhoulder is a branch of the ſuperficial cervical artery. Sometimes it comes off as a diſtinct trunk from the axillary artery, and then the name of ſupra-ſcapulary is applied to the whole of it. In theſe caſes the fourth branch of the thyroideal is ſmall, and only reaches to the ſurface of the trapezius, deltoid, &c.

The vertebral, which is an artery of great magnitude, ariſes from the upper part of the ſubclavian, behind the inferior cervical ganglion of the great ſympathetic nerve: it aſcends through the foramina of the tranſverſe proceſſes of the cervical vertebræ, entering at the ſixth, fifth, or fourth vertebra. In paſſing from the ſecond to the firſt vertebra, it makes a great turn; then it again bends backwards along that groove of the atlas which is deſtined to receive it. Entering the ſkull at the foramen magnum, it aſcends along the baſilary proceſs of the occiput, and under the medulla oblongata to meet the artery of the oppoſite ſide at an acute angle; by the union of the two trunks the baſilar artery is formed. The vertebral artery, as it paſſes through the tranſverſe proceſſes, gives off ſome branches to the ſpinal marrow. While it is paſſing through the occipital hole, it ſends off the poſterior meningeal artery, which ſupplies the dura mater on the occiput, and extends as far the ſphenoid bone. The inferior artery of the cerebellum ariſes immediately before, or after the union of the vertebrals; it comes off near the origin of the par vagum, and having diſtributed ſeveral branches to the inferior ſurface of the cerebellum, terminates in the fourth ventricle. The anterior and poſterior ſpinal arteries are uſually given off before the union of the vertebrals. They deſcend along the front and the back part of the medulla ſpinalis, and keep up their ſize almoſt to the bottom of it by means of frequent communications with branches from without. The baſilar artery paſſes along the middle of the tuberculum annulare to its anterior margin, giving ſeveral ſmall branches to its inferior ſurface. Then it divides into four branches, two for each ſide of the brain. The ſuperior artery of the cerebellum bends round the crura cerebri, and is diſtributed to the upper part of the cerebellum; it alſo gives branches

[illegible] thalami, tubercula quadrigemina, [illegible]. The decuſſated ſtate of the brain [illegible] from the fourth branch by the nerve of the third pair. Arteries [illegible] the cerebellum and [illegible], it ends on the communicating [illegible] with a ſimilar branch of the carotid, completes the circle of Willis. [illegible] diſtributed to the back of the brain.

[illegible] artery goes off from the back [illegible] over the heads of the firſt [illegible]. It goes next to the œſophagus; [illegible] to the ſpinal marrow; two others which [illegible] the muſcles of the back; and two branches for [illegible] intercoſtal ſpaces, which communicate with the inferior intercoſtal arteries.

Three or four branches are uſually given off before the ſubclavian paſſes between the ſcaleni; the two following ariſe while it is paſſing, or immediately after it has paſſed.

The deep-ſeated cervical artery goes under the muſcles of the neck, almoſt touching the vertebræ. It is entirely diſtributed to the ſurrounding muſcles, and reaches almoſt to the occiput.

The ſuperficial cervical artery is hidden under the brachial nerves; its firſt branches go to thoſe nerves, and to the ſcaleni muſcles; the reſt of the trunk goes to the muſcles behind the neck, as the ſplenius, complexus, trapezius, and levator ſcapulæ.

The artery, having left the ſcaleni muſcles, recedes from the trunk of the body, and aſſumes the name of axillary; it bends obliquely downwards over the middle of the firſt and ſecond ribs, and under the clavicle into the axilla. Emerging from under the clavicle, it is covered by the brachial nerves, by the axillary vein and glands; externally it is protected by the pectoral muſcles. It is ſituated in the axilla, between the ſerratus anticus and ſubſcapularis muſcles; at the lower margin of the tendon of the latiſſimus dorſi, it changes its name for that of the humeral artery.

Branches of the Axillary Artery.

The firſt or upper thoracic artery ariſes near the upper margin of the pectoralis minor muſcle, behind which it deſcends; its branches ſupply the ſerratus anticus, pectoral, and ſome of the intercoſtal muſcles.

The long or ſecond thoracic artery, which is ſometimes a branch of the poſterior circumflex, or infra-ſcapular arteries, paſſes alſo behind the pectoralis minor, fas ar as the ſixth rib. Its branches go to the axillary glands and mammæ, alſo to the ſerratus, pectoralis minor, and intercoſtal muſcles.

Theſe two thoracic arteries inoſculate with the intercoſtals, and the internal mammary.

The thoracic artery of the ſhoulder (arteria thoracica humeraria) comes off near the ſecond rib, and penetrating between the pectoralis major and deltoid, is diſtributed chiefly to the former muſcle, and the neighbouring integuments.

The deep or fourth thoracic branch (arteria thoracica alaris), ſupplies the axillary glands, the pectoralis minor, and ſubſcapularis.

Obſervation. The thoracic arteries are ſubject to conſiderable variety in number, ſize, and diſtribution.

The infraſcapular or ſubſcapular artery, which is a very large trunk, comes off near the neck of the ſcapula. Its firſt branches go to the ſubſcapularis, to the capſule of the ſhoulder joint, and to the muſcles, which ariſe from the coracoid proceſs. A very large muſcular branch is diſtributed to the teres major and minor, the ſerratus, latiſſimus dorſi, ſubſcapularis, &c. The principal part of the trunk turns over the inferior coſta of the ſcapula, and ramifies on the dorſum of the bone, ſupplying the infra-ſpinatus, and teres minor, and communicating with the ſupra-ſcapular artery.

The poſterior circumflex artery goes off between the teres major and ſubſcapularis; it paſſes backwards between theſe, and under the long head of the triceps, and is reflected round the head of the humerus, being connected with the deltoid. Its branches go to the deltoid and other muſcles about the ſcapula, and communicate with the profunda humeri.

The anterior circumflex artery is a much more ſlender branch; it goes under the biceps and coracobrachialis, and terminates on the deltoid.

The brachial or humeral artery leaving the axilla, purſues its courſe along the middle of the biceps muſcle; it paſſes over the brachialis internus, and advances gradually towards the front of the arm. In this courſe the large median nerve lies in front of it. Arriving at the bend of the elbow, it goes under that production which the tendon of the biceps ſends off to the faſcia of the fore-arm, and is lodged deep in the hollow which is left between the two maſſes of muſcles on the fore-arm, where it divides into the radial and ulnar arteries. The median nerve ſtill remains in front of the artery; the cephalic vein is ſituated conſiderably on the outſide of the artery; and the median vein croſſes over it to join the cephalic.

Branches of the Brachial Artery.

Branches of little conſequence go to the teres major, latiſſimus dorſi, triceps, coracobrachialis, biceps, and nerves of the arm.

The larger deep-ſeated artery of the ſhoulder (profunda humeri major or collateralis magna) ariſes high up in the arm, and is frequently given off by the inferior ſcapulary, or poſterior circumflex arteries. It bends backwards between the long and the external head of the triceps, giving many large branches to that muſcle, and comes out at the back of the arm, where it divides into two branches; theſe communicate at the back of the elbow with the radial and ulnar recurrents.

The nutrient artery of the humerus comes off near the inſertion of the coracobrachialis, and having diſtributed branches to the neighbouring muſcles, enters the ſubſtance of the bone.

The ſmaller deep-ſeated branch, or branches, go to the outſide of the brachialis internus, ſupinator radii longus, extenſores carpi radiales, &c. and communicate with the recurrents of the fore-arm.

The great anaſtomoſing branch (ramus anaſtomoticus magnus) comes off from the inſide of the trunk, within a ſhort diſtance of the joint, and proceeds towards the inner condyle; its branches communicate above with the profunda, below with the recurrents.

The two laſt-mentioned branches, with one or two more which deſcend along the triceps to communicate with the arteries of the fore-arm, are ſometimes deſcribed under the name of collaterales minores.

The radial artery, which is ſmaller than the ulnar, ſeems to be given off as a branch from the ulnar; it paſſes along the ſurface of the pronator teres, and then goes on the inſide of the ſupinator longus to the wriſt. It bends under the extenſor tendons of the thumb, and penetrates the abductor indicis to arrive in the palm of the hand. Here it paſſes along the heads of the metacarpal bones, and having formed the arcus profundus volæ, communicates on the oppoſite ſide of the hand with a large branch of the ulnar.

Branches

Branches of the Radial Artery.

The recurrent branch of the radial artery is reflected towards the outer condyle, between the brachialis internus, and the radial extenſors of the carpus; there it has numerous communications with the collateral arteries of the arm.

The ſuperficial artery of the palm of the hand is given off juſt as the trunk begins to turn over the radius; it goes over the abductor pollicis, or through its fibres, to communicate with the ulnar, and thereby complete the ſuperficial arch. This branch varies much in ſize; ſometimes it is very ſmall, and does not reach to the ulnar artery; ſometimes it is ſo large, as to give off the branch to the outſide of the thumb; or even to both ſides of the thumb.

At the back of the hand, the radial gives off an artery or two to the back of the thumb, another to the back of the fore-finger, and a third to the back of the carpus (dorſalis carpi), which communicates with the interoſſea, and ſends ſmall branches between the metacarpal bones.

After the radial artery has entered the palm of the hand, it ſends off the great artery of the thumb, which runs along the ſide of the firſt phalanx of the thumb, and then divides into three branches. Two of theſe are for the two ſides of the thumb, and the third for the radial ſide of the fore-finger. The branches of the deep-ſeated arch are ſmall, and ſupply the interoſſei muſcles, and come out at the back of the wriſt and hand.

The ulnar artery goes under the pronator teres, flexor carpi radialis, flexor digitorum ſublimis, and palmaris longus, and paſſes within the edge of the flexor carpi ulnaris to the wriſt. There it is ſituated juſt within the piſiform bone, bends acroſs the palm of the hand, over the flexor tendons, ſo as to form the ſuperficial arch of the palm of the hand, which is ſituated under the palmar faſcia, and oppoſite to the middle of the metacarpal bones. It terminates at the oppoſite ſide of the palm by communicating with the ſuperficial branch of the radial artery.

Branches of the Ulnar Artery.

The recurrent branch of the ulnar goes under the flexor muſcles to the back of the internal condyle, where it communicates freely with the collateral arteries of the arm.

The interoſſeous artery comes off very ſoon from the ulnar: it immediately ſends a large branch through the interoſſeous ligament to the back of the fore-arm; this branch gives off the interoſſeous recurrent, and then paſſes down the fore-arm to the wriſt, ſupplying the extenſor muſcles. The trunk of the interoſſeous artery deſcends along the ligament to the pronator quadratus; there it perforates the interoſſeous ligament, and communicates with the other branch of the interoſſeous artery and with the dorſal branches of the radial and ulnar arteries.

An artery to the back of the hand (dorſalis manus), communicates with the interoſſeous arteries.

The deep palmar branch goes off juſt below the piſiform bone; it dips under the flexor tendons, and communicating with the radial artery, completes the deep palmar arch.

The convex part of the ſuperficial arch then produces three large digital arteries, which, paſſing between the metacarpal bones, and arriving at the root of the fingers, divide each into two branches, which go along the ſide of the fingers to their very apex, where they communicate.

Obſervation. The arteries of the fore-arm are ſubject to great varieties. The brachial ſometimes divides long before it arrives at the elbow, even as high as the axilla, in ſome ſubjects. Then the courſe of theſe arteries is natural in other reſpects. Sometimes, however, where this high diviſion takes place, the ulnar artery, inſtead of going under the muſcles, which have been mentioned, goes over them and juſt under the ſkin. Sometimes the radial, ulnar, and interoſſeous arteries proceed ſtraight into the palm of the hand, and are diſtributed to the fingers without forming any arches at all.

The aorta having formed its arch, paſſes gradually behind the lungs to the left ſide of the bodies of the vertebræ. It deſcends in a ſtraight courſe along the back of the poſterior mediaſtinum until it arrives at, and paſſes through, the crura of the diaphragm; this portion of the veſſel is termed the thoracic aorta.

Branches of the Thoracic Aorta.

The common bronchial artery comes off high up from the front of the aorta; it divides into two branches, one for either lung.

The right and left bronchial arteries ariſe lower down; and often there is a fourth or inferior bronchial artery.

Theſe arteries are deſtined for the nouriſhment of the ſubſtance of the lungs: they ſupply alſo the bronchial glands, and the roots of the great veſſels, which come off from the heart. They are remarkable on account of their communications with the pulmonary artery.

The œſophageal arteries are about five or ſix in number: they run upon the ſurface of the œſophagus, and communicate below with the coronary artery of the ſtomach.

The lower intercoſtal arteries are nine or ten in number, according to the number of ribs, which are unſupplied by the intercoſtal branch of the ſubclavian artery. They ariſe from the back of the aorta, and follow the courſe of the lower or grooved edge of the ribs. The upper ones are the ſmalleſt, and aſcend ſomewhat; the lower ones are nearly tranſverſe in their courſe. The arteries of the right ſide are longer, as they have to paſs over the bodies of the vertebræ. They all give off: 1. a branch which enters into the ſpinal marrow as the nerves paſs out: 2. a larger branch, which goes to the muſcles at the back of the ſpine: 3. an upper branch which coming off at the angle of the rib goes along the upper edge of the rib below. The continuation of the trunk communicates with the mammary and thoracic arteries above; with the epigaſtric and lumbar arteries below.

The aorta, having paſſed through the crura of the diaphragm, takes the name of the abdominal aorta. It is ſtill ſituated on the left ſide of the bodies of the vertebræ; it is ſeparated from the vena cava by the left lobe of the liver and the crus of the diaphragm. It approaches gradually to the middle of the vertebræ, and gets in company with the vena cava, a little above the kidneys. At the laſt lumbar vertebra, or at the interſpace between the fourth and fifth, it divides into the two common iliac arteries.

Branches of the Abdominal Aorta.

The right and left phrenic arteries are the firſt branches of the abdominal aorta; ſometimes they ariſe from the cæliac artery; ſometimes a ſingle trunk, either from the aorta or from the cæliac, produces both the right and left phrenic arteries: they croſs over the crura of the diaphragm, and then bend round the central tendon, ſending off branches to the fleſh of the diaphragm in all directions: they give branches to the renal capſule and fat of the kidney.

The cæliac is a large ſhort trunk, coming off from the front of the aorta, while it is ſtill between the crura of the diaphragm. It is ſurrounded by the leſſer arch of the ſtomach; beneath it is the pancreas, and on the left ſide the lobulus Spigelii. After a courſe of a few lines, it divides into three branches; the coronary artery of the ſtomach, the hepatic, and the ſplenic arteries.

The coronary artery of the ſtomach is the central branch of the cæliac; it mounts upwards towards the œſophagus, ſends

[illegible] a large branch to the great extremity of the ſtomach, [illegible] along the latter arch: its branches are diſtributed [illegible] of the ſtomach, and it communicates [illegible] with the [illegible] of the pylorus, with the ſuperior [illegible] [illegible]: [illegible] the [illegible] [illegible]: [illegible] its ſmall paſſes from [illegible] to the [illegible] of the liver.

The hepatic or right branch of the cæliac comes off behind the pyloric extremity of the ſtomach; it aſcends towards the right, is contained in the left ſide of Gliſſon's capſule, and divides under the neck of the gall-bladder into the right and left hepatic arteries, which are diſtributed to the right and left lobes of the liver; where the coronary ſtomachic artery is continued to the liver, the hepatic artery only ſupplies the right lobe. The hepatic artery gives off the following branches. 1. The duodeno-gaſtric artery, which paſſes behind the duodenum, gives branches to the pylorus (pylorica inferior), duodenum (duodenales ſuperiores), and pancreas (pancreatica tranſverſa): it is continued under the name of the right gaſtric, or gaſtro-epiploic artery, along the greater curvature of the ſtomach; it gives branches [illegible] ſurfaces of the ſtomach, and communicates by the termination of its trunk with the left gaſtric artery. 2. The ſuperior pyloric artery is reflected towards the leſſer arch of the ſtomach, and communicates with the coronary ſtomachic. 3. The cyſtic, which is generally a branch of the right hepatic, goes along the left ſide of the gall-bladder, which it ſupplies.

The ſplenic artery is the largeſt branch of the cæliac, in the adult. It paſſes a tortuous courſe along the upper edge of the pancreas, then divides into ſix or eight branches, which enter the notch of the ſpleen. As the ſplenic artery paſſes along the pancreas, it ſends off many ſhort branches to the ſubſtance of that gland: alſo the poſterior gaſtric arteries to the back of the great extremity of the ſtomach. The artery ſends off, after its diviſion, the vaſa brevia, which are three or four branches to the great extremity of the ſtomach, and the left gaſtro-epiploic artery, which runs along the greater curvature of the ſtomach, and communicates with the right artery of the ſame name.

Obſervation. Both the gaſtro-epiploic arteries ſend many ſmall branches to the omentum.

The ſuperior meſenteric artery is the largeſt branch of the abdominal aorta, and ariſes a few lines below the cæliac: here it is ſituated between the pancreas, and the laſt turn of the duodenum, to both of which it gives branches; then it deſcends over the duodenum, and is received between the two layers of the meſentery; it bends from the left ſide of the ſpine towards the right groin, making a large arch, convex towards the left. From the left or convex ſide of this arch, are ſent off from twelve to twenty arteries, each of which ſoon after divides into two branches. Theſe communicating with each other form arches, from the convexity of which other branches come off, which divide and recommunicate in a ſimilar manner. This is repeated a third, and when the branches are long, a fourth, and even a fifth time, until the laſt branches go ſtraight to the inteſtines, divide and ſurround them. From the oppoſite or concave ſide of the artery are ſent only two branches. 1. The middle colic artery paſſes along the meſocolon to ſupply the aſcending and tranſverſe parts of the colon: the left branch of this has a very large communication with the left colic artery; the right branch communicates with the ileocolic artery. 2. The ileocolic artery goes to the conjunction of the ileum with the cæcum. It ſends an aſcending branch to communicate with the middle colic artery; and a deſcending branch, which communicates with the termination of the ſuperior meſenteric trunk.

The renal or emulgent artery ariſes from the ſide of the aorta, between the ſuperior and inferior meſenteric arteries. The left renal artery paſſes over the vein near the kidney; the right renal artery goes under the vena cava, and is covered by its correſponding vein. The artery divides into three or four branches, which enter at the notch of the kidney. The renal artery gives branches to the renal capſules to the fat of the kidney, and ureter.

The ſpermatic artery is a long ſlender veſſel, ariſing from the front of the aorta. On the left ſide it frequently comes from the renal artery; it purſues a tortuous courſe, and gets into company with its vein upon the pſoas muſcle. In men, it goes through the abdominal ring at the back of the chord, and ſupplies the teſtes. It ſends off branches to the fat of the kidney, and to the ureter.

The ſpermatic artery of females paſſes along the ligament of the uterus to the ovary. Its poſterior branches ſupply the ovary; its anterior ones paſs on with the Fallopian tube to the uterus, where it communicates with the uterine arteries.

The inferior meſenteric artery comes off low down from the left ſide of the aorta. It deſcends a little on the left ſide of the two bodies of the vertebræ, and ſends off the left colic artery. This ſupplies the deſcending colon, and by communicating with the middle colic artery, forms the famous meſenteric arch. The continuation of the trunk under the name of the internal hæmorrhoidal artery goes along the back of the rectum; its branches reach almoſt to the extremity of that inteſtine, and communicate with the middle and external hæmorrhoidal arteries.

As the arteries of the renal capſule vary much in ſize and number, they may be divided into three claſſes: the upper capſular arteries are branches of the phrenic; the middle ones generally ariſe from the ſide of the aorta, between the cæliac and meſenteric arteries; the lower ones are from the renal arteries.

The adipous arteries are thoſe which ſupply the renal fat; they ariſe above from the capſular arteries; below from the renal and ſpermatic arteries, and from the aorta.

The ureteric are alſo derived from various ſources: the upper ones are from the renal and ſpermatic arteries; the middle from the aorta or common iliac artery; and the lower ones from one of the veſical arteries.

The lumbar arteries are five in number, ariſing from the back of the aorta, at the intervals of the vertebræ, as the intercoſtal arteries do in the cheſt. They ſupply the muſcles in the circumference of the body; they give branches to the ſpinal marrow, and others which penetrate to the muſcles of the back; the laſt lumbar artery communicates with the ileolumbar artery.

The common iliac artery of the right ſide paſſes over the lower part of the vena cava; on the left ſide, it is ſituated exteriorly with reſpect to its vein: it paſſes obliquely downwards and outwards, and divides over the ſacro-iliac ſymphyſis into the internal iliac, or hypogaſtric, and the external iliac arteries.

The middle ſacral artery uſually ariſes from the point of bifurcation of the aorta; it deſcends along the middle of the ſacrum to the coccyx, and communicates on both ſides with the lateral ſacral arteries.

The internal iliac artery deſcends immediately into the pelvis. In the adult it is of the ſame ſize as the external artery, but in the fœtus it is four or five times larger; and after having deſcended into the pelvis, becomes attached to the ſide of the bladder, and riſes again to reach the umbilicus, under the name of the hypogaſtric artery. At this period, the arteries of the pelvis are ſmall branches coming

coming from the lower or convex part of the hypogaſtric. Where the artery approaches the bladder in the adult, it is converted into a fibrous ſubſtance, which ſtill remains pervious to a certain extent.

Branches of the Internal Iliac Artery.

The ileolumbar artery aſcends between the pſoas magnus and iliacus internus, towards the criſta of the ilium. Its branches are diſtributed to the neighbouring muſcles, and communicate with the laſt lumbar artery.

The lateral ſacral arteries vary in number from one to three, four, or even five. They deſcend on the ſide of the ſacrum, communicate with the middle ſacral artery, and ſend branches through the ſacral holes to the cauda equina.

The veſical arteries are three or four in number, ariſing from that part of the hypogaſtric which ſtill remains pervious, as it approaches the bladder. One or more of theſe, which goes to the bottom of the bladder, and gives branches to the veſiculæ raminales, proſtate, &c. in men, to the rectum and vagina in women, is diſtinguiſhed by the name of the lower veſical artery.

The middle hemorrhoidal artery comes off between the pudendal and gluteal branches, paſſes along the front of the rectum, and communicates with the external arteries. It ſends branches to the bottom of the bladder, &c. in men; and a large one (which ſometimes comes off diſtinctly from the internal iliac) to the vagina in women.

The uterine artery comes off near the former; it ſends a branch down to the vagina, then aſcends along the ſide of the uterus, on which it communicates with the ſpermatic artery.

The obturator artery, which frequently ariſes from the epigaſtric, paſſes along the ſide of the pelvis, at the upper edge of the obturator internus, accompanied by the nerve and vein of the ſame name, and goes through the paſſage which is left for it at the upper part of the thyroid hole. Having quitted the pelvis, it divides into an external and an internal branch, which are diſtributed to the obturator muſcles, to the capſule of the hip, and to the origin of the triceps. They communicate with the internal circumflex branch of the profunda femoris.

The gluteal or poſterior iliac artery is the largeſt branch of the internal iliac. It ariſes from the back part of the trunk, bends downwards and backwards, and quits the pelvis at the upper margin of the pyriformis muſcle. It ſends a large branch between the gluteus maximus and medius. Another branch, more deeply ſeated, goes under the gluteus medius, and ſends an artery cloſe to the dorſum of the ilium at the origin of the gluteus minimus.

The iſchiatic artery goes out of the pelvis at the lower margin of the pyriform muſcle, together with the great iſchiatic nerve: it is here covered by the gluteus maximus, and deſcends towards the thigh: it ſends off a coccygeal branch, which turns back between the ſacro-iſchiatic ligaments towards the coccyx. The other branches of this artery are diſtributed to the gluteus maximus, and other muſcles at the back of the thigh, and are remarkable on account of their numerous communications with the circumflex branches of the profunda.

The pudendal artery goes out of the pelvis, in company with the iſchiatic: it is ſmaller, and ſituated further from the ſacrum: it merely paſſes over the great ſacro-iſchiatic ligament, and enters the pelvis again at the ſmaller ſacro-iſchiatic hole. Then it gets along the inſide of the tuberoſity and ramus of the iſchium. It ſometimes ſends off ſmall branches before it quits the pelvis to the rectum, proſtate, &c. While it is paſſing over the ſacro-iſchiatic ligament, and the tuberoſity of the iſchium, it gives off branches which communicate with the circumflex arteries, alſo the external hemorrhoidal arteries to the fat of the perinæum, ſphincter ani, &c. which communicate with the middle and internal hemorrhoidal arteries. At the ramus of the iſchium the artery divides into, 1. The perinæal artery, which aſcends between the accelerator urinæ and erector muſcles, and ſupplies the muſcles, ſkin, and fat of the perinæum. 2. The artery of the penis, which is the continuation of the trunk. At the ſymphyſis of the pubis it divides into, 1. The dorſal artery of the penis, which runs along the back of that organ as far as the glans, the root of which it encircles. 2. The deep-ſeated artery of the penis, which enters the corpus cavernoſum of its own ſide, into the cells of which it opens, and gives branches to the ſpongy ſubſtance of the urethra. The veſſel, which is analogous to the artery of the penis of males, is termed the clitoridea in females. Its diſtribution to the clitoris is the ſame as that of the above-mentioned artery is to the penis.

Obſervation. The branches of the internal iliac artery are conſtant in their deſtination, but vary much in the order and manner of their origin.

The external iliac artery paſſes along the inner edge of the pſoas muſcle, being ſituated on the outſide of its vein. It is ſurrounded by the lymphatic veſſels, which come up from the lower extremity, and by the glands, through which they paſs. It deſcends under Poupart's ligament, ſtill keeping to the inner edge of the pſoas muſcle, and there it takes the name of the femoral artery. Here the vein lies cloſe on the inſide of it, and the anterior crural nerve is ſituated on the outſide, but at ſome diſtance from the artery.

Branches of the External Iliac Artery.

The epigaſtric artery ariſes from the inner ſide of the trunk, near Poupart's ligament; frequently indeed its origin is abſolutely below the ligament. It is reflected upwards and inwards behind the ſpermatic chord; then croſſing the upper part of the abdominal ring, it gets behind the rectus muſcle, and aſcends to the navel. The epigaſtric artery generally ſends a pretty large branch down the ſpermatic chord, which communicates with the ſpermatic artery. The other branches of this artery are merely muſcular ones: the trunk communicates at the upper part of the rectus abdominis with the internal mammary artery.

The circumflex artery of the ilium ariſes oppoſite to the epigaſtric; it turns back, and runs along the criſta ilii, between the attachments of the obliquus internus and tranſverſalis abdominis muſcles, as far as the back of the bone, where it communicates with the lumbar and ileolumbar arteries. Its branches are diſtributed to the neighbouring muſcles.

The femoral artery is ſurrounded below Poupart's ligament by the inguinal glands, and much fat. After a courſe of an inch and a half or two inches, it divides into two branches of nearly equal magnitude. The branch which continues in the direction of the trunk retains the name of the femoral artery; while the other, which deſcends amongſt the muſcles of the thigh, is named the deep-ſeated artery of the thigh (arteria profunda femoris). The common trunk ſends off ſome trivial branches to the integuments, lymphatic glands, and neighbouring muſcles: two or three larger branches ſupply the [illegible] and fat of the pudenda.

The profunda comes off from the back of the femoral artery: it paſſes backwards, and deſcends for a ſhort ſpace, then gets between the heads of the triceps muſcle, and ſends its branches through that muſcle.

Branches of the Profunda.

The external circumflex artery, which is the firſt branch of the profunda, goes under the [illegible]

cles, towards the root of the great trochanter. It ſends off in its courſe numerous branches to the muſcles along which it paſſes. Some of its branches communicate with the internal circumflex and perforating arteries at the back of the thigh. A large branch deſcends along the inſide of the vaſtus internus to the knee, and communicates with the ſuperior articular, and with the great anaſtomotic branches.

The internal circumflex artery comes from the oppoſite part of the trunk. It goes backward to the trochanter minor, and turning round the bone, appears between the quadratus femoris and triceps muſcles. Its branches are diſtributed to the muſcles on all ſides; they communicate with the obturator, iſchiatic, and gluteal arteries.

The two perforating branches of the profunda (the ſecond is the continuation of the trunk) pierce the triceps muſcle, to which they give branches, and are diſtributed to the flexors of the leg. They communicate above with the circumflex arteries, and below with the articular arteries. The inferior perforating branch gives off the great nutritious artery of the thigh-bone.

The femoral artery paſſes from the front of the thigh gradually towards the inſide. It is at firſt covered by the lymphatic glands, then it goes under the ſartorius muſcle, and arrives at the tendon of the triceps, through which it penetrates into the ham, and takes the name of the popliteal artery. During this courſe, the femoral artery ſends off ſmall branches to the glands, to the ſartorius, rectus, and other muſcles. The great anaſtomoſing branch comes off as the trunk enters the tendon of the triceps muſcle; it plunges into the ſubſtance of the vaſtus internus, from which it emerges at the knee to communicate with the articular arteries, and alſo with the deſcending branch of the external circumflex. Two branches go through the tendon of the triceps to the muſcles at the back of the thigh; they are called by Murray the ſuperior and inferior perforating branches of the femoral. They communicate with the perforating branches of the profunda.

The popliteal artery paſſes from the tendon of the triceps through the middle of that ſpace which is termed the ham, and arrives at the upper extremity of the ſoleus muſcle, where it divides into the anterior and poſterior tibial arteries. In this courſe it lies between the flexor muſcles, and almoſt cloſe to the bone. It deſcends between the condyles of the thigh-bone and the heads of the gaſtrocnemius, in contact with the capſule of the knee. It gives off ſmall muſcular branches to the flexor muſcles, and other larger ones to the gaſtrocnemius and ſoleus. The articular branches of the popliteal are five in number: three of them come off above the joint, and are therefore called the ſuperior articular arteries, the middle of theſe three is diſtributed to the back of the capſule; the other two bend round the former juſt above the external and internal condyles. The inferior articular arteries are two in number, one for the inſide, the other for the outſide of the joint. The four laſt-mentioned branches arrive in front of the knee, where they form a vaſcular net-work by their numerous communications with each other, and with the recurrent branch of the anterior tibial, the anaſtomotic branch of the femoral, and the deſcending branch of the external circumflex.

The anterior tibial artery comes off at the lower margin of the popliteus muſcle, and immediately penetrates the interoſſeous ligament. It deſcends in the front of this ligament between the tibialis anticus and the extenſor pollicis longus, becoming more and more ſuperficial as it approaches the ankle. It paſſes under the tranſverſe ligament of the ankle in company with the extenſor tendons, then goes between the extenſor pollicis longus and the extenſor digitorum pedis longus to the root of the firſt metatarſal bone, where it plunges into the ſole of the foot, and terminates by a large communication with the external plantar artery.

Branches of the Anterior Tibial Artery.

The recurrent branch is given off immediately after the trunk has paſſed through the interoſſeous ligament. It goes through the tibialis anticus muſcle to the front of the knees, where it communicates with the articular arteries.

Small muſcular branches ariſe throughout the whole courſe of the artery along the leg.

The external and internal malleolar arteries ſupply the ankle joint and neighbouring part of the tarſus. The external malleolar artery communicates with both the anterior and poſterior branches of the peroneal artery. The tarſeal artery goes under the extenſor digitorum brevis along the ſecond phalanx of tarſal bones. It gives ſmall branches to the ankle-joint, extenſor brevis, &c. It alſo ſends off three arteries, which run along the intervals of the metatarſal bones to the roots of the toes, where they join the digital arteries at the point of bifurcation.

The metatarſal artery runs along the heads of the metatarſal bones, and varies in ſize according to the magnitude of the tarſeal artery. Sometimes it is large, and produces all the branches which have been deſcribed as coming from the tarſeal artery.

The artery of the back of the great toe comes off juſt before the anterior tibial deſcends into the ſole of the foot; it runs between the firſt and ſecond metatarſal bones, and is diſtributed to the back of the great toe and of the ſecond toe.

The poſterior tibial artery is ſituated under the ſoleus muſcle, and between the flexor communis digitorum and the tibialis poſticus. It deſcends to the lower extremity of the tibia in this ſituation; then becoming more ſuperficial, it bends behind the inner ankle, and enters the ſole of the foot between the abductor pollicis pedis and the concave ſurface of the os calcis; here it divides into the external and internal plantar arteries.

Branches of the Poſterior Tibial Artery.

Large muſcular branches to the ſoleus.

The nutritious artery of the tibia.

The peroneal or fibular artery, which varies much in ſize, deſcends between the tibialis poſticus and flexor longus pollicis, giving branches to thoſe muſcles in its paſſage to the bottom of the leg, where it divides into an anterior and a poſterior branch. The poſterior branch deſcends in the direction of the trunk to the outſide of the os calcis, where it communicates with the external plantar and external malleolar arteries. The anterior branch comes through the lower part of the interoſſeous ligament, and advancing to the ankle, communicates with the external malleolar artery.

Branches throughout the courſe of this artery to the neighbouring muſcles.

Two large branches to the bottom of the os calcis.

The external plantar artery is the largeſt branch of the poſterior tibial; it runs along the inſide of the abductor minimi digiti till it reaches the fifth metatarſal bone; there it bends inwards to the firſt metatarſal bone, where it inoſculates with the tibialis antica, and forms the plantar arch. This artery ſends off many branches to the adjacent muſcles, and to the bones of the tarſus. The convexity of the arch gives off four arteries, which paſs between the metatarſal bones to the roots of the toes, where each of them divides into two; theſe are diſtributed along the ſides of the toes. The arch alſo ſends off three or four branches, which penetrate to the back of the foot.

The internal plantal artery keeps along the inſide of the foot in the direction of the abductor pollicis; it terminates by

by communicating with thoſe branches of the external plantar which ſupply the great toe.

ARTERY, *wounded*. See ANEURISM.

ARTHA, in *Geography*, a river of South Wales, which runs into the ſea about ten miles ſouth of Aberyſtwith in Cardiganſhire.

ARTHEDON, in *Ancient Geography*, an iſland of Aſia Minor, upon the borders of the Troade. Pliny.

ARTHEL, ſomething caſt into a court, in Wales, or its marches; whereby the court is letted or diſcontinued for the time. The caſting of arthel is prohibited by 26 Hen. VIII. cap. 6.

Arthel is a Britiſh word, more correctly written *Arddelw*, or *Ardhel*, and ſignifies *to avouch*; as if a man were taken with ſtolen goods in his hand, he was to be allowed a lawful *arthel*, or voucher, to clear him of the felony. This was part of the law of Howel Dha, according to whoſe laws, every tenant, holding of any other than the prince, or the lord of the fee, paid a fine "pro defenſione regiâ," which was called *arian ardhel*.

ARTHEMIS, in *Zoology*, a genera of worms in the *Molluſca* tribe eſtabliſhed by Poli in his work on the ſhells of the two Sicilies. See VERMES.

ARTHES, in *Geography*, a town of France, in the department of the lower Pyrenées, and chief place of a canton in the diſtrict of Orthes, five leagues north-weſt of Pau.

ARTHRITICA, in the *Materia Medica*, medicines ſuited to cure the diſeaſes of the joints, particularly the gout; but the term is ſo vague and of ſo indeterminate a meaning as to be altogether improper.

ARTHRITIS, formed from αρθρον, *articulus*, *joint*, in *Medicine*, a diſeaſe better known under the name of the GOUT.

ARTHROCACE, in *Surgery*, is a diſeaſe of the joints, or the extremities of bones, more commonly named SPINA *Ventoſa*, which ſee. When this diſorder affects children, it is called POEDARTHROCACE. We do not recollect any author to have diſtinctly treated of this complaint before Rhazes the Arabian phyſician, who has entered at large into the conſideration of diſeaſed joints.

ARTHRODIA, formed from αρθρον, *articulus*, and δεχομαι, *recipio*, *I receive*, in *Anatomy*, a ſpecies of articulation, admitting of a very ſmall degree of motion; as each bone compoſing the joint muſt have nearly a plain ſurface. Such is the articulation of the humerus with the ſcapula. See ARTICULATION.

ARTHRODYNIA, in *Surgery*, is a chronical rheumatic affection of the joints. This name was firſt impoſed by Dr. Cullen, in his Synopſis Noſologiæ Methodicæ. See RHEUMATISM and WHITE SWELLING.

ARTHROPUOSIS, is a ſuppuration of the joints, or at leaſt a ſtrong tendency to form pus. In this caſe there is a deep-ſeated inflammation, obtuſely painful, ſometimes throbbing, and accompanied with febrile ſymptoms. The treatment is deſcribed under the articles, ABSCESS, SPINA VENTOSA, WHITE SWELLING, INFLAMMATION, and RHEUMATISM.

ARTHROSIS, formed from αρθρον, *articulus*, in *Anatomy*, a juncture of two bones deſigned for motion; called alſo articulation.

ARTHUR, in *Biography* and *Hiſtory*, the moſt remarkable name among the Britons. As a hero and a conſummate warrior, he appears illuſtrious in our hiſtory; but as a being of romance, his ſplendor has dazzled the world. It has been generally inferred that the great atchievements of this hero created thoſe illuſory actions and ſcenes depicted in the Mabinogion, or Juvenile Tales; and ſome authors, with ſuch phantoms playing before their eyes, have denied exiſtence to ſuch a perſon altogether. But that there was a prince of this name, who often led the Britons ſucceſsfully to battle againſt the Saxons, in the commencement of the ſixth century, there ought not to be any doubts; for he is mentioned by cotemporary writers, whoſe works are ſtill extant; namely, Llywarc, Merzin, and Talieſin; and he is likewiſe often recorded in the Triads, which are documents worthy of credit; but neither by theſe poets, nor in the Triads, is he in any reſpect exalted to that rank in which the world now beholds his name, or extolled above other princes who held ſimilar ſtations in the country.

About the year 516, or 517, Arthur was elected by the ſtates of Britain to exerciſe ſovereign authority, as other princes had been choſen, in dangerous times; and he obtained that pre-eminence in conſequence of his ſuperior abilities and bravery; being until that time only a chieftain of the Silurian Britons. He continued to preſent a ſucceſsful oppoſition to the increaſing power of the Saxons, until a fatal diſſenſion broke out between him and Medrod; a radical evil among the Britons, in conſequence of their being divided into many ſmall ſtates; and which, about the year 540, kindled into a civil war; and Medrod joined his power with the Saxons, which ultimately produced the battle of Camlan, equally fatal to the leaders on both ſides, and which brought diſaſtrous ruin on the Britons.

Such was the career of Arthur, as exhibited by the bards and the Triads. The hero under the ſame name in the dramatic tales called Mabinogion, is totally of different features, and in fact is a diſtinct perſonage altogether. The laſt is then a mythological character of times ſo remote as to be far beyond the ſcope of hiſtory: his attributes in the dramatic tales before mentioned point him out as ſuch. Memorials of this being, and of ſeveral others connected with him, have been traditionally preſerved in various and very diſtant parts of the world; and if we miſtake not, their memorials are written in the heavens, and ſome of the conſtellations bear their names. Arthur is the Great Bear, as the epithet literally implies: and perhaps this conſtellation being ſituated ſo near the north pole, and viſibly deſcribing a circle in a ſmall ſpace of the heavens, is the true origin of the famous round table.

By confounding the Arthur of hiſtory with that of mythology, the chroniclers of the middle ages have committed a monſtrous anachroniſm; and thus have blended the real feats of the former with the allegorical attributes of the other; and this confuſion is ſtill increaſed by all the ſucceeding writers of romance.

There are ſome very extraordinary things related concerning the mythological Arthur, in the Mabinogion, and particularly in the ſtory of the purſuit of Olwen: therein we recogniſe the Indian Menu, exactly by name, and with ſimilar attributes, acting as one of the agents of Arthur, to recover Olwen, the repreſentative of the fecundity of nature.

To the above rational and credible account, for which the editor is indebted to an ingenious writer, it may not be improper to ſubjoin, for the gratification of the curious reader, ſome other particulars, tranſmitted by Geoffrey of Monmouth, and other hiſtorians, of more doubtful authenticity.

From them we learn, that Arthur was the ſon of Uther, the pendragon or dictator of the Britons, by an adulterous connection with Igerna, wife of Gorlois duke of Cornwall, favoured by the aid of Merlin's magical ſkill. Upon the death of Uther, in 516, Arthur, at the age of 15, or, ac-

cording to Buchanan, 18 years, aſcended the throne. With a competent army, which his extraordinary valour enabled him ſpeedily to raiſe, he routed Colgrin, the Saxon duke, and all his forces, conſiſting of Saxons, Scots, and Picts, who were committing horrid devaſtations in Britain. Having purſued him to York, he was obliged, in conſequence of the treaty aſſented to Colgrin by Cordic, king of the Saxons, to raiſe the ſiege and to march to London. Aſſiſted by a ſupply of troops, furniſhed by his nephew, Hoel, king of Armorica or Britany, he marched to Lincoln, which was beſieged by the Saxons, whom he defeated; and he then compelled the ſurvivors to ſurrender, on condition of being allowed to leave the kingdom. Theſe men, after having embarked, repented, and returned on the weſtern coaſt; and proceeding to lay ſiege to Badon, or Bath, Arthur was obliged to decline his intended purſuit of the Scots and Picts, and to make forced marches for the relief of the city. After a very obſtinate and ſevere engagement, which laſted two days, Arthur, having performed extraordinary feats of valour, took their camp, and ſlew Colgrin, and another of the principal leaders. He then haſtily returned to relieve his nephew Hoel, who was inveſted by the Scots and Picts at Dumbritton in Scotland. Having ſucceeded in this enterpriſe, he directed his courſe to York; where he is ſaid to have eſtabliſhed the Chriſtian worſhip on the ruins of the Pagan, and to have married a lady called Guanhumara, who, under the name of Guenever, became the ſubject of various metrical romances. Fabulous hiſtory reports, that he invaded and ſubdued Ireland, Iceland, Gothland, and the Orkneys; and having finiſhed theſe exploits, governed his kingdom for 12 years with undiſturbed tranquillity, and very extraordinary ſplendour. At this time he inſtituted his famous order of knights of the round table. Having alſo, as fable relates, conquered Norway and Denmark, invaded France, and taken Paris, and in nine years made himſelf maſter of the whole kingdom, the provinces of which he diſtributed among his domeſtics, he returned, and held a grand aſſembly of his tributary kings and nobles at Caerleon in Monmouthſhire, where he was ſolemnly crowned. Whilſt he was afterwards purſuing his conqueſts, and marching for Rome, his nephew, Modred, who in his abſence had prevailed on his queen, Guanhumara, to marry him, ſet up the ſtandard of revolt, and called in to his aſſiſtance the Saxons and other barbarians. Arthur haſtily returned, and three battles were fought between him and Modred; in the laſt of which, Arthur, though victorious, received ſo many wounds, that, retiring to the iſle of Avalon, he died, A.D. 542, and was buried in that place. "Every nation," ſays Gibbon (Hiſt. vol. vi. p. 392.), "embraced and adorned the popular romance of Arthur and the knights of the round table; their names were celebrated in Greece and Italy."—"At length the light of ſcience and reaſon was rekindled; the taliſman was broken; the viſionary fabric melted into air; and by a natural, though unjuſt reverſe of the public opinion, the ſeverity of the preſent age is inclined to queſtion the *exiſtence* of Arthur." Mr. Whitaker (Hiſt. Mancheſter, vol. ii. p. 31—71.) has framed an intereſting, and even probable narrative of the wars of Arthur: though it is impoſſible to allow the reality of the round table. He ſuppoſes him to have been the *Arth-uir*, great man, or ſovereign of the Silures, and to have fought under the auſpices of Ambroſius, the pendragon of the Britons, who ſent him to the relief of the northern Britons, oppreſſed by the Saxons. After great ſucceſs in thoſe parts, he fought his twelfth battle in the ſouth of England, after he was elected to the pendragonſhip, againſt Cerdic the Saxon. Mr. W. believes in the reality of his inſtitution of a military order, the origin of all others of a like kind on the continent of Europe. He ſpeaks in high terms of the glories of his reign, at length fatally terminated by the civil wars, which put an end to the hero's life. Baxter, Brit.

ARTHUR'S *Bay*, or *Round Bay*, in *Geography*, lies on the coaſt of New Jerſey, in America, and is formed by the union of Paſſaic and Hackinſack rivers.

ARTIACA, in *Ancient Geography*, a town of Gaul, in the road from Milan to Geſſioracum, by the Cottian Alps.

ARTICANA, a country of Aſia, which made part of the kingdom of Parthia. Ptolemy.

ARTICCHAE, in *Botany*. See CYNARA.

ARTICHOKE, *Jeruſalem*. See HELIANTHUS.

ARTICLE, ARTICULUS, a little part or diviſion of a book, writing, or the like.

ARTICLE is alſo applied to the ſeveral clauſes or conditions of a contract, treaty of peace, or the like.

In this ſenſe we ſay, articles of marriage, articles of capitulation, preliminary articles, &c.

ARTICLES *of the clergy*. ARTICULI *cleri*, are certain ſtatutes touching perſons and cauſes eccleſiaſtical, made under Edward II. and III.

The ſtatute made in the reign of Edw. II. A. D. 1316. was made for terminating the diſputes between the temporal and ſpiritual courts, about the limits of their reſpective juriſdiction. As this ſtatute was procured by the clergy at a time when their aſſiſtance was much needed, it was very favourable to their ſhameful and exorbitant claims of exemption from civil authority. By the laſt chapter it is granted, that when clerks confeſs before temporal judges their heinous offences, as theft, robbery, and murder, they cannot be judged or condemned by thoſe temporal judges upon their own confeſſion, without violating the privilege of the church; and that the privilege of the church being demanded in due form by the ordinary, ſhall not be denied. This ſtatute was actually pleaded, and admitted in favour of a biſhop of Hereford, A. D. 1324, under accuſation of high treaſon. The ſtatute *de clero*, 25 Edw. III. ſt. 3. c. 4. provided, that clerks convict for treaſons or felonies touching other perſons than the king himſelf, or his royal majeſty, ſhould have the privilege of holy church.

ARTICLE *of faith* is by ſome defined a point of Chriſtian doctrine, which we are obliged to believe, as having been revealed by God himſelf, and allowed and eſtabliſhed as ſuch by the church.

The thirty-nine articles of the church of England were founded, for the moſt part, upon a body of articles compiled and publiſhed in the reign of Edward VI.

The articles of king Edward were 42 in number, and framed by archbiſhop Cranmer and biſhop Ridley; and after having been ſubmitted to the correction and amendment of the other biſhops and learned divines, they were reviewed by the archbiſhop, and then preſented to the council, where they received the royal ſanction. Theſe articles, though not brought into parliament, nor agreed upon in convocation, as the title ſeems to expreſs, and as they ought to have been, were announced as "Articles agreed upon by the biſhops, and other learned men in the convocation held at London, in the year 1552, for the avoiding diverſity of opinions, and eſtabliſhing conſent touching true religion." In the reign of queen Elizabeth, they were reviewed by the convocation, and the 42 articles were reduced to the preſent 39; the following articles were omitted: viz. Art. 39. "The reſurrection of the dead is not paſſed already." Art. 40. "The ſouls of men deceaſed do neither periſh with their bodies, nor ſleep idly." Art, 41. "Of the

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Millenarians." Art. 42. "All men not to be ſaved at laſt." Some of the other articles underwent a new diviſion, two being joined into one, and in other parts one is divided into two; but without any remarkable variation of doctrine. It has been a ſubject of diſpute, whether the firſt clauſe of the 20th article, viz. "The church has power to decree rites and ceremonies, and authority in controverſies of faith." was a part of the article which paſſed the ſynod and was afterwards confirmed by parliament in 1571. It is certain it did not make a part of king Edward's articles, nor is it in the original MS. of the articles ſubſcribed by both houſes of convocation with their own hands, and preſerved in Bennet college library. The diſpute, however, is of little conſequence to the preſent ſubſcribers, as this clauſe made a part of the article confirmed by parliament in 1562. Theſe articles, having paſſed the convocation, Jan. 31, 1562, were ſubſcribed immediately by moſt of the members of both houſes of convocation; but they did not paſs into a law, and become a part of the eſtabliſhment, till nine years after this time. In the year 1571, an act was paſſed, confirming all the doctrinal articles agreed upon in the ſynod of 1562; and enjoining ſubſcription on all perſons ordained to be deacons or prieſts, and on all who held any eccleſiaſtical livings, as well as licenſed lecturers and curates. 13 Eliz. c. 12. It has been ſaid (Neal's Hiſt. Puritans, vol. i. p. 179, 4to.), that this act eſtabliſhed only the doctrinal articles; thoſe, as they are expreſſed, "which only concern the confeſſion of the true faith, and the doctrine of the ſacraments;" and, therefore, that the articles of the church, which relate to its diſcipline, were not deſigned to be the terms of miniſterial conformity. Theſe articles were ratified by parliament at the reſtoration of Charles II., in 1662; and ſubſcription to them enjoined on the heads of colleges, chancellors, officials, and commiſſaries, and alſo on ſchoolmaſters, 13 and 14 Car. II. c. 4.

By 1 W. & M. ſt. 1. c. 18. commonly called the toleration act, diſſenting teachers are to ſubſcribe all theſe articles, except the 34th, 35th and 36th, and part of the 20th; and in the caſe of anabaptiſts, except alſo part of the 27th; or, if they ſcruple ſubſcribing the ſame, they ſhall make and ſubſcribe the declaration preſcribed by ſtat. 19 Geo. III. c. 44. profeſſing themſelves to be Chriſtians and proteſtants, and that they believe the ſcriptures to contain the revealed will of God, and to be the rule of doctrine and practice; otherwiſe they are exempted from the benefits of the act of toleration. Diſſenting ſchoolmaſters are excuſed from ſubſcription to the articles by the ſame act. See TOLERATION.

Concerning theſe articles, very different opinions have been entertained by thoſe who ſubſcribe them; and they have alſo differed in their ſentiments and views with regard to the nature and extent of ſubſcription. Some have interpreted them more laxly, and others more rigidly; and they have not been agreed as to the ſtrictneſs or latitude with which they may be ſubſcribed. For the reaſons that have been urged in favour of ſubſcription, and againſt it, and the manner in which it has been interpreted and underſtood, ſee SUBSCRIPTION.

ARTICLES, *Lambeth*, were nine articles on the ſubject of predeſtination, perſeverance, and the limitation of ſaving grace, drawn up by archbiſhop Whitgift and other learned divines, ſubſcribed by them, and enjoined on the ſtudents of the univerſity of Cambridge, in conſequence of a complaint occaſioned by a debate in that univerſity, which commenced with a ſermon of a Mr. Barret, who attacked the believers of predeſtination with great fervor. The primate, in his letter to the univerſity, repreſents them not as new decrees, but as an explication of certain points, "correſponding to the doctrine profeſſed by the church of England, and already eſtabliſhed by the laws of the land." But as they had not the queen's ſanction, who, however, is ſaid to have been fully perſuaded of their truth, he deſired that they might not become a "public act," but uſed privately and with diſcretion.

ARTICLES, *Statute of the ſix*, or *Bloody laws*, was an act for aboliſhing diverſity of opinion in certain articles concerning the Chriſtian religion; 31 Hen. VIII. c. 14. By this law, the doctrine of the real preſence, the communion in one kind, the perpetual obligation of vows of chaſtity, the utility of private maſſes, the celibacy of the clergy, and the neceſſity of auricular confeſſion, were eſtabliſhed. The denial of the firſt article ſubjected the perſon to death by fire, and to the ſame forfeiture as in caſes of treaſon; and admitted not the privilege of abjuring; a ſeverity unknown to the inquiſition itſelf. The denial of any other of the five articles, even though recanted, was puniſhable by the forfeiture of goods and chattels, and impriſonment during the king's pleaſure; an obſtinate adherence to error, or a relapſe, was judged to be felony, and puniſhable with death. The marriage of prieſts was ſubjected to the ſame puniſhment; their commerce with women was, on the firſt offence, forfeiture and impriſonment, on the ſecond, death. The abſtaining from confeſſion, and from receiving the euchariſt at the accuſtomed times, ſubjected the perſon to fine and impriſonment during the king's pleaſure; and if the criminal perſiſted after conviction, he was puniſhed by death and forfeiture, as in caſes of felony. The rigour of theſe articles was ſomewhat abated by the 35th Hen. VIII. c. 5. in conſequence of the interference of Cranmer. By this ſtatute perſons were not to be convicted but upon the oaths of 12 men; the proſecution was required to be within a year; and a perſon who preached againſt them, was to be informed againſt within 40 days. Nevertheleſs ſeveral were burnt at this time for denying the doctrine of tranſubſtantiation. Upon the acceſſion of Edw. VI. the ſtatute of the ſix articles was repealed.

ARTICLES *of War*, in *Military Language*, denote certain regulations for the better government of the army in the kingdoms of Great Britain and Ireland, dominions beyond the ſeas, and foreign parts dependent upon Great Britain. Theſe may be altered and enlarged at the king's pleaſure. In certain caſes they extend to thoſe that are not military perſons; as when by proclamation any place is put under martial law or when people follow any camp or army for the ſale of merchandiſe, or ſerve in any menial capacity. It is ordained, that the articles of war ſhall be read in the circle of each regiment belonging to the Britiſh army every month, or more frequently if the commanding officer thinks proper. A recruit or ſoldier is not liable to be tried by a military tribunal, unleſs it can be proved that the articles of war have been duly read to him.

ARTICLES *of the Navy*, are certain expreſs rules and orders directing the method of ordering ſeamen in the royal fleet, and keeping up a regular diſcipline; firſt enacted by the authority of parliament ſoon after the reſtoration, ſtat. 13 Car. II. ſt. 1. c. 9. but ſince new modelled and altered by ſtat. 22 Geo. II. c. 23. amended by 19 Geo. III. c. 17. In theſe articles of the navy almoſt every poſſible offence is ſet down, and the puniſhment thereof annexed; in which reſpect the ſeamen have much the advantage over their brethren in the land ſervice; whoſe articles of war are not enacted by parliament, but framed from time to time at the pleaſure of the crown. Judge Blackſtone ſuggeſts, that this diſtinction proceeded from the perpetual eſtabliſhment

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of the navy, which rendered a permanent law for their regulation expedient, and the temporary duration of the army, which subsisted only from year to year, and might therefore with less danger be subjected to discretionary government. He adds, "whatever was apprehended at the formation of the Mutiny Act, the regular renewal of our standing force at the entrance of every year, has made this distinction idle. For if from experience past we may judge of future events, the army is now lastingly engrafted into the British Constitution, with this singularly fortunate circumstance, that any branch of the legislature may annually put an end to its legal existence, by refusing to concur in its continuance." Bl. Com. vol. i. p. 420.

Articles, *Lords of*, in *Scots History*, a committee of ancient institution in the Scottish parliament, existing as far back as records enable us to trace the constitution of parliaments in Scotland. It was their business to prepare, and to digest all matters which were to be laid before the parliament; every motion for a new law was first made there, and approved or rejected by them at pleasure; what they approved of was formed into a bill, and presented to parliament; what they rejected could not be introduced into the house. The lords of articles, then, not only directed the whole proceedings of parliament, but possessed a negative before debate. The committee was chosen and constituted in such a manner as put this valuable privilege entirely in the king's hands. It is extremely probable, that the king once had the sole right of nominating the lords of articles. They were afterwards elected by the parliament, and consisted of an equal number out of each estate; and most commonly of 8 temporal and 8 spiritual lords, of 8 representatives of boroughs, and of the 8 great officers of the crown. Capable either of influencing their election, or of gaining them when elected, the king commonly found them no less obsequious to his will, than his own privy council; and by means of his authority with them, he could put a negative upon his parliament before debate as well as after it. James VI. in order the more effectually to preserve his influence over the lords of articles, obtained an act appointing four persons to be named out of each estate, who should meet twenty days before the commencement of parliament, to receive all supplications, &c. and rejecting what they thought frivolous, should engross in a book what they thought worthy the attention of the lords of articles. This select body would of course be appointed by the king. In 1633, when Charles I. was beginning to introduce those innovations which gave so much offence to the nation, he dreaded the opposition of his parliament, and in order to prevent it, used an artifice for securing in favour of the crown the lords of articles. The temporal peers were appointed to choose 8 bishops, and the bishops 8 peers; these 16 met together, and elected 8 knights of the shire, and 8 burgesses, and to these the crown officers were added as usual. In this way all the lords of articles would be the tools and creatures of the king. This practice, so inconsistent with liberty, was abolished during the civil war, and the statute of James VI. was repealed. After the restoration parliaments became more servile than ever; and what was only a temporary device in the reign of Charles I. was soon converted into a standing law. Upon the accession of king William the IIId, this practice was abolished, with many other oppressive and despotical powers, which had rendered our nobles abject slaves to the crown, while they were allowed to be tyrants over the people. Robertson's Hist. of Scotland, vol. i. p. 83.

Article, *articulus*, in *Anatomy*, denotes a joint or juncture, of two or more bones of the body.

Article *of Death*, *articulus mortis*, the last pangs or agony of a dying person. The pope usually sends his benediction to the cardinals, &c. *in articulo mortis*.

Article, in *Arithmetic*, signifies the number 10, or any number justly divisible into ten parts; as 20, 30, 40, &c. —These are sometimes called decads, and sometimes round numbers.

Article, in *Grammar*, denotes a particle used in most languages for the declining of nouns, and denoting the several cases and genders thereof.

The use of articles arises chiefly hence, that in languages which have no different terminations to express the different states and circumstances of nouns, there is something required to supply that office.

The Latins have no articles; but the Greeks, and most of the modern languages, have had recourse to them for fixing and ascertaining the vague signification of common and appellative names.

The Greeks have their ὁ, the eastern tongues their *he emphaticum*, from which, perhaps, the Greek article was derived, unless we derive the Greek ὁ, ἡ, τὸ from the relative ὅς, or both, by a kind of contraction very common in words much used, from the demonstrative ἐκεῖνος. The Spaniards and the Italians have their *il*, *lo* and *la*, which appear to be the latin *ille*. The French their *le*, *la* and *les* seemingly derived from either the Spanish or Italian. The Germans their *der*, *das*, *dat*. The English have also two articles, *a* and *the*; which being prefixed to substantives, apply their general signification to some particular things. See letter A.

Some grammarians make the article a distinct part of speech; others will have it a pronoun; and others a noun adjective. See Speech, and Pronoun.

Articles, in the distribution of the ingenious Mr. Harris, belong to the species of words which he denominates definitives; because, being associated with a noun, they serve to define, determine, or ascertain any particular object, so as to distinguish it from others of the class to which it belongs, and, of course, to denote its individuality. Although there be a near relation between pronouns and articles, and it may be sometimes doubted concerning particular words to which class they ought to be referred, yet they may be commonly distinguished by this rule: the genuine pronoun always stands by itself, assuming the power of a noun, and supplying its place; whereas the genuine article never stands by itself, but appears at all times associated to something else, requiring a noun for its support, as much as attributives or adjectives. Mr. Harris distributes articles into those strictly and properly so called, and the pronominal articles, such as *this*, *that*, *any*, &c. The reason and use of the former he illustrates in the following manner. When a certain object occurs, with which as an individual we are unacquainted, we refer it to its proper species, and call it *dog*, *horse*, *lion*, or the like. If none of these names suit it, we refer it to the genus, and call it *animal*. But the object which we are contemplating, is perhaps neither a species nor a genus, but an individual. Of what kind? *known* or *unknown*? seen now for the *first time*, or *seen before*, and now remembered? In this case we shall discover the use of the two articles *a* and *the*. A respects our *primary* perception, and denotes individuals as *unknown*. When an object passes by which I never saw before, I say, "There goes *a* beggar with *a* long beard." When the same man returns at some future time, I say: "There goes *the* beggar with *the* long beard." The article only is changed, the rest remains unaltered. The individual *once* vague, is now recognised *as something known*, and that merely by the efficacy of this

this latter article, which tacitly insinuates a kind of *previous* acquaintance, by referring the present perception to a like perception already past. The articles *a* and *the* are both of them definitives, as they circumscribe the latitude of genus and species, by reducing them for the most part to denote individuals; with this difference, that the article *a* leaves the *individual itself unascertained*, whilst the article *the*, *ascertains the individual also*; and on that account is the more accurate definitive of the two. Hence the former article *a*, being applied to objects or names taken in their more vague and general signification, is called *indefinite*; and accordingly some have derived it by contraction, from *any*; whereas the article *the* is called *definite*, because it appropriates or fixes the sense of the word to which it is prefixed to one individual thing.

Besides, the article *a*, as it separates one individual from the class to which it belongs, cannot be applied to plurals; but the article *the*, specifying or defining objects distinct from others of the same class, is alike applicable to both numbers. To this rule, however, there is an exception, as in the use of the adjectives *few* and *many*, which though joined with plural substantives, yet admit of the article *a*, as *a few* men and *a great many* men. Mr. Lindley Murray (Grammar, p. 31.) observes, that the reason of this is manifest; from the effect which the article has in these phrases, it means a small or great number collectively taken, and therefore gives the idea of a whole, that is, of unity.—Thus likewise, a dozen, a score, a hundred, a thousand, is one whole number, or an aggregate of many collectively taken; and therefore still retains the article *a*, though joined as an adjective to a plural substantive. The indefinite article is much more limited in its use than the definite: and therefore the Greek and Hebrew languages have it not, though they both have the definite article. The Greek ὁ corresponds precisely to our *the:* as ὁ Βασιλευς *the* king, το δωρον *the* gift; however they differ in this respect, that the Greek article admits of variation adapted to number and gender, whereas the English *the* is invariable. It has been already observed, that the article has no meaning but when it is associated to some other word; and the words to which it may be annexed are those which, though indefinite, are yet capable by means of the articles of becoming definite. Upon this principle it is absurd to say Ο Εγω, *the I*, or Ο Συ, *the thou*, because nothing can make those pronouns more definite than they are. The same is true of proper names. By the same rule we cannot say in Greek Οι Αμφοτερoι, or *the both*, because these words are in their own nature perfectly defined; hence the numeral *two*, when it is indefinite, is found to assume the article whenever it would become definite: thus the *two* in English, and οι Δυο in Greek, mean nearly the same thing as *both* or Αμφοτερoι. As some words admit of no article, because they are by nature as definite as may be, there are others that do not admit it, because they are not to be defined at all: of this sort are all interrogatives. Upon the whole, the natural associates with articles are all those common appellatives which denote the several genera and species of beings. The definite article *the* is frequently applied to adverbs in the comparative and superlative degree, and its effect is to mark the degree more strongly, and to define it the more precisely; as "*the* more I examine it, *the* better I like it:"—"I like this *the* least of any." Besides the articles already enumerated, which are articles strictly so called, there are the *pronominal articles*, such as *this*, *that*, *any*, *other*, *some*, *all*, *no* or *none*, &c. which may be sometimes taken as pronouns, and sometimes as articles; but if it be the essence of an article to define and ascertain, they are much more properly articles than any thing else. See PRONOUN. Harris's Hermes, p. 214. &c.

Articles are of great service in a language, as they contribute to the more neat and precise expressing of several properties and relations, which must otherwise be lost. Without articles, or some equivalent invention, men could not employ nouns to any of the purposes of life, or indeed communicate their thoughts at all. And hence one great disadvantage of the Latin above other languages which have articles, is that the article being either expressed, or left out, makes an alteration in the sense, which the Latins cannot distinguish. Thus, when the devil said to our Saviour, "si tu es Filius Dei," it may either be understood, "if thou art *a* Son of God," or, "if thou art *the* Son of God."—Scaliger, from the want of articles in the Latin, has concluded them useless, and bestowed upon them opprobrious language, calling the article, "otiosum loquacissimæ gentis instrumentum;" and the abbé Girard has degraded them to the humble station of "avant-coureurs," merely to announce the approach or entrance of a noun. Mr. Horne Tooke, "Diversions of Purley," has vindicated the honour of the article, and endeavoured to restore it to its primitive dignity. For this purpose he recurs to the reasonings of Mr. Locke, on the use and importance of general terms; and he observes, that it is the business of the article to reduce the generality of terms, and, upon occasion, to enable us to employ general terms for particulars. If, in combination with a general term, it is a substitute, yet it is a necessary substitute, which (he adds) is more than can be said of ABBREVIATIONS that have been advanced into distinct parts of speech, for they are not essential to the communication of our thoughts. The Italians even prefix articles to proper names, which do not naturally need any, because they of themselves signify things individually.—Thus they say, *il Ariosto*, *il Tasso*, *il Petrarcha*.—Even the French join the article to the proper names of kingdoms, provinces, &c. as *la Suede*, *la Normandie*.—And we likewise annex it to the names of certain mountains and rivers; as the *Rhine*, the *Danube*, the *Alps*, &c.

Fa. Buffier distinguishes a third kind of articles in French, which he calls *intermediate* or *partitive*, serving to denote part of the thing expressed by the substantives they are added to: as, "des scavants ont cru," "some learned men have supposed," &c.; I want "de la lumiere," "some light," &c. The use and distinction of the definite and indefinite articles *le* or *la*, and *de* or *du*, make one of the greatest difficulties in the French tongue, as being utterly arbitrary, and only to be acquired by practice.—We may add, that in the English, though the articles be so few, yet they are of such frequent use, that they easily discover any stranger from a natural Englishman.

ARTICULARIS, in *Medicine*, an epithet applied to a disease which more immediately infests the articuli, or joints. The morbus articularis is the same with the Greek αρθριτις, and our gout.

ARTICULATE *Sounds* are those which express the letters, syllables, &c. of any alphabet or language.

Brutes cannot form articulate sounds, or they cannot articulate the sounds of their voice; excepting some few birds, as the parrot, pye, raven, starling, &c.

ARTICULATED *Libel*, *libellus articulatus*, that wherein the parts of a fact are set forth to the judge in short distinct articles. This amounts to much the same with what is otherwise called *libellus positionalis*.

ARTICULATED *Leaf*. See LEAF.

ARTICULATED *Radius*, in *Natural History*. See RADIUS *Articulatus*.

ARTICULATION, αρθρωσις, in *Anatomy*, the juncture or connection of two bones. Articulation is technically divided into diarthrosis, or moveable articulation; synarthrosis,

or

ny immoveable; and amphiarthrosis, which is defined to be a compound of both the others. The immoveable connection of bones is said to be by Symphysis, Harmonia, Suture, Gomphosis, Scindelesis, Synchondrosis, Syneurosis or Synostosis, and Schindylesis: for the explanation of which we refer to the separate articles. The moveable articulations, which alone appear to deserve that term, are divided into Enarthrosis, Ginglymus, and Arthrodia. When the spherical head of one bone is received into a corresponding cavity of another, a joint is formed, which admits of motion in every direction; this is Enarthrosis, which is called in English a ball and socket joint, and of which the hip joint is a good specimen. When the articular surface of one bone has a middle groove with lateral eminences, and the corresponding bone has a middle ridge with lateral depressions, a joint is formed which admits of motion backwards and forwards only, like a hinge; this is called ginglymus, and the elbow joint, as far as the ulna is concerned in its formation, or the second and third joints of the fingers and toes, exemplify this mechanism. Mr. Winslow divides ginglymus into the angular ginglymus, or that joint by which the first vertebra turns round upon the second; and he applies the same term to distinguish the articular connections of bones at different parts, as happens between the radius and ulna in the forearm. When two bones forming a joint are applied together by nearly plain surfaces, they may glide a little upon one another, but no extent of motion can take place. This is called arthrodia; and the junction of the collar bone to the acromion, and the metacarpal bones to the bones of the carpus, may be mentioned as specimens of this kind of articulation.

Articulation, in *Botany*, denotes the connection of parts that consist of joints or knees, such as the pods of French honey-suckles, which, when ripe, divide into as many parts as there are knees or joints, and which usually send forth branches.

Articulation, in a *general sense*, is that form or character which the voice acquires, by means of the mouth and its several organs, the teeth, the tongue, the lips, &c. The voice by articulation is not made more loud or soft, which are its primary qualities, but it acquires in addition to these characters, certain others, which may co-exist with them. The simplest of these new characters are those acquired through the several openings of the mouth, as these openings differ in giving the voice a passage, and from the various configurations of these openings proceed Vowels. There are other articulate forms which the mouth makes, not by mere openings, but by different contacts of its several parts; such, e. g. as it makes by the junction of the two lips, of the tongue with the teeth, of the tongue with the palate, and the like. These contacts are preceded or immediately followed by some opening of the mouth; and the articulations so produced are called Consonants. There are other subordinate distinctions of these primary articulations, which are denoted in the language of grammarians, by the name of Element; because articulations of every other kind are derived from them and resolved into them. Under their smallest combination, they produce a Syllable; syllables properly combined produce a Word; words duly combined produce a Sentence; and sentences properly combined produce an Oration or Discourse. Thus it is, says Mr. Harris (Hermes p. 324.), that to principles apparently so trivial as about twenty plain elementary sounds, we owe that variety of articulate voices which have been sufficient to explain the sentiments of so innumerable a multitude as all the present and past [illegible]. See Dr. Hutton's paper on [illegible] in Philos. Trans. vol. ii. p. 7. See also Grammar.

Articulation, in a more *confined sense*, is a branch of Elocution; and in this sense, a good articulation consists in giving every letter in a syllable its due proportion of sound, according to the most approved custom of pronouncing it; and in making such a distinction between the syllables of which words are composed, that the ear shall, without difficulty acknowledge their number, and perceive at once to which syllable each letter belongs. Where these points are not observed, the articulation is proportionably defective. Exactness in sounding the words rightly, corresponds to propriety in spelling; and the articulation should be so clear and distinct, that the hearer may with ease keep pace with the speaker. Among the Greeks and Romans, who paid particular attention to speaking and regularly taught it, the smallest error in pronouncing was equally disgraceful in them, as false speaking is with us. A good articulation is the foundation of a good delivery, in the same manner as the sounding of the simple notes in music with exactness, is the foundation of good singing. As for the grosser faults of articulation, such as stuttering, hesitation, lisping, and inability to pronounce certain letters, they can never be cured by mere precept, but require the constant aid of a person skilled in the causes of those faults, who by teaching each individual how to use the organs of speech rightly, and by shewing him the proper position of the tongue, lips, &c. may gradually bring him to a just articulation. Demosthenes, it is said, when he first spoke in public, could not pronounce the first letter of his art, "Rhetoric;" but by indefagitable pains he overcame the difficulty, and supplied this deficiency in his eloquence, even after he had arrived at the age of manhood. The first and most essential point in articulation is distinctness, and its opposite is the greatest fault. The chief source of indistinctness is too great precipitancy of speech. To this hasty delivery, which drops some letters, and pronounces others too faintly; which runs syllables into each other, and clusters words together, is owing that thick, mumbling, cluttering utterance, of which examples are too frequent. Demosthenes had this fault; and this, it is not improbable, was the impediment or defect of speech, which he remedied by exercising himself in declaiming with pebbles in his mouth. For curing any imperfections in speech arising originally from too quick an utterance, the most effectual method will be to employ an hour every morning in reading aloud, in a manner much slower than is necessary; let a friend or some person attend, whose business it shall be to remind the reader, if he should quicken his pace and recur to his old habit of rapid utterance. Those words should be marked which are passed over most hastily, and they should be repeatedly pronounced every morning slowly and distinctly. As in our language, words of more syllables than one have one syllable accented, and peculiarly distinguished from the rest, either by a smart percussion of the voice, or by dwelling longer upon it, the other syllables are often negligently articulated. In order to bring those, whose utterance is so rapid to a due medium, they should accustom themselves to pronounce the unaccented syllables more fully, and to dwell longer upon them. See Sheridan's Lectures on Elocution, p. 19—29.

Articulation, in reference to *Grammar*, is that part of it which treats first of sounds and letters, then of their combinations, for the composing of syllables and words. Hence he who pronounces his words clearly and distinctly, is said to pronounce them *articulately*.

Articulation, in *Vocal Music*. This word, which belongs to every kind of elocution, as well as music, is too familiar to be called technical. Yet, as it is extremely important, and much neglected, it shall furnish an article.

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M. Framery (Encycl. Meth.) ſays, that "in France, it has for ſome time paſt been imagined, that the Italians, particularly the women, ſcarcely ever *articulate* their words in ſinging; they even ſuppoſe inarticulation favourable to the melody; that it is even neceſſary to connect and ſmooth the ſounds; and that in an art where all the conſonants of a language are ſacrificed that the vowels only may be heard, melody is rendered more ſweet and enchanting by this means."

This does not indeed ſeem to have been an idea which the Engliſh have cheriſhed, ſyſtematically; for the *Banti*, in her recitative, is admired even by thoſe who are totally ignorant of the Italian language, for the firm, pointed, clear, and *articulate* manner in which ſhe pronounces the words. Yet our own vocal performers are ſo deficient in this particular, that it is difficult to diſcover in what language they are ſinging.

It is not merely the ſoftneſs of the Italian language, which renders it ſo much fitter for ſong than any other that is known; but the neatneſs and energy of articulation of the inhabitants of Italy, in ſpeaking it. The number of naſal ſounds in the French, of gutturals in the German, and of harſh terminations of our words by conſonants, obſtruct ſound and reſpiration. (See a liſt of theſe in the Eſſay on the Euphony of Languages, Hiſt. Muſ. vol. iv.) In Dryden's ſublime Ode for Muſic on St. Cecilia's day, the letter *d* predominates, terminating, in the courſe of the poem, no leſs than three and thirty lines. The letter *t*, like a gag at the end of a word, not only ſtops all ſound, but reſpiration. A clear and diſtinct articulation, without harſhneſs, is perhaps difficult in all languages; but there is a degree of diſtinctneſs poſſible, without injuring the melody, even in our harſh language, which Mrs. Sheridan poſſeſſed, and for which Mr. Incledon is juſtly admired, that conveys both ſenſe and ſound uninjured to the ears of an audience. We wiſh our public ſingers, who have merit of other kinds, would take this circumſtance into conſideration in the courſe of their ſtudies: as *the not underſtanding the words* in our theatres and concerts, however the voice and manner of ſinging may be approved, is a general complaint.

The Italians carry articulation, perhaps, to the extreme, by not only pronouncing all the conſonants in their ſeveral words, according to the genius of their language, which has no naſal or guttural ſounds, but even adding a kind of mute *e* at the end of words, terminated by contraction with a conſonant; as thus, in ſinging

La pace del mio cor—
Voglio vederti almen—
Mi fanno delirar—

They pronounce the laſt ſyllable as if it were written *cor*-č, *almen*-č, *delirar*-č. But they will tell you, that theſe words originally end with a vowel; as *cor* at full length is *cuore*; *almen*, *almeno*; and the infinitive mood of the laſt word, *delirar*, is *delirare*; and that it is for the ſake of euphony that they ſoften the termination of contracted words by a mute *e*.

For the articulation of notes in the performance of inſtrumental muſic, ſee Staccato and Sciolto.

Articulation, *diſeaſes of the*, in *Surgery*. See Joints.

ARTIER, in *Geography*, a river of France, in the late province of Auvergne, which runs into the Allier.

ARTIFICERS, thoſe who work with the hands, and manufacture any kind of commodity in iron, braſs, wood, &c.

Artificers are the ſame with what we otherwiſe call handicrafts and mechanics: ſuch are ſmiths, carpenters, taylors, ſhoemakers, weavers, and the like.

The Roman artificers had their peculiar temples, where they aſſembled, and choſe their own patron, to defend their cauſes: they were exempted from all perſonal ſervices. Taruntenus Paternus reckons thirty-two ſpecies of artificers, and Conſtantine thirty-five, who enjoyed this privilege. The artificers were incorporated into divers colleges or companies, each of which had their tutelar gods, to whom they offered their worſhip; and ſeveral of theſe, when they quitted their profeſſion, hung up their tools, a votive offering to their gods. Artificers were held a degree below merchants, and *argentarii*, or money-changers, and their employment more ſordid. Some deny, that in the earlieſt ages of the Roman ſtate, artificers were ranked in the number of citizens; others, who aſſert their citizenſhip, allow that they were held in contempt, as being unfit for war, and ſo poor that they could ſcarce pay any taxes. For which reaſon they were not entered among the citizens, in the cenſor's books; the deſign of the cenſus being only to ſee what number of perſons were yearly fit to bear arms, and to pay taxes towards the ſupport of the ſtate. It may be added that much of the buſineſs of artificers was done by ſlaves and foreigners, who left little for the Romans to mind but their huſbandry and war. Dion. Hal. lib. ii. By means of the arts, the minds of men are engaged in inventions beneficial to the community; and thus prove the grand preſervative againſt the barbariſm and brutality which ever attend on an indolent and inactive ſtupidity.

By the Engliſh laws, a ſtranger, being an artificer in London, &c. ſhall not keep above two ſtranger ſervants; but he may have as many Engliſh ſervants and apprentices as he can get. 21 Hen. VIII. c. 16. And as to artificers in wool, iron, ſteel, braſs, or other metal, &c. perſons contracting with them to go out of the kingdom into any foreign country, are to be impriſoned three months, and fined in a ſum not exceeding one hundred pounds. And ſuch as going abroad, and not returning on warning given by our ambaſſadors, &c. ſhall be diſabled from holding lands by deſcent or deviſe, from receiving any legacy, &c. and be deemed aliens. Stat. 5 Geo. I c. 27. By 23 Geo. II. c. 13. § 1. penalty of 500*l.*, and of impriſonment for twelve months, for the firſt offence; and for the ſecond, of 1000*l.* and of impriſonment for two years, is alſo inflicted on perſons ſeducing artificers to go abroad. By 14 Geo. III. c. 71, 15 Geo. III. c. 5, and 21 Geo. III. c. 37, heavy penalties are inflicted on maſters of ſhips aſſiſting in ſuch ſeduction. See Manufacturers.

Ramazini has a treatiſe on the diſeaſes of artificers.

Artificer *by fire*, a denomination ſometimes given to chemiſts, and workers in metal.

ARTIFICIAL, ſomething made by art; not produced naturally, or in the common courſe of things.

Artificial is alſo frequently uſed for *factitious*. Thus we have artificial ſal ammoniac, artificial borax, &c.

Artificial *fireworks* are compoſitions of inflammable materials; chiefly uſed on ſolemn occaſions, by way of rejoicing.

Artificial *Graſſes*, in *Agriculture*, are ſuch graſſes as are introduced into field huſbandry, and cultivated either for the purpoſe of being made into hay, or for being fed off by cattle. *Clover*, *lucerne*, *ſaintfoin*, *trefoil*, *rye-graſs*, and ſome others are of this nature. See theſe different heads.

The cultivation of artificial graſſes has been practiſed in ſome diſtricts of the kingdom for more than a century, while in others it has only been attended to within theſe few years, and there are ſtill others that have but juſt begun to introduce theſe kinds of graſſes. Wherever they have, however, been properly cultivated, ſo various and ſo manifeſt have been

found the advantages arising from them, that they form a very lucrative branch of husbandry, and are consequently grown in abundance in many parts of the kingdom. Those which, according to the author of the Synopsis of Husbandry, are most usually propagated and found to bring the most considerable profit to the farmer, are saintfoin or cinquefoil, clover, trefoil, hop-clover or non-such, and lucerne. One or other of these different species of grass may indeed be beneficially cultivated on almost every soil, as where the poverty of the ground will not admit of sowing either lucerne or clover, saintfoin or trefoil, from their requiring a less depth of mould, may turn out a weighty crop. Saintfoin, clover, and trefoil, are indeed now so universally raised from seed of English growth, that they have become in a manner naturalized to the soil, there being scarcely any country in Europe where larger crops are grown than in this. Lucerne, though it be sometimes reserved for seed here, is most successfully raised from seeds of foreign growth. In respect to burnet, spurry, and timothy grass, which are by some considered as artificial grasses, although their virtues have been highly celebrated by many, they have, perhaps, but seldom it is observed, been found to answer in the cultivation in any degree equal to the sanguine commendations bestowed on them.

It is judiciously remarked by Mr. Kent, in the Agricultural Survey of Norfolk, that artificial grasses should always be chosen agreeably to the soil. Saintfoin should, says he, be introduced where there is a chalky, marly, or even a gritty bottom. White clover should be the principal grass, where land is designed to be laid for a continuance. Trefoil and burnet upon high and poor uplands, designed for sheep-walks. Perennial darnel, or what the farmers call rye-grass, is, he thinks, proper upon light arable land, for though it is an exhauster, it serves better than any other to brace the surface. A few acres of lucerne he likewise recommends to every farmer who has a piece of loamy tillage, and near his house.

And in the Survey of the County of Somerset it is remarked, that on the stone-brash and free-stone-grit soils saintfoin takes the lead; and that though the seed is very expensive, the quantity and quality of its produce, together with its durability, make an ample return of profit, particularly if sown when the land is clean. Next to saintfoin, rye-grass, marl-grass, and white Dutch clover, are in deserved repute, when the land is intended to remain some years in grass; but when it is intended to be ploughed again in the course of a year or two, broad clover is preferred to all other artificial grasses. It is remarked, however, in the able Survey of Northumberland, that there few of the artificial grasses are ever grown alone, except red clover when intended to continue only one year, and even then a small portion of rye-grass, as from one to three gallons per acre are generally sown with it; and the writers suppose, with much propriety, as it not only comes early in the spring, but thickens the crop and facilitates making the clover into hay. When the land is intended to continue for three or more years in grass, they are generally mixed in the proportion of eight or ten pounds of red clover, four pounds of white clover, and half a bushel of rye-grass seed per acre; to the above quantities are sometimes, it is observed, added three or four pounds of rib-grass and hopmedick, as the soil suits. See GRASS.

ARTIFICIAL *Lightning*. See ELECTRICITY, and LIGHTNING.

ARTIFICIAL *Lines* on a sector or scale, are certain lines so contrived, as to represent the logarithmic sines and tangents; which, by the help of the line of numbers, will solve all questions in *trigonometry*, *navigation*, &c. pretty exactly.

ARTIFICIAL *Magnets*. See MAGNETS.

ARTIFICIAL *Music*, that which is composed according to the rules of art. There is no natural music but the warbling of birds, which is confined to the melody of the aviary, of which the tones are too high, and the intervals too minute for our appreciation. Rigorously speaking, all music is a work of art, particularly instrumental, in which the instrument itself is an artful contrivance for imitating vocal tones, and the hand of the performer must be guided by art. But the artifices of composition and performance are innumerable. In composition, fugues, canons, double counterpoint, ingenious and elaborate accompaniments, are included in artificial music; and in the performance upon instruments, the artifices of bowing on the violin, fingering on keyed instruments, double-tonguing on the German flute, &c. are only known and taught by great masters. The generating musical tones from glasses and other substances, not included in the three expedients for producing sounds by instruments, which the ancients as well as the moderns have confined to three several species, as strings, pipes, and percussion, is doubly entitled to the epithet artificial. The harmonies of a single string on the Æolian harp, have, perhaps, a better claim to the title of natural music, than any other sounds produced without human assistance.

ARTIFICIAL *Pasture*, in *Agriculture*, such pasture grounds as have been cultivated and sown down with plants of the artificial grass kind, or such others as are capable of affording a large proportion of green food for the feeding of cattle and other animals. See PASTURE.

ARTIGIS, in *Ancient Geography*, a town of Spain, in the country of the Turduli, supposed to be the present *Alhama*, between Grenada and the sea.

ARTIGNI, ANTHONY GACHET, in *Biography*, a writer of literary history, was born at Vienna, and became censor of the archiepiscopal church of that city. His work, intitled, "Memoires d'Histoire de Critique et de la Literature," published in seven volumes 12mo. at Paris, in 1749, manifests considerable talents for literary research and criticism. He died at Vienna in 1769. Nouv. Dict. Histor.

ARTIK-ABAD, in *Geography*, a town or district of Asiatic Turkey, in the government of Siwas, between the town of Siwas and that of Tocat or Tokai; abounding with grain and fruit.

ARTILLERY is originally a French word signifying *archery*. In a general sense, it denotes the offensive apparatus of war, particularly of the missile kind; and in modern acceptation, is more immediately applied to fire-arms mounted on carriages, and ready for action, with their balls, bombs, grenades, &c. In a more extensive meaning, the term includes the powder, matches, utensils of ordnance, the machines which facilitate their motion and transport them, the vehicles over which they traverse rivers, every thing necessary to them, and all that enters into the form of a train of artillery. The same word, still farther extended in its meaning, likewise comprehends the men destined for the service of the artillery, the people who provide the artillery with materials and implements when engaged, the cannoniers, the bombardiers, the officers of every rank, and engineers of every kind. By artillery is likewise understood the science which the officers of artillery ought to possess. See ENGINEERING.

In the most ancient times, when war was made with quickness and impetuosity, the use of artillery was unknown. Something like military engines seem hinted at in the book of Deuteronomy (chap. xx. v. 20.); but the earliest

liest precise mention of artillery is in the second book of Chronicles (chap. xxvi. v. 15.), where we are told, that Uzziah, who began his reign 809 years before the Christian æra, "made in Jerusalem engines invented by cunning men, to be upon the towers and upon the bulwarks, to shoot arrows and great stones withal." This also is particularly mentioned by Josephus, who represents Uzziah's care of Jerusalem as toward the end of his reign.

The Greeks, who were desirous of appropriating to themselves every improvement of science they gathered from the East, would fain have been believed the inventors of artillery. But so far from being in possession of artillery, they had not in their early times, if we may judge from Homer's writings, one military engine that was calculated to shake a wall. The earliest instance in profane history is probably to be sought for in the siege of Motya, about 370 years before Christ, where Dionysius, having battered the fortifications with his rams, advanced to the walls, towers rolled upon wheels, whence he galled the besieged with continual vollies of arrows and stones thrown from his catapults. (Anc. Univ. Hist. vol. vi. p. 401.) The next memorable instance that occurs is the siege of Rhodes by Demetrius Poliorcetes, where even Grecian ingenuity was exhausted in the invention and improvement of artillery. (Diod. Siculus, l. xx.) Another instance of notoriety occurs when Hannibal besieged Saguntum, 219 years before the Christian æra; and the Saguntines hindered his soldiers from using the battering-ram, by an incessant hurling of darts, stones, and other missile weapons. See the account in Livy (l. xxi. c. 7. edit. Freinsh.), who has also supplied us (l. xxvi. c. 46, 47.) with a curious inventory of the warlike engines which Scipio, eight years afterwards, found among the stores of Carthagena. There were no less than an hundred and twenty catapults of the larger size, two hundred and eighty-one of the smaller, of the greater balistæ twenty-three, of the lesser fifty-two; beside an innumerable quantity of scorpions of different sizes, arms, and missile weapons. Two years, however, previous to this, Marcellus had laid siege to Syracuse, a city proverbially fatal to the armies that attacked it. Archimedes was at that time resident in Syracuse; and at the earnest solicitation of Hiero, king of Sicily, exerted the powers of his mind in the invention of artillery and other warlike engines. Marcellus had brought with him an amazing engine called *sambuca*, upon eight galleys; which the mathematician destroyed by discharging single stones of enormous weight upon it, while it was at a considerable distance from the walls. The chief instruments he used were balistæ, a sort of crow lowered by a lever, which hoisting the ships of the Romans by the prow, plunged them to the bottom of the sea; grapples; and scorpions. Archimedes, however, left no account of these military engines in writing; because he considered all attention to mechanics as mean and sordid, placing his whole delight in those intellectual speculations which, without any relation to the necessities of life, have an intrinsic excellence arising from truth and demonstration only; and reckoning such inventions but among the amusements of geometry. See the life of Marcellus in Plutarch.

To multiply the enumeration of ancient sieges where artillery was used, would not only be tedious but endless. Every siege, it is probable, gave rise to some invention or improvement. Tacitus indeed mentions an extraordinary instance (Hist. l. iii. c. 23. 29.) of an engine with which the fifteenth legion fought against the troops of Vespasian, at Cremona. It was a balista of an enormous size, which the Vitellians played off with dreadful execution; and discharged massy stones of weight to crush whole ranks at once. Inevitable ruin, we are told, must have followed, if two soldiers had not signalized themselves by a brave exploit. Covering themselves with the shields of the enemy, which they found among the slain, they advanced undiscovered to the battering engine, and cut the ropes and springs. At last, after a vigorous assault from Antonius, the Vitellians being no longer able to sustain the shock, and enraged at their disappointment, in a fit of despair, rolled down their battering-engine on the heads of the besiegers. Numbers were crushed by the fall of such a prodigious mass. It happened, however, that the machine drew after it a neighbouring tower, the parapet and part of the wall, affording the besiegers an easier access to the city. The continued use of these enormous engines must be remembered by every reader of history; as well as that the Romans had regular batteries both of balistas and catapults.

The credit of introducing artillery into our own country must undoubtedly be given to the Normans, whom William of Malmsbury describes (l. iii. p. 57. col. 2.) as having a peculiar delight in war, and assures us, that they excelled in all the arts of attacking their enemies, when their forces were sufficient. The Normans first introduced among our castles the keep, placed upon a mount, whence they annoyed the surrounding enemy with their darts, stones, and other offensive weapons. (Strutt's Manners and Customs of the English, vol. i. p. 93.) Their method of attacking castles seems generally to have been by mere force; blockade was little practised; and the iron ram, which the Romans found so serviceable, was rendered in a great measure useless by the deep ditches which surrounded their fortifications. The principal machines which the Normans employed, were of course of the projectile kind; and they were not only used in regular sieges, but occasionally so contrived as to be used on ship-board. See Matt. Paris, p. 1091.

Machines for throwing stones occur so early as in the battle of Hastings (Will. Pictavien. p. 201.); and Robert de Brunne, in his wars against the Saracens, informs us, that when Richard the First set out against the Holy Land, he had in his barges and galleys mills turned by the wind which by force of the sails threw fire and stones.

The benefit which the English manners derived from the crusades, is a topic on which we shall have other opportunities of enlarging; but the accessions to the knowledge of our ancestors in the art of war were singularly conspicuous. From the Saracens they obtained a sort of wild-fire of so subtle a composition, that there was no method of extinguishing it but by smothering it with heaps of dust or vinegar. It was by this device that the Black Prince set fire to Remorentine; and it was often thrown in pots from the catapulta.

The Greek and Roman writers afford us many instances of the superior force which the catapults and balistas of the ancients could occasionally display; nor are parallel instances wanting in the annals of Britain. Camden informs us, that with the mangonels, trebuches, and briccolas, our forefathers used to cast forth mill-stones: and Holinshed (p. 539.) relates, that when Edward the First besieged Strively castle, he caused certain engines of wood to be raised against it, which shot off stones of two and three hundred weight.

The catalogue of projectile machines in the eleventh and twelfth centuries, exclusive of the balista, catapulta, onager, and scorpion, were the mangonel, the trebuchet, the petrary, the robinet, the mategrisson, the bricolle, the bugle or bible, the espringal, the matafunda, the ribaudequin, engine a verge, and the war-wolf (Grose Milit. Hist. vol. i. p. 381.),

whoſe form, conſtruction, and particular hiſtory, will be deſcribed under their reſpective articles. Singular, however, as it may ſeem, not only the form of theſe curious inſtruments, but even the method of uſing them, is entirely loſt. And ſo defective have our hiſtorians been in this particular, that after all the ſtrict examinations that have been made, little more of ſome of them can be collected than their names.

The connection between the modern and the old artillery need hardly be prefaced by recapitulating the diſcovery of gunpowder. For ſome time after that ſingular compoſition was applied to military purpoſes, the machines and pieces of ordnance were very ponderous and unwieldy, and of courſe unfit for expeditious ſervice. Military people at that time poſſeſſed but a ſmall ſhare of learning of any kind, and almoſt none at all of a mechanical or mathematical nature. What they did in their profeſſion was entirely the effect of practice. The form of their artillery, as well as of the warlike engines and inſtruments for conducting it, was only ſuch as the moſt obvious hints ſuggeſted, or the rudeſt and moſt uncultivated invention dictated. Their firſt pieces were not only clumſy and unmanageable, but as they ſucceeded to the machines of the ancients, they were employed like them in throwing ſtones of a prodigious weight, and therefore were neceſſarily of an huge and enormous bore, conſiſting uſually of pieces of iron fitted together lengthways, and hooped with iron rings. Some of them were ſo large that they conld not be fired above four or five times a day. Such were thoſe with which Mahomet II. battered the walls of Conſtantinople in 1453, being ſome of them of the calibre of no leſs than twelve hundred pounds; and Guicciardin, in the firſt book of his Hiſtory, informs us, that ſo large a portion of time interfered between the different chargings and diſchargings of one of thoſe pieces, that the beſieged had ſufficient time to repair at their leiſure the breaches made in their walls by the ſhock of ſuch enormous ſtones. (See Glennie's Hiſt. of Gunnery, p. 1.)

After ſuch a relation we cannot be ſurpriſed to find that not only the moveable towers, but catapults of various deſcriptions, were retained in uſe. The extreme awkwardneſs viſible in the conſtruction of cannon, and the great coſt of gunpowder, added to the difficulty of procuring it, account for the preference which was ſtill given to the old engines for diſcharging ſtones. Henry V. in the fourth year of his reign, employed the tripget, which ſhews that cannon had not then ſuperſeded the old artillery. (Strutt's Manners and Cuſtoms, vol. ii. p. 32.)

Under Hen. III. of France, the uſe and practice of artillery was not advanced beyond its infancy. D'Etrees, who occupied the poſt of maſter-general of the ordnance, in 1558, at the ſiege of Calais by Francis duke of Guiſe, and who eminently contributed to its capture, was the firſt perſon among the French who made any conſiderable progreſs in the conſtruction of batteries. Anterior to D'Etrees, continual accidents took place from the burſting of cannon; and it was cuſtomary to cool them with vinegar, in order to prevent misfortunes. Armies were then but ſlenderly provided with artillery, which was conſidered as more requiſite for ſieges, than indiſpenſable for the operations of the field. (See Wraxall's Hiſt. of France, vol. ii. p. 249, 250.). In England, however, the ſcience of artillery had occupied attention at a more early period; and lord Herbert obſerves, that in 1544, king Henry VIII. had himſelf invented ſmall pieces of artillery to defend his waggons.

The length and diameter of cannon was by degrees much diminiſhed, and of courſe their weight; and practice and experience in time diſcovered how much might be reduced with propriety from their magnitude, without hurting the grand effects which it was neceſſary on ſome occaſions they ſhould produce. See CANNON, GUNNERY, and PROJECTILES.

Dr. Smith obſerves (Wealth of Nations, vol. iii. p. 70.), that the great change introduced into the art of war by the invention of fire-arms, has enhanced ſtill further both the expence of exerciſing and diſciplining any particular number of ſoldiers in time of peace, and that of employing them in time of war. Both their arms and their ammunition have become more expenſive. A muſquet is a more expenſive machine than a javelin or a bow and arrows; a cannon or a mortar, than a baliſta or a catapulta. The powder which is ſpent in a modern review, is loſt irrecoverably, and occaſions a very conſiderable expence. The javelins and arrows which were thrown or ſhot in an antient one, could eaſily be picked up again, and were beſides of very little value. The cannon and the mortar are not only much dearer, but much heavier machines than the baliſta or catapulta, and require a greater expence, not only to prepare them for the field, but to carry them to it. As the ſuperiority of the modern artillery too, over that of the antients, is very great, it has become much more difficult, and conſequently much more expenſive to fortify a town ſo as to reſiſt even for a few weeks the attack of that ſuperior artillery. In modern times, many different cauſes contribute to render the defence of ſociety more expenſive. The unavoidable effects of the natural progreſs of improvement have, in this reſpect, been a good deal enhanced by a great revolution in the art of war, to which a mere accident, the invention of gunpowder, ſeems to have given occaſion.

ARTILLERY-*Park*, the place in the rear of both lines in the army for encamping the artillery, which is drawn up in lines, of which one is formed by the guns; the ammunition waggons make two or three lines, ſixty paces behind the guns, and thirty diſtant from one another; the pontoons and tumbrils make the laſt line. The whole is ſurrounded with a rope, which forms the park; the gunners and matroſſes encamp on the flanks; and the bombardiers, pontoon-men, and artificers, in the rear. Of late when an army has been upon the point of engaging, or in expectation of an action, the artillery has been encamped in two parks, upon both flanks.

ARTILLERY *Trail*, or *Train of*, a certain number of pieces of ordnance mounted on carriages, with all their furniture, fit for marching.

ARTILLERY *Company, the*, had its origin about 1585, when London being wearied with continual muſters, a number of its gallant citizens who had ſerved abroad with credit, voluntarily exerciſed themſelves, and trained others to the ready uſe of war. The ground they uſed was at the north-eaſt extremity of the city, nigh Biſhopſgate, and had before been occupied by the "fraternity of artillery," or gunners of the Tower. Within two years there were near three hundred merchants and others ſufficiently ſkilled to train common ſoldiers; and in 1588, ſome of them had commiſſions in the camp at Tilbury; but their aſſociation ſoon after fell to decay. (Ellis's Hiſtory of Shoreditch, p. 348.) From the company's regiſter, the only book they ſaved in the civil wars, it appears that the aſſociation was revived in 1611, by warrant from the privy council; and the volunteers ſoon amounted to ſix thouſand. Three years after this they made a general muſter, when according to contemporary authority, the men were better armed than diſciplined. (See Niccoll's London Artillerie, p. 104.) In 1622 they erected an armoury,

towards

toward which the chamber of London gave above 300*l.*; it was furnished with five hundred sets of arms of extraordinary beauty, which were all lost in the civil wars. Their captain, during a part of those affrighted times, was a Mr. Manby, who irrecoverably detained for his own purposes, the arms, plate, money, books, and other goods of the company. The protector was in vain solicited to enforce their being restored. (Ellis's Hist. of Shored. p. 349.) In 1640 they quitted their old field of discipline, and entered upon a plot of ground in Bunhill-fields, leased to them by the city.

This company, at present, forms a regular battalion of infantry, consisting of a grenadier, light infantry, and hat divisions; together with the matross division for the use of two field pieces, presented in the year 1780, by the city. There is also kept up a division of archers; archery being the art cultivated by the company in days when the bow was an instrument of war. The command of the battalion is vested in officers who are annually elected. This municipal corps is authorized and privileged by many royal patents and warrants; and particularly by one of his present majesty, under the royal sign manual, wherein his royal highness the prince of Wales is declared captain-general. It consists of gentlemen of character and property, bound by a solemn declaration and obligation of attachment and fidelity to the king and constitution, and of readiness to join in supporting the civil authority, and defending the metropolis. It is egulated by a court of assistants, consisting of a president, vice-president, treasurer, the field officers; the lord mayor, aldermen, and sheriffs for the time being, and twenty-four elective members. (See the company's address to the inhabitants of London.)

ARTILLERY is also used for what we otherwise call *pyrotechnia*, or the art of fire-works, with the instruments and apparatus belonging to it.

ARTINGAL, in *Geography*, one of the PELEW *Islands* in the Pacific ocean.

ARTIS, in *Ancient Geography*, a place of Asia Minor, in Ionia.

ARTISAN. See ARTIST, and also ARTIFICERS, and MANUFACTURERS.

ARTISIGA, in *Ancient Geography*, a village of Africa, in Mauritania-Cæsariensis, situate on the sea-coast north-west of the mouth of the river Malva, about 27 miles west of Siga.

ARTISCUS, in *Medicine*, from ἄρτος, *bread*, denotes a *troche*, but more particularly that prepared of viper's flesh, mixed up with bread, to be used in the composition of Venice treacle. These are more particularly called *artisci theriaci*, or *theriacal troches*. They were formerly in great vogue, and brought with much parade from Venice; but Zwelfer discovered their vanity; since which time viper's powder has been generally substituted for them, in the preparation of the treacle.

ARTISON, in *Natural History*, a common name among the French for various kinds of insects that injure furniture, skins, stuffs, &c. such as the Dermestes, Mites, &c.

ARTIST, in a general sense, a person skilled in some art; or, according to Mr. Harris's definition, a person possessing an habitual power of becoming the cause of some effect, according to a system of various and well-approved precepts. In this sense, we say, an excellent, a curious artist. The pre-eminence is disputed between ancient and modern artists, especially as to what relates to sculpture, painting, and the like. At Vicenza, we are told of a privilege granted to artists, like that of clergy in England; in virtue of this, criminals adjudged to death save their lives, if they can prove themselves the most excellent and consummate workmen in any useful art. This benefit is allowed them *in favorem artis*, for the first offence, except for some particular crimes, of which coining is one. The exception is just, since here the greater the artist, the more dangerous the person. Evelyn's Disc. of Medals, ch. vii. p. 237, &c.

Artists are persons who practise those arts which must necessarily be combined with a considerable degree of science, distinguishing them from such as are properly artisans or mechanics. Artists are particularly those who study and effect what are termed the polite arts, i.e. painting, sculpture, and architecture, to which may be added engraving. An account of the most eminent artists, ancient and modern, will be found in this work alphabetically arranged, to which our readers are referred. It appears that all civilized nations in every age have produced artists, and that with a degree of excellence generally answerable to their civilization and opulence. In every nation where the arts have flourished, the artists have made but rude essays, and by degrees they have been nurtured up to excellence, except in such instances where they have been transplanted, as from Greece to Rome. It is universally acknowledged respecting statuary and architecture, that ancient Greece has produced the best artists in the world; their works which have escaped the ravages of time are the standing monuments of their fame, and are still considered as the models of perfection; there is however an uncertainty whether their painters were equally skilled with their statuaries. With some reason, many judicious persons have supposed they were not, while others contend, that so much excellence produced in one branch, must have contemporary artists who would excel in the other also. While we cannot doubt of the genius of the Grecian artists, and of their ability to produce works of excellence, yet it may not be allowed that this argument will be found to be so conclusive as it may at first appear, since Chinese and Indian models are found in a more perfect state than either their drawings or paintings. Sir Joshua Reynolds has given a hint upon this subject in his notes to Mr. Mason's translation of Du Fresnoy, which may be consulted upon one side of the question; and Mr. Webb, on the other, will not fail to interest any reader who may be inclined to believe in favour of ancient painters. When the Goths overran Italy, the arts were destroyed; and, with Grecian architecture, painting, and sculpture, lay in one common grave forgotten, until they revived under some artists in the twelfth and thirteenth centuries, who ought not to be named as artists, but for the succeeding effects to which their efforts prepared the way, and in a short time after produced Michael Angelo, Raphael, Corregio, Titian, Algardi, Bernini, &c. painters, sculptors, and architects, to whose works the living artists are almost as much indebted as these illustrious characters were to the ancient monuments they dug from the ruins of old Rome. While painters continued to pursue their wretchedly dry and barbarously gothic method of design, prior to these enlightened artists, even then, the bronze gates of the baptistry of the church at Florence were produced; upon a sight of which, M. Angelo cried out with emotion when he saw them, that they deserved to be the gates of paradise! Casts of these gates may be seen in the Royal Academy in London. This we notice to justify a remark which we have made, that painting does not always accompany with equal steps the efforts of sculpture.

An Englishman will observe with pleasure the progress which has lately been made, and is still making under the protection of our gracious sovereign, in this once barren land, by artists in painting, sculpture, and architecture.

ARTIST, *artista*, in an academical sense, denotes a philo-

loſopher or proficient in the faculty of arts. See ARTS.

ARTIST is more peculiarly underſtood of a chemiſt or alchymiſt. In which ſenſe it is that Paracelſus and other adepts uſe the word.

ARTIZOOS, from ἀρτι, *ſhort*, and ζωη, *life*, is uſed by ſome ancient phyſicians for an infant ſhort-lived, by reaſon of a difficult birth, whereby he was long detained in the paſſage from the womb.

ARTOARTA, in *Ancient Geography*, a town of India on this ſide of the Ganges. Ptolemy.

ARTOBRIGA, a town of Vindelicia, mentioned by Ptolemy, and ſuppoſed by ſome to be Altzburgh in Bavaria, on the Danube, below Ingolſtadt; but by Cluverius, to be Labenau, on the Saltzbach, below Lauffen, in the archbiſhopric of Saltzburgh.

ARTOCARPUS, in *Botany*, *bread-fruit tree* (from ἀρτος and καρπος). Lin. gen. Schr. 1393. Supp. 61. Forſt. gen. 51. Juſſ. 402. Sitodium Soland. Gaertn. t. 71, 72. Radermachia Thunb. Nov. Gen. 24. Claſs, *Monoecia monandria*. Nat. Ord. of *Urticæ*. Juſſ. Gen Char. * Male flowers, *Cal.* none; ament cylindrical, all covered with florets. *Cor.* to each two petals, oblong, concave, blunt, villoſe. *Stam.* filament ſingle, within each corolla, filiform, the length of the corolla; anther oblong. * Female flowers, on the ſame tree. *Cal.* and *Cor.* none. *Piſt.* germs very many, connected into a globe, hexangular; ſtyle to each, filiform; ſtigma ſingle or two, capillary, revolute. *Per.* fruit ovate, globular, compound, muricate. *Seed* for each germ ſolitary, oblong, covered with a pulpy aril, placed on an ovate receptacle.

Eſſ. Gen. Char. Male, ament. calyx none. *Cor.* two-petalled. Female. *Cal.* and *Cor.* none; ſtyle one; berries one-ſeeded, connected, and forming a roundiſh muricated fruit.

Species, 1. A. *inciſa*, bread-fruit tree. Forſt. Eſcul. Anſt. 23. Sitodium inciſum. Thunb. Phil. Tranſ. v. lxix. p. 465. Radermachia inciſa. Thunb. Act. Holm. vol. xxxvi. p. 250. Le Rima, ou fruit á pain. Sonnerat Voy. 99. t. 57—60. See alſo the voyages of Dampier, Anſon, Hawkſw. Cook, King's Narr. Ellis Monogr.

α Fructu apyreno, *fruit without ſeeds*.

β Fructu ſeminifero, *with ſeeds in the fruit*.

Leaves gaſhed. Forſter, whoſe deſcription of this tree appears to be more complete than that of any other writer, ſays it is the thickneſs of a man, and upwards of forty feet high; the trunk is upright, the wood ſoft, ſmooth, and yellowiſh, the inner bark white, compoſed of a net of ſtiffiſh fibres, the outer bark ſmooth, but full of chunks, pale aſh-colour, with ſmall tubercles thinly ſcattered over it. Wherever the tree is wounded, it pours out a glutinous milky liquor. The branches form an ample almoſt globular head; the lower ones, which are the longeſt, ſpring from the trunk ten or twelve feet above the ground, ſpreading almoſt horizontally, ſcattered, and in a ſort of whorl; twigs aſcending, bearing flowers and fruit at their ends. Leaves alternate, petioled, ovate, deeply divided above the middle into ſeven or nine lanceolate acute lobes, with rounded ſinuſes; they are otherwiſe quite entire, ſmooth on both ſides, even, ſpreading, bright green, paler underneath, membranaceous, a foot and a half in length, eleven inches wide, veined, having a thick nerve to each lobe, diverging from the common rachis. The younger leaves, like all the more tender parts of the tree, are glutinous to the touch; petioles roundiſh, even, aſcending, two inches in length; ſtipules in pairs, involving the younger leaves, lanceolate, acuminate, concave, entire, ſmooth within, hairy on the outſide, deciduous, three inches long; peduncles at the ends of the twigs, and in the axils of the upper leaves, ſolitary, round, upright, having a few hairs, and two inches in length. The male flowers are among the upper leaves; and the female flowers at the ends of the twigs. The male ament is club-ſhaped, fleſhy, upright, a ſpan long, covered with innumerable ſmall, ſeſſile florets. The proper perianth is very ſmall, two-valved; valves equal, oblong, blunt, concave, cloſely adhering, ſhut, yellowiſh-brown. Theſe have no ſpathes. The female flowers have bivalve ſpathes, ovate-lanceolate, compreſſed, acuminate, upright, bent at the tip, ſoft, a ſpan in length, at firſt cloſed, then deciduous, placed at the end of the peduncle; ſpadix globular, covered with many connate germs, theſe are obconical, immerſed in the receptacle, ſomewhat convex at the top; ſtyles ſcarcely any; ſtigmas projecting points, withering; in ſome varieties theſe are bifid, according to Thunberg. The fruit is a globular berry, ſmoothiſh, marked with hexagons on the ſurface, pale green, often nine inches in length, filled with a white, farinaceous, ſomewhat fibrous pulp, which, when the fruit is ripe, becomes juicy and yellow; it is faſtened to a club-ſhaped, fleſhy receptacle, which is longitudinally fibrous, and a hand in length.

In captain Cook's voyage it is obſerved, that the bread-fruit tree is about the ſize of a middling oak; its leaves are frequently a foot and a half long, oblong, deeply ſinuated like thoſe of the fig-tree, which they reſemble in conſiſtence and colour, and in exuding a milky juice when broken. The fruit is the ſize and ſhape of a child's head, and the ſurface is reticulated not much unlike a truffle; it is covered with a thin ſkin, and has a core about as big as the handle of a ſmall knife; the eatable part lies between the ſkin and core; it is as white as ſnow, and of the conſiſtence of new bread. It muſt be roaſted before it is eaten, being firſt divided into three or four parts; its taſte is inſipid, with a ſlight ſweetneſs, ſomewhat reſembling that of the crumb of wheaten bread mixed with Jeruſalem artichoke. The fruit not being in ſeaſon all the year, there is a method of ſupplying this defect, by reducing it to four paſte called *mahie*; and beſides this, cocoa-nuts, bananas, plantains, and a great variety of other fruits, come in aid of it.

This tree not only ſupplies food, but alſo clothing, for the bark is ſtripped off the ſuckers, and formed into a kind of cloth. To procure the fruit for food coſts the Otaheiteans no trouble or labour but climbing a tree; which though it ſhould not indeed ſhoot up ſpontaneouſly, yet, as captain Cook obſerves, "if a man plant ten trees in his life-time, he will as completely fulfil his duty to his own and future generations, as the native of our leſs temperate climate can do by ploughing in the cold winter, and reaping in the ſummer's heat, as often as theſe ſeaſons return; even after he has procured bread for his preſent houſehold, he ſhould convert a ſurplus into money, and lay it up for his children. But where the trees are once introduced in a favourable ſoil and climate, ſo far from being obliged to renew them by planting, it ſeems probable that the inhabitants will rather be under the neceſſity of preventing their progreſs; for young trees ſpring abundantly from the roots of the old ones, which run along near the ſurface. Accordingly they never plant the bread-fruit tree at Otaheite." The bread-fruit is diſtinguiſhed into that which is deſtitute of ſeeds, and that in which ſeeds are found. The natives of Otaheite reckon at leaſt eight varieties of trees which produce the former. The moſt common of theſe is named *uru* or *eoroo*, bearing a globular, ſmooth, even fruit. The *maira* has an oval, ſmooth fruit, with the leaves more deeply cut. The *patea* has a fruit oblong and rough, with a ſcaly appearance. The *tatarra* has an oval fruit, with mammillary germs, muricated by the permanent ſtyle.—Probably, by extending the culture

culture to diſtant countries, the varieties may be ſtill farther increaſed. The parts of fructification in thoſe trees which bear fruit without ſtones, are ſaid to be defective, as the ament never expands, and the ſtyles are alſo deficient. In the variety 3, the fruit contains a conſiderable number of ſeeds, almoſt as large as cheſnuts, oblong, ſomewhat angular, produced into a point at each end. They are farinaceous like the cheſnut, and are eaten in ſome places by the ſavage inhabitants, either boiled, or roaſted in embers. It will eaſily be ſuppoſed that this fruit, abounding leſs in pulp, and being both more fibrous and leſs juicy than that which has no ſeeds, muſt be much inferior as an article of food; and, accordingly, before the diſcovery of the South Sea iſlands, the bread-fruit had not acquired that degree of reputation which it is now found to deſerve. It has been long known in many parts of the Eaſt Indies, but not being wanted there for food, and conſequently not having received any degree of cultivation, it has continued nearly in its natural ſtate, without receiving that improvement from the care of men, which probably neceſſity firſt urged them to exerciſe. Accordingly, captain Cook remarked the great inferiority of the *ſoccum* which he found at Batavia, to the *eoroo* of the South Sea iſlands.

This moſt uſeful tree is diſtributed very extenſively over the Eaſt Indian continent and iſlands, as well as the innumerable iſlands of the South Seas. It was found by Dampier in the Ladrone iſlands: it is a native of Amboina, Banda, and others of the Molucca iſlands: of Java and others of the Maldivy iſlands: of Timor, Balega, and Madura, of Prince's iſland, &c. M. Sonnerat conveyed ſome of the trees from the iſland of Luçon to the iſle of France. M. Poivre naturalized them both there and in the iſle of Bourbon: and they are cultivated both in Malabar and Coromandel. In the South Seas both varieties are ſtill found in the Marian iſlands, in the New Hebrides, and Friendly iſlands; but moſt abundantly in the Society, Marqueza, and Sandwich iſlands. In Otaheite however, and ſome others, the evident ſuperiority of the ſeedleſs variety for food, has cauſed the other to be neglected, and it is conſequently almoſt worn out. We are informed by captain King, that in the Sandwich iſlands theſe trees are planted and flouriſh with great luxuriance on riſing grounds; that they are not indeed in ſuch abundance, but that they produce double the quantity of fruit which they do on the rich plains of Otaheite; that the trees are nearly of the ſame height, but that the branches begin to ſtrike out from the trunk much lower, and with greater luxuriance; and that the climate of theſe iſlands differs very little from that of the Weſt Indian iſlands, which lie in the ſame latitude.—This reflection probably firſt ſuggeſted the idea of conveying this valuable tree to our iſlands in the Weſt Indies. For this purpoſe, his majeſty's ſhip the Bounty ſailed for the South Seas, on the 23d of December 1787, under the command of lieutenant William Bligh. But a fatal mutiny prevented the accompliſhment of this benevolent deſign. His majeſty, however, not diſcouraged by the unfortunate event of this voyage, and fully impreſſed with the importance of ſecuring ſo uſeful an article of food as the bread-fruit to our Weſt Indian iſlands, determined, in the year 1791, to employ another ſhip for a ſecond expedition on this ſervice, and in order to ſecure the ſucceſs of the voyage as much as poſſible, it was thought proper that two veſſels ſhould proceed together on this important buſineſs. Accordingly, a ſhip of four hundred tons, named the Providence, was engaged for the purpoſe, and the command of her given to Captain Bligh; and a ſmall tender called the Aſſiſtant, commanded by lieutenant Nathaniel Portlock. Sir Joſeph Banks, as in the former voyage, directed the equipment of the ſhip for this particular purpoſe. Two ſkilful gardeners were appointed to ſuperintend the trees and plants, from their tranſplantation at Otaheite, to their delivery at Jamaica, and Captain Bligh ſet ſail on the ſecond of Auguſt 1791. He arrived at Teneriffe on the twenty-eighth, at St. Jago on the thirteenth of September, and at the cape of Good Hope on the ſixth of November. He ſailed from thence on the nineteenth of December; arrived at Adventure's bay on the ninth of February 1792, and at Otaheite on the eighth or ninth of April. The buſineſs of procuring and embarking the bread-fruit trees, &c. took up three months and nine days; though the natives of Otaheite gave all poſſible aſſiſtance to Captain Bligh and the gardeners. They ſailed on the eighteenth or nineteenth of July; arrived at Coupang in Timor on the ſecond of October; at St. Helena on the ſeventeenth of December, and at St. Vincent's on the twenty-ſecond of January 1793. Here they ſtayed ſeven days, to leave a part of their cargo, and on the fifth of February they arrived at Jamaica, and delivered the remainder. The number of plants taken on board at Otaheite, was 2634, in 1281 pots, tubs and caſes; and of theſe 1151 were bread-fruit trees. When they arrived at Coupang, 200 plants were dead, but the reſt were in good order. Here they procured ninety-two pots of the fruits of that country. They arrived at St. Helena with 830 fine bread fruit-trees, beſides other plants. Here they left ſome of them, with different fruits of Otaheite and Timor, beſides mountain rice and other ſeeds; and from hence the Eaſt Indies may be ſupplied with them. On their arrival at St. Vincent's, they had 551 caſes, containing ſix hundred and ſeventy-eight bread-fruit-trees, beſides a great number of other fruits and plants to the number of 1245. Near half this cargo was depoſited here under the care of Mr. Alexander Anderſon, the ſuperintendant of his majeſty's botanic garden, for the uſe of the Windward Iſlands; and the remainder, intended for the Leeward Iſlands, was conveyed to Jamaica, and diſtributed as the governor and council of Jamaica pleaſed to direct. The exact number of bread-fruit trees brought to Jamaica was 352, out of which five only were reſerved for the botanic garden at Kew. Though the principal object of this voyage was to procure the bread-fruit tree, yet it was not confined to this only, for the deſign was to furniſh the Weſt Indian iſles with the moſt valuable productions of the South Seas and the Eaſt Indies. Accordingly, the gardeners were inſtructed to procure plants of ſweet plantain called *meia*, the Otaheitean apple or *avee*, the root called *peah*, of which the iſlanders make a kind of pudding, and a ſpecies of yam much larger and better than any in the Weſt Indies. They were alſo to obtain at Timor and other places in the Eaſt Indies ſuch plants and fruits as are uſed for food or otherwiſe by the natives, as the *lanſa*, *mangoſtan*, *durion*, *jamboo*, *nanca*, *tchampadi*, *timbing*, *kambolan*, *bee idarra*, *ſalac*, *bleck*, long pepper, &c. together with ſome buſhels of dry or mountain rice, which is cultivated without being overflowed with water; and they were to make themſelves acquainted with the mode of managing it in order to communicate the ſame to the inhabitants of the Weſt Indies. Captain Bligh had the ſatisfaction, before he quitted Jamaica, of ſeeing the trees which he had brought with ſo much ſucceſs, in a moſt flouriſhing ſtate; inſomuch that no doubt remained of their growing well and ſpeedily producing fruit; an opinion which ſubſequent reports have confirmed. But though the fruit has been produced in great abundance, it is ſaid not yet to have arrived at that high ſtate of perfection in which it is deſcribed to be at Otaheite. Thunberg ſent ſeeds of the Eaſt Indian bread-fruit tree from Batavia

to the botanic garden at Amſterdam, in 1775. In 1777, he ſent ſome ſmall living plants; and the year following, he brought with him to Europe a great number of plants, both of this and the following ſpecies. But the true breadfruit ſort, from the South Seas, was firſt introduced into the iſlands of St. Vincent and Jamaica, and into the botanic garden at Kew, by Captain Bligh, in 1793.

The bread-fruit, when perfectly ripe, is pulpy, ſweetiſh, putreſcent, and in this ſtate is thought to be too laxative; but when green it is farinaceous, and eſteemed a very wholeſome food, either baked under the coals, or roaſted over them. The taſte is not unlike that of wheaten bread, but with ſome reſemblance to that of Jeruſalem artichokes or potatoes. It was mentioned before that a ſort of cloth was made of the inner bark: to this we may add, that the wood is uſed in building boats and houſes; the male catkins ſerve for tinder; the leaves for wrapping their food in, and for wiping their hands inſtead of towels; and the juice for making bird-lime, and as a cement for filling up the cracks of their veſſels for holding water. Three trees are ſuppoſed to yield ſufficient nouriſhment for one perſon. In the Malay language the bread fruit is called *ſoccun*, in Java *ſoukou*, in Ambo a *ſiwa* or *ſiwe*, in Makaſſar *bakar*, in Ternate *gomo*, in Tinian *rima*, the Dutch call it *ſockuſboom*, the Germans *brodbaum*, the French *rima* or *fruit à pain*.

2. A. *integrifolia*, Indian Jaca tree; "leaves entire;" ſitodium macrocarpon, Thunb. Phil. Trauſ. v. 69. p. 254. Sitodium cauliflorum, Gærtn. fruct. 1. 345. Soccus arboreus nanca, Rumph. Amb. 1. t. 30—31. Tſjacca-maram, *ſ.* Jacca, Rheed. Mal. 3 t. 26, 27, 28. The Eaſt Indian Jacca, or Jack-tree, is about the ſame ſize as the foregoing or perhaps larger. Branches alternate, ſpreading; the twigs hirſute with long ſtiff hairs; leaves alternate, petioled, ovate-oblong, blunt, obſcurely ſerrate, undivided, nerved, bright-green, and very ſmooth on the upper ſurface, paler beneath, and hirſute with ſtiff hairs, ſpreading, a ſpan in length. The younger leaves are evidently toothed, but the teeth diſappear. The foot-ſtalk is ſomewhat triangular, ſmooth, an inch in length; ſtipules as in the foregoing; flowers male and female diſtinct on the ſame ſtem or branch; peduncle either ſimple or branched, pendulous an inch thick, and a foot long; pedicels three, five, or more, the length and thickneſs of a finger. The fruit weighs thirty pounds and upwards; it has within it frequently from two to three hundred ſeeds, three or four times as big as almonds; they are ovate-oblong, blunt at one end, ſharp at the other, and a little flatted on the ſides. Theſe two ſpecies of artocarpus cannot be diſtinguiſhed with certainty either by the form of the leaves, or the ſituation of the fruit; for the leaves in this are ſometimes lobed as on that; and the ſituation of the fruit varies with the age of this tree, being firſt borne on the branches and then on the trunk, and finally on the roots. The Jacca tree is a native of Malabar and the other parts of the Eaſt Indies. The fruit is ripe in December, and is then eaten, but is eſteemed difficult of digeſtion; the unripe fruit is alſo uſed pickled, or cut into ſlices and boiled, or fried in palm-oil. The nuts are eaten roaſted, and the ſkin which immediately covers them, is uſed inſtead of the areca nut in chewing betel. The wood of the tree ſerves for building. No leſs than thirty varieties of the fruit are enumerated in Malabar. It was introduced into the royal botanic garden at Kew, in 1778, by ſir Edward Hughes knight of the bath.

Propagation and Culture. Theſe varieties which bear ſeeds may be propagated by them, ſown in a pot of rich earth, and plunged in the bark-bed. Thoſe which have no ſeed in the fruit may be increaſed from ſuckers, in which they abound very much, or by layers. In hot climates they ſucceed beſt in a rich ſoil; for though they will grow in an indifferent one, yet they by no means arrive at that magnitude, nor is the fruit ſo well-flavoured as when they are planted in a good one. In the Eaſt Indies they thruſt a fruit of the Jacca into the ground whole, and when the numerous ſeeds germinate and grow up, they tie the ſtems altogether with withes, and by degrees they form one ſtem, which will bear fruit in ſix or ſeven years if not placed in too wet a ſituation. See Martyn's Miller's Dict.

ARTOIS, in *Geography*, a province of France before the revolution, is one of the moſt fertile and moſt productive of grain and fruit in the whole kingdom. It was formerly one of the ſeventeen provinces of the Netherlands; but ſince the revolution it is principally included in the department of *pas de Calais*, or ſtraits of Calais. The chief city is Arras. This province is about twenty-three leagues long, and twelve broad; and is bounded on the weſt and ſouth by Picardy, on the north-eaſt by Flanders, and on the eaſt by Hainault and Cambreſis. The name of *Artois* is derived from the *Atrebatii*, who occupied this part of Gallia Belgica in the time of Cæſar. From the dominion of the Romans it paſſed to that of the French kings, who poſſeſſed it in 863; in 1237 it was erected into a Comte by St. Louis, and given to his younger brother Robert I. It was ſurrendered by Charles VIII. the ſon and ſucceſſor of Louis XI. to Maximilian of Auſtria, by the treaty of Senlis, in 1493. The houſes of Auſtria and of Spain poſſeſſed it in ſucceſſion till the year 1640, when Louis XIII. obtained it by conqueſt from Philip IV. king of Spain; and from his time it has been ſubject to France. The peace of the Pyrenees, in 1659, ſecured it to him, with the exception of the towns of Aire and St. Omer, which, together with their reſpective territories, were reſerved to Spain, but afterwards ceded to Louis XIV. in 1678, by the treaty of Nimeguen, confirmed by ſubſequent treaties, and particularly by that of Utrecht in 1713. Its commerce conſiſts principally in grain, flax, hops, wool, and linen cloth.

ARTOLICA, in *Ancient Geography*, a town of the Salaſſii, in Gallia Ciſpadana, at the foot of the Alps, now called *la Tuile* by the inhabitants, a hamlet of Savoy, in the duchy of Aouſt, at the foot of mount St. Bernard the Leſs.

ARTOMELI, from ἄρτος, *bread*, and μέλι, *honey*, in *Ancient Pharmacy*, a kind of cataplaſm prepared of bread and honey, applied chiefly to the præcordia.

ARTON, in *Geography*, a town of France, in the department of the lower Loire, and chief place of a canton in the diſtrict of Paimbœuf, ſeventeen miles ſouth-weſt of Nantes.

ARTONNE, a town of France, in the department of Puy de Dome, and chief place of a canton in the diſtrict of Riom, five leagues north of Clermont, and two and a half north of Riom.

ARTOTYRITES, or Artotyritæ, in *Eccleſiaſtical Hiſtory*, a branch of the ancient *Montaniſts*, who firſt appeared in the ſecond century, chiefly in Galatia.

They uſe bread and cheeſe in the Euchariſt, or perhaps bread baked with cheeſe.—Their reaſon was, that the firſt men offered to God not only the fruits of the earth but of their flocks too.

Hence, according to St. Auguſtine, came their name, which is compounded of ἄρτος, *bread*, and τυρός, *cheeſe*.

The Artotyrites admitted women to the prieſthood and epiſcopacy; and Epiphanius ſays, that it was common to ſee ſeven girls enter at once into their church, in white robes, with torches in their hand, where they bewailed with tears the miſeries of human life.

ARTRO,

ARTRO, in *Geography*, a river of North Wales, which runs into the ſea near Aberdeen in Merionethſhire.

ARTUSI, Gio. Maria, of Bologna, in *Biography*, though he is ranked only among the muſical writers on muſic, yet if his merit and importance are eſtimated by the celebrity and ſize of his volumes, certainly deſerved the attention of ſtudents and collectors of muſical treatiſes. In his "Arte del Contrappunto ridotta in tavole," publiſhed at Venice, 15[illegible], he has admirably analyſed and compreſſed the voluminous and diffuſe works of Zarlino and other anterior writers on muſical compoſition, into a compendium, in a manner almoſt as clear and geometrical as that in which M. d'Alembert has abridged the theoretical works of Rameau. In 158[illegible], Artuſi, who, like moſt of the muſical writers of Italy, was an eccleſiaſtic, publiſhed a ſecond part of his "Arte del Contrappunto," which is a uſeful and excellent ſupplement to his former compendium. And in 1600 and 1603, this intelligent writer publiſhed at Venice the firſt and ſecond part of another work, "Delle Imperfettioni della moderna muſica." Here the author gives a curious account of the ſtate of inſtrumental muſic in his time; and in deſcribing a grand concert that was made by the nuns of a convent at Ferrara, in 1598, on occaſion of a double wedding between Philip III. king of Spain with Margaret of Auſtria, and the archduke Albert with the infanta Iſabella, the king's ſiſter, he enumerates the ſeveral inſtruments that were employed, and points out their excellencies and defects. Among theſe, though the violin is juſt mentioned, yet nothing is ſaid of its properties, while the cornet, trumpet, viol, double-harp, lute, flute, and harpſichord, are honoured with particular remarks both on their conſtruction and uſe: but among theſe, the cornet, which has been ſupplanted in the favour of the public by the hautbois, ſeems to have ſtood the higheſt in the author's eſtimation. The elder Doni, in his dialogue written about fifty years before, mentions the cornet more frequently than any other inſtrument: "Il divino Antonio da cornetto perfettiſſimo—et M. Battiſta dal Fondaro con il ſuo cornetto ancora; che lo ſuona miracoloſamente."

I have not been able, ſays Dr. Burney, to diſcover what inſtrument is to be underſtood in this dialogue, when Girolamo Parabosco ſays, "Io ſuonero lo ſtrumento:" and when it is ſaid, "M. Gio. Vaniacopo Buzzino ſuonando di violone il ſoprano, come egli fa miracoloſamente," I am utterly unable to gueſs what inſtrument is meant, unleſs the word *violone*, by a typographical error, has been printed for *violino*. But to return to Artuſi's remarks upon inſtruments: his hero on the cornet was Girolamo da Udine. In ſpeaking of defects in the intonations of different inſtruments, I expected the violin would be celebrated for its ſuperior perfection in that particular; but by the author's ſilence on that ſubject, I am convinced that it was either then but little uſed in concert, or was very ill played. Burney's Hiſt. Muſ. vol. iii. p. 174.

ARTYMNIUS, in *Ancient Geography*, a town of Aſia, in Lycia, where the Xanthians are ſaid to have eſtabliſhed a colony.

ARTZ, in *Geography*, a diſtrict of the iſland of Zealand, belonging to Denmark, in the prefecture of Kallundberg, which includes nine churches.

ARTZBACH, a river of Germany, which runs into the Ens, four miles ſouth of Reiffling, in the duchy of Stiria.

ARTZBERG, a town of Germany, in the archduchy of Auſtria, near the Ens, two miles weſt-ſouth-weſt of Steyr.

ARU, or Aroe, a ſmall iſland in the Indian ſea, between the iſland of Sumatra and the peninſula of Malacca. See Aroo.

ARU, in *Ichthyology*, a name by which the Ruſſians diſtinguiſh a ſpecies of mackerel found on the coaſt about Kamtſchatka: the natives call it *kara*.

ARUA, in *Ancient Geography*, a town of Spain, in the diſtrict of Hiſpalis, now Seville, a colony of Auguſtus on the Bætis or Guadalquiver, ſeven leagues above Seville.

ARVA, in *Geography*, a town and caſtle of Hungary, the capital of a county which extends to the [illegible] the ſources of the Arva and Waag [illegible] north of Ruſenberg.—Arva, a river of [illegible] runs into the Waag, eleven miles north of Arva.

ARVAD, in *Ancient Geography*, [illegible]

ARVALES Fratres, a [illegible] in ancient Rome, who [illegible] [illegible] [illegible]

ARUCLA, a town of Illyria, in the interior parts of Liburnia. Ptolemy. According to ſome, [illegible]; but according to others, *Gargarus*, a [illegible] of Mount Ida.

ARUDIS, a town of Aſia, in Syria, ſituate on the Euphrates, [illegible] of Sanoſata. Ptolemy.

ARUDY, in *Geography*, a town of France, in the department of the Lower Pyrenees, and chief place of a canton in the diſtrict of Oleron, 11 miles ſouth of Pau.

ARVE, a ſonorous and violent river of Savoy, which riſes from the Alps, in the county of Faucigny, and runs into the Rhine near Geneva.

ARVEDORUM Montes, in *Ancient Geography*, mountains of India, on this ſide of the Ganges. Ptolemy.

ARVENSIS, in *Entomology*, a ſpecies of Curculio deſcribed by Müll. Zool. Dan. It is grey, with three lines on the thorax; wing-caſes ſtriated and ſlightly teſſellated.

Arvensis, a ſpecies of Cicada found in Denmark. It is yellow; breaſt, abdomen beneath and legs black. Müll. Gmel, &c.

Arvensis, a ſpecies of Phalæna (*Noctua* Linn.) The wings are brown, with a tranſverſe yellow ſpot in the middle; [illegible]. Gmel. Fab. &c.—[illegible] of Wien. Schmetterl. This inſect is of the middle ſize, and the underſide is brown; the larva is naked, brown, and ſpotted with white; the lateral line is bluiſh; head black, with two white lines.

Arvensis, a ſpecies of Vespa that inhabits Europe. It has four yellow bands on the abdomen, the third of which is interrupted. Linn. Fn. Sv. Schæff. &c.

ARVÈRNI, in *Ancient Geography*, a denomination given to one of the moſt powerful nations of Gaul, whoſe country, according to Strabo, was ſituated between the ocean, the Pyrenées, and the Rhine. They claimed affinity with the Romans, as the deſcendants of Antenor; to this purpoſe, Lucan ſays of them,

> "Arvernique auſi latio ſe dicere fratres
> Sanguine ab Iliaco populi."

And Pliny ſays, that after their conqueſt by the Romans, their ancient liberty was preſerved to them on account of their bravery. When Cæſar took poſſeſſion of Gaul, it was divided into two factions, the Arverni, and the Ædui; and it is ſaid, that the complaints preferred at Rome by the Ædui againſt the Arverni, were one of the cauſes which brought the arms of the Romans into Gaul, under the command of Fabius Maximus and Domitius Ahenobarbus. According to Steph. Byz. they were one of the moſt warlike nations among the Celtæ. Their country was compriſed in Aquitania Prima, and their capital was "Auguſtonematum," now Clermont, in Auvergne. N. lat. 45° 42′. E. long. 3° 20′.

ARVÉRON, in *Geography*, a river which riſes in a glacier of Montanvert, in the Alps, and runs into the Arve.

ARVICITO, a town of Italy, in the kingdom of Naples, on the eaſt coaſt of Calabria Ultra, four miles ſouth of Stilo.

ARVICOLA, in *Entomology*, a ſpecies of Scarabæus (*Melolontha* Fab.) found in Ruſſia, and greatly reſembling S. *horticola*. The ſhield of the head is reflected; body black and immaculate. Gmel. &c.—*Obſ.* It is hairy; and the thorax is tinged with blue.

ARVIEUX, Laurent d', in *Biography*, was born of a family of rank at Marſeilles, in 1635, and accompanied a relation to Seyde in 1653. In this place, and in other parts of Syria and Paleſtine, he reſided 12 years, perfecting himſelf in the eaſtern languages, and extending his acquaintance with the hiſtory, manners, and politics of the Levant. Returning to France in 1665, he was deputed as an envoy to Tunis in 1668, for the purpoſe of negociating a treaty. Whilſt he was ſucceſsfully conducting this buſineſs, he procured the liberation of 380 French ſlaves, who, upon being reſtored to their country, offered him a purſe of 600 piſtoles, which he declined accepting. At Conſtantinople, whither he was ſent in 1672, he changed every thing he touched; and ſurpriſed the Turks by holding all his conferences without an interpreter. He was afterwards, viz. in 1675, ſent to Algiers, and obtained the freedom of 240 French ſlaves. In 1679, he was preferred to the conſulate at Aleppo, where he performed various ſervices, which recommended him ſo much to pope Innocent XI. that he ſent him a brief for the biſhopric of Babylon, empowering him to appoint another perſon if he himſelf choſe to decline it. Accordingly he nominated father Pidon to the office. In 1686, he returned to Marſeilles, and principally devoted himſelf to literary purſuits. He wrote ſeveral memoirs on Modern Hiſtory, and the affairs of the Levant: and he employed the laſt years of his life in the ſtudy of the ſcriptures in their original languages, aided by the eaſtern commentaries and paraphraſes. He died in 1702, aged 67. In 1717, M. De la Roque printed, in 12mo., a MS. which he had left unfiniſhed, containing an account of a journey to the grand emir of the Arabs, with a deſcription of the manners and cuſtoms of that people; and in 1734 there appeared, "Memoirs of the chevalier D'Arvieux," with an account of all his travels, &c. in 6 vols. 12mo., collected and arranged by father Labat, a Dominican. Moreri. Gen. Biog.

ARVII, in *Ancient Geography*, a people of Gallia Lyonnenſis, mentioned by Ptolemy, who are ſuppoſed, by M. d'Anville, to have occupied that part of Gaul which correſponds to part of Maine. Some veſtiges of their ancient capital have been diſcovered in *La Cité*, on the river Erve, which runs into the Sarte.

ARVIL-*Supper*, an entertainment made at funerals in the northern parts of England; and *arvil*-bread is the bread delivered to the poor on ſuch occaſions. Arvil has alſo been uſed for the funeral rites themſelves.

ARVIRAGUS, in *Biography*, a Britiſh king, flouriſhed, according to Geoffrey of Monmouth, and other native writers, in the time of the emperor Claudius. Geoffrey's account is generally deemed fabulous; however, he ſays, that he was the ſon of Kymbeline; that upon the death of his father and brother, he headed the Britons, and gained a victory over Claudius; that upon Claudius's return to Rome, he became a powerful prince, and aſſumed independent authority; that upon the arrival of Veſpaſian, he made a compromiſe with him, and retained his dominions; and that, having governed the kingdom in peace, his life was protracted to a good old age; that he was loved and feared even by the Romans; and that he was buried at Glouceſter, in a temple he had built and dedicated to the honour of the emperor Claudius. An old tradition reports, that, in the time of this king, Joſeph of Arimathea came over to Britain, and planted the goſpel in this country. Biog. Brit.

ARUM, in *Botany* (ſuppoſed from ἀρὰ, noxa, injury). Lin. g. 1028. Schreb. 1387. Gærtn. t. 84. Juſſ. 24. Claſs, [illegible]. *Monœcia monandria*, Schreb. Nat. Ord. *Piperitæ*.—*Aroideæ*, Juſſ. Gen. Char. * Male flowers on the ſame ſpadix with the females, cloſely placed between a double row of threads. *Cal.* ſpathe one-leafed, very large, oblong, convolute at the baſe, converging at the top; the belly compreſſed, coloured within; ſpadix club-ſhaped, quite ſimple, a little ſhorter than the ſpathe, coloured, fenced at bottom with germs, and ſhrivelling above them; perianth proper none. *Cor.* none; nectaries? thick at the baſe, ending

in threads or tendrils, in two rows, rising from the middle of the ſpadix. *Stam.* filament none; each anther ſeſſile, four-cornered. * Female flowers on the lower part of the ſpadix, cloſe to each other. *Cal.* ſpathe and ſpadix common to them with the males; perianth proper none. *Cor.* none. *Piſt.* germ each oblong; ſtyle none; ſtigma headed. *Peric.* berry globular, one-celled. *Seeds*, ſeveral, roundiſh.

Eſſ. Gen. Char. ſpathe one-leafed, cowled; ſpadix naked above, female below, ſtamineous in the middle. Species:

* * *Without ſtem; leaves radical.*

1. A. *crinitum*, hairy ſheathed arum; "leaves pedate, with the lateral ſegments involute; ſpathe [illegible] ſpadix tuberculous above;" root [illegible] leaves are lanceolate, [illegible] leaves are ſagittate, or five-cleft, various; petioles round, ſheathing at bottom, ſcape very ſhort, round; ſpathe as in the common arum; ſpadix ſubcylindrical, a little ſhorter than the ſpathe; club many times longer than the other parts, having remote violet-coloured bridles ſcattered over it. The flower ſmells ſtrong like carrion, by which flies are enticed to enter, but when they would retreat, the reverſed hairs prevent them, and they are there ſtarved to death. It is a native of Minorca, and introduced in 1777, by Mr. Malcolm. It flowers in March. 2. A. *dracunculus*, long ſheathed arum or common dragon, "leaves pedate, leaflets lanceolate, entire; lamina ovate, longer than the ſpadix;" this has a large tuberous fleſhy root, which in the ſpring puts up a ſtraight ſtalk about three feet high, ſpotted like the belly of a ſnake; at the top it ſpreads out into leaves, which are cut into ſeveral narrow ſegments almoſt to the bottom; at the top of the ſtalk the flower is produced, which is in ſhape like the common arum, having a very long ſpathe, of a dark purple colour, ſtanding erect, with a large ſpadix of the ſame colour, ſo that when it is in flower, it makes no unpleaſing appearance, but the flower has ſo ſtrong a ſcent of carrion, that few perſons can endure it. It is a native of the ſouthern parts of Europe, flowering in June and July. Cultivated by Gerard in 1596. 3. A. *dracontium*, ſhort-ſheathed arum, or green dragon, "leaves pedate, leaflets lanceolate, entire, longer than the ſpathe, which is ſhorter than the ſpadix;" it riſes about eight or nine inches high; leaves petioled, upright, ſmaller than thoſe of the common dragon; leaflets broad, lanceolate, commonly in threes; ſpadix awl-ſhaped, ſlender, longer than both ſpathe and leaves. It flowers with us in June, and grows in moiſt places in Virginia and New England, alſo in Japan and China. Cultivated by Miller in 1759. 4. A. *venoſum*, purple-flowered arum, "leaves pedate, leaflets ſuboval, entire, lamina lanceolate, longer than the ſpadix;" the native country of this ſpecies is not known. It flowers in March, and was introduced by Mr. Malcolm in 1774. 5. A. *pentaphyllum*, five-leaved arum; "leaves quinate;" it grows about a foot high, ſubcauleſcent, upright; leaflets lanceolate, entire, ſmooth. A native of the Eaſt Indies and China. 6. A. *triphyllum*, three-leaved green-ſtalked arum; "leaves ternate, lamina lanceolate, acuminate, the length of the ſpadix;" it is ſubcauleſcent, with the ſcape ariſing from the petiole; ſome ſcapes are male, others female, from the ſame root; the male ſpathe is erect, the female has the lip inflected. The Braſilian plant has the ſide leaflets lobed outwards. The Virginian plant has them only gibbous, but the ſtructure of the flower is the ſame in both. The plant accordingly to Loureiro differs in China from the foregoing, in having the leaflets diſtinct, not pedate. It flowers in June and July, and appears from Evelyn's kalendar to have been cultivated here, in 1664. 7. A. *arboreum*, three-leaved purple-ſtalked arum. A. *triphyllum*, γ Lin. Spec. "Leaves ternate, lamina ovate, ſhorter by half than the ſpadix." A native of Virginia, and cultivated by Miller in 1758. It flowers in June and July. 8. A. *ternatum*, "leaves ternate, receptacle longer than the ſpathe." Found in Japan by Thunberg, flowering in May and June.

* * *Without ſtem; leaves ſcaly.*

9. A. *colocaſia*, Egyptian arum, Coloc. car. 2. t. 45. "Leaves peltate, ovate, repand, ſemibifid at the baſe;" it has a thick large oblong root, rounded at the baſe; leaves thick, ſmooth, aſh-coloured, in form and ſize reſembling [illegible] of [illegible]; [illegible] upright, [illegible], which, growing out at the bottom; [illegible], with a [illegible]. A native of Egypt, [illegible]. [illegible] 10. A. *bicolorum*, two-coloured arum, "leaves peltate, ſagittate, coloured on the diſk, ſpathe contracted in the middle, ſubglobular at the baſe, lamina roundiſh, acuminate; upright, ſomewhat convolute." This is cultivated in Madeira, and was introduced here in 1773, by Meſſ. Kennedy and Lee. It flowers in June and July. 11. A. *eſculentum*, eſculent arum, or Indian kale. Sloan. Jam. 1. t. 106. "Leaves peltate, ovate, entire, emarginate at the baſe;" the root is large, tuberous, ſubovate, brown, with ſmall tubers growing at the ſide of it. The plant is about three feet in height; leaves ſmooth, of a bright green, ſemibifid at the baſe, and roundiſh; petioles round, dilated at the baſe, embracing the inner ones: ſpathe ſpreading, ſtraight, not cowled, longer than the ſpadix. The Jamaica plant ſeems to be ſmaller than that of the eaſt; for Sloane ſays that it only riſes a foot from the ground. He ſays, in that iſland this ſpecies is planted very carefully in moiſt plantations; that the roots are eaten, but that the leaves are moſt valued, which are boiled and uſed as coleworts. It would ſeem indeed that the A. eſculentum is a plant highly uſeful and very generally cultivated in warm climates, and by none more than by the natives of the South Sea iſlands. The acrimony of the root in its recent ſtate is ſo great, that when eaten raw, it will excoriate the mouth, but on being baked, this acrimonious quality is wholly diſſipated. This ſpecies was cultivated by Miller in 1739. 12. A. *macrorhizon*, long-rooted arum. Flor. Auſt. n. 329. "Leaves peltate, cordate, repand, two-parted at the baſe;" this has a very large root, or rather ſubterraneous trunk, the thickneſs and length of the human arm; leaves very large and wide, ſhining on both ſides, furniſhed with ſtrong prominent nerves; their very long hollowed petioles form at bottom, where they embrace each other cloſely; ſtem three feet long, and as thick as a man's arm. The flower is white and very ſweet; all the florets are hermaphrodite. This ſpecies, which is diſtinguiſhed by its great ſize, is a native of China, and Cochinchina, the Eaſt Indies, Ceylon, and the iſlands of the Southern Ocean, and is eaten by the natives like the foregoing. 13. A. *peregrinum*, "Leaves cordate obtuſe mucronate; angles rounded." A native of America. Mr. Miller ſays that he has received three ſorts of arum from the Weſt Indies, by the title of Edder, but he ſuppoſes this to be moſt commonly cultivated there for its roots. 14. A. *divaricatum*, "leaves cordate-haſtate, divaricate." Rheed. Mal. 11. 39. t. 20. Spathe revolute; ſpadix ſubulate, longer than the ſpathe. A native of Malabar and Ceylon. 15. A. *trilobatum*, three-lobed arum, Mill. fig. t. 52. f. 2. "Leaves ſagittate-trilobate; flower ſeſſile." Miller deſcribes this plant as follows: root tuberous; leaves remaining moſt part of the year; ſpathe ſix inches long, inclining downwards, having a long point twiſted like a ſcrew, inſide deep purple, outſide green; ſpadix long, ſlender, ſur-

propagating itself by lateral tubercles; leaves radical, from two to four, shining, veiny, frequently marked with dark purple or black spots, sometimes streaked with white, standing on short triangular footstalks; spathe usually green, and often spotted like the leaves; spadix varies from a yellowish green, to a fine purple; berries scarlet, in a [illegible] clusters, each containing one or two seeds. It is common in most parts of Europe, and is the only species of the genus indigenous in Britain. It is usually found under hedges, flowering in May, and ripening its berries in the autumn. 17. A. *virginicum*, Virginian arum. "Leaves hastate-cordate, acute; angles obtuse." It grows wild in wet places in Virginia, Carolina, Pennsylvania, &c. The savages boil the spadix with the berries, and devour it as a great dainty. 18. A. *apulifolium*, Apennine arum, arisarum, Tournef. Buxc. Mus. 2. 61. t. 50. "Leaves hastate, spathe declinate, filiform-subulate." A native of the Apennines. Spathe shaped like a monk's cowl; leaves on very short footstalks. 20. A. *arisarum*, broad-leaved hooded arum, or friar's cowl. Hort. Cliff. 435. Sabb. Hort. 2. t. 79. "Leaves cordate-oblong, aperture of the spathe ovate; spathe entire and bent inwards above, below not convolute;" about a foot and a half high; leaves sharpish; spathe shorter than the leaves; spadix curved; berries red, one-seeded. A native of the south of Europe. Dr. Smith observes, that the Italians call this plant *il lume*, from the striking resemblance of its flower, when reverfed, to a lamp with its wick. Cultivated by Gerard in 1596. 21. A. *pictum*, painted arum. "Leaves cordate, painted with coloured veins;" root-leaves three or four, petioled, painted on the upper surface with white veins; spathe sessile, radical, inflated at the base, green, except at the top, where it is purplish; spadix with an ovate-oblong, dark purple club; germs subglobose, green; anthers immediately above them; upper filaments remote. See Supp. Plant. 410. 22. A. *ovatum*, Rumph. Amb. 5. 312. t. 108. "Leaves ovate-oblong; spathe scabrous." A native of the East Indies. 23. A. *tenuifolium*, grass-leaved arum, or narrow-leaved friar's cowl. "Leaves lanceolate; spadix bristle-shaped, declinate." This species usually has five or six shining leaves resembling those of narrow-leaved plantain; spathe long, pointed, reflex, white; spadix seven inches long, purple or greenish, pointed. It grows wild about Rome, Montpellier, also in Dalmatia and the Levant. We learn from Lobel that it was cultivated here in 1570. 24. A. *cannæfolium*, Supp. Plant. 410. "Leaves lanceolate, veinless;" leaves few, two feet long, resembling those of canna; scape very short; spathe rather obtuse, red without, white within. In the spadix there is no space between the stamens and pistils. A native of Surinam, on trees parasitical.

*** *Caudiculæ.*

25. A. *arborescens*, tree-arum, Plum. Amer. 44. t. 51. g. & fc. "Straight; leaves lanceolate." A native of South America. 26. A. *seguinum*, dumb cane arum, Jacq. Amer. 239. t. 151. pict. t. 229. Miller's ing. 255. See Sloane and Brown's Jam. "Nearly upright; leaves lanceolate ovate," It rises to the height of six or seven feet, with a green jointed stalk, as large as a walking-cane. Leaves placed irregularly at the top of the stalks in a cluster; they are oblong, of a light green colour, and sometimes punched with holes, as in the *dracontium pertusum*. On the side of the stalks, between the leaves, the flowers appear with a long spathe of a pale green colour, marked with white spots. The female flowers and stamens are ranged only on one side of the spadix, a circumstance which distinguishes it from all its congeners. It is a native of the Sugar Islands, and the warmer parts of America. Cultivated in 1759, by Miller. The whole plant abounds with an acrid juice, so that if applied to the tongue, this organ swells so much as to lose the power of articulation, and hence the name of *dumb-cane*. In this way it is said to have been used as a punishment for negroes. The juice is sometimes employed to assist the lime in promoting the granulation of sugar. 27. A. *hederaceum*, ivy-leaved arum, Jacq. Amer. t. 152. pict. 230. "Radicant; leaves cordate, oblong, acuminate; petioles round." A native of the West Indies. 28. A. *lingulatum*, tongue-leaved arum, Brown, Jam. 333. n. 12. Sloane's Jam. 1. 75. t. 27. f. 2, 3. "Creeping; leaves cordate lanceolate; their footstalks edged with membranes." It readily climbs trees, and becomes more succulent and luxuriant towards the top. A native of the West Indies. 29. A. *auritum*, ear-leaved arum, Brown Jam. 331. n. 2. Sloan. 1. 169. "Radicant; leaves ternate; those on the side one-lobed." A climbing plant, sending out roots from the stems and branches; leaves large heart-shaped, having three lobes or ears; flowers included in a large spathe. A native of the West Indies. Found on all the hills of Jamaica, climbing the trees, and is the only arum with compound leaves in that island. Cultivated by Miller in 1748. 30. A. *indicum*, Indian arum. Lour. Coch. 536. Rumph. Amb. 5. t. 106. "Nearly upright; leaves ovate; bind at the base, rounded; spadices axillary;" stem five feet high, as thick as a man's arm; leaves very large, with many transverse parallel ribs, on subulate, erect, stem-clasping footstalks; spathes axillary, small, acute, straight, convolute; spadix tapering, erect; berries pale, small. A native of the East Indies. Cultivated in Cochinchina, where the stalk is boiled and eaten. 31. A. *cucullatum*, cowled arum, Lour. Cochinch. 356. "Upright; leaves peltate, cordate, with the ears cowled;" stem two feet high; leaves acuminate, on long round footstalks; spadix short, almost wholly covered with florets. A native of the suburbs of Canton. 32. A. *spirale*, spiral arum, Retz. Obs. 1. 30. n. 104. "Stemless; leaves lanceolate; spathe spiral sessile;" leaves acute, naked, with the footstalks dilated at the base, membranaceous, veined. A native of Tranquebar in the East Indies, discovered by Koenig. This species ought to have been placed in the second division. It may here be observed, that in the arum, every pistil and every anther is to be considered as a distinct floret, consequently it ought to be removed to the class *monœcia*; and this has been done by Schreber and Withering. Thunberg and Swartz place it in the class *polyandria*. We see no advantage however in removing it from the class *gynandria*, where it was left by the great author of the sexual system.

Medicinal qualities. Common arum is the only ſpecies of this genus included in the Materia Medica; and its uſe is confined to the root, which in a recent ſtate is lacteſcent and extremely acrimonious, inſomuch that when cut into ſlices and applied to the ſkin, it has been found to bliſter the part; and upon being chewed, it excites an intolerable ſenſation of burning and pricking in the tongue, which continues for ſeveral hours. This acrimony, however, is gradually loſt by drying, and may be ſo completely diſſipated by the application of heat, as to leave the root a bland farinaceous aliment. Its medicinal efficacy, therefore, reſides wholly in the active volatile matter. It is a very powerful ſtimulant, and by promoting the ſecretions, may be properly employed in cachectic and chlorotic caſes, in rheumatic affections, and in various complaints of phlegmatic, torpid conſtitutions; but more eſpecially in a weakened or relaxed ſtate of the ſtomach, abounding with viſcid mucus. If the root is given in powder, great care ſhould be taken that it be young and newly dried, when it may be uſed in the doſe of a ſcruple or more twice a day; but in rheumatiſms and paralytic affections, requiring the full effects of this medicine, the root ſhould be given in its recent ſtate; and to cover the inſupportable pungency it diſcovers on the tongue, Dr. Lewis adviſes us to adminiſter it in the form of emulſion with gum arabic and ſpermaceti, increaſing the doſe from ten grains to upwards of a ſcruple, three or four times a day; in this way, he ſays, "it generally occaſioned a ſenſation of ſlight warmth about the ſtomach, and afterwards in the remoter parts, manifeſtly promoted perſpiration, and frequently produced a plentiful ſweat." As ſeveral obſtinate rheumatic pains were removed by this medicine, it is recommended to further trial. See Woodv. Med. Bot. p. 75.

Propagation and Culture. Species 2. is very hardy, and will grow in any ſoil or ſituation; autumn is the proper time for tranſplanting it. 3. ſhould have a moiſt, ſhady ſituation; it is with difficulty preſerved in gardens. 6, 7, 8. are propagated by offſets; they will live in the open air, if planted in a ſheltered ſituation, or if the ſurface of the ground be covered with tan. 9, 10, 11, 12, 13, 14. and 16. are to be propagated by offſets planted in pots, and plunged into a hot-bed, and after having acquired ſufficient ſtrength, kept upon ſhelves in a dry ſtove. 15. requires the tan-bed or bark-ſtove. Common arum ought to be tranſplanted ſoon after the ſeeds are ripe. 19, 20, 21. Theſe multiply faſt by offſets, and ſhould have a ſhady ſituation. 25, 26, 27, 28, 29. are propagated by cutting off the ſtalks, into lengths of three or four joints, which muſt be laid to dry ſix weeks or more; for if the wounded part be not perfectly healed over before the cuttings are planted, they will rot and decay; they ſhould be put in ſmall pots filled with light ſandy earth, and plunged into a moderate hot-bed of tan, being careful that they have little wet till they have made good roots, when ſome of them may be placed in a dry ſtove, and others plunged in the tan-bed, in the bark-ſtove, where they will produce more flowers. They are tender plants, and muſt be conſtantly kept in the ſtove. See Martyn's Miller's Dict.

ARUM *Æthiopicum*. See CALLA.

ARUM *Sanctum*. See DRACONTIUM.

ARUMATIA, in *Entomology*, a name given by Marcgraave, in his Natural Hiſtory of Braſil, to the ſpecies of MANTIS called *Gigas* by Linnæus.

ARUN, in *Ancient Geography*, a village of Paleſtine, in the neighbourhood of Samaria.

ARUN, in *Geography*, a river of England, which runs into the ſea at Little Hampton in Suſſex, famous for its red mullets.

ARUNCI. See AURUNCI.

ARUNDA, in *Entomology*, a ſpecies of CICADA, deſcribed by Geoffroy. This inſect is entirely of a ferruginous colour, with brown eyes.

ARUNCO, in *Zoology*, a ſpecies of RANA or toad, that is larger than the common frog, but nearly of the ſame colour. It inhabits Chili; and is deſcribed by Molina. All the feet of this kind are palmated, and the body warted. Dr. Shaw ſpecifically deſcribes it thus: R. corpore verrucoſo pedibus omnibus palmatis. Gmelin ſeems to think the palmated feet are a ſufficient criterion by which it may be diſtinguiſhed, "pedibus omnibus palmatis." Gmel.

ARUNCUS, in *Botany*. See SPIRÆA.

ARUNDA, in *Ancient Geography*, a town of Spain, in Bætica, ſeated on the Annas or Guadiana; now ſaid to be *Ronda*, in the province of Granada, on the confines of Andaluſia. N. lat. 36° 26'. W. long. 5° 40'.

ARUNDEL, THOMAS, in *Biography*, archbiſhop of Canterbury in the reigns of Richard II. Henry IV. and Henry V., was the ſecond ſon of Robert Fitz-Alan, earl of Arundel and Warren; and at the age of twenty-one years, in 1374, promoted from the archdeaconry of Taunton to the ſee of Ely, and enthroned with the uſual ſolemnities in 1376. While he held this ſee he almoſt rebuilt the epiſcopal palace in Holborn, and, beſide other donations, preſented it with a table of maſſive gold, enriched with precious ſtones, which he had bought of prince Edward for three hundred marks. Upon his tranſlation to the archbiſhopric of York, in 1388, he expended a large ſum in building an archiepiſcopal palace, and in furniſhing the church with ſeveral pieces of ſilver-gilt plate, and other ornaments. After his advancement to the ſee of Canterbury, in 1396, he was a great benefactor to that church; for he built the ſouthern tower and great part of the nave, and gave it a ring of five bells, called "Arundel's ring," ſeveral rich veſtments, a mitre enchaſed with jewels, a ſilver-gilt croſier, a golden chalice for the high altar, and another to be uſed only on St. Thomas Becket's day. He held the office of lord high chancellor of England, with ſome interruptions, from the year 1386 to 1396; and in 1393, he removed the courts of juſtice from London to York; partly with a view of mortifying the pride and inſolence of the inhabitants of London, and principally for the purpoſe of enriching thoſe of the latter city, over the dioceſe of which he preſided: but after the experience of one or two terms, the courts returned to their firſt and more convenient ſtation. Soon after his acceſſion to the metropolitan ſee, he revived an old inſtitution, by which the inhabitants of the ſeveral pariſhes of London were obliged to pay to their rector one half-penny in the pound out of the rent of their houſes.

The interference of archbiſhop Arundel in the civil affairs of the kingdom, terminated in his impeachment and exile. Having taken an active part in the firſt attempt that was made to deliver the nation from the oppreſſion of Richard II. by obtaining a commiſſion to the duke of Gloucester, his brother the earl of Arundel, and others, in which commiſſion he himſelf was included, for governing the kingdom, he was impeached by the commons, ſentenced to be baniſhed, and ordered to leave the kingdom within forty days, on pain of death. Pope Boniface IX. ſeizing this opportunity of teſtifying his diſpleaſure againſt the king and parliament of England, gave Arundel a cordial reception at Rome, nominated him archbiſhop of St. Andrews, and promiſed him other preferments. The king's remonſtrance, however, prevailed with his holineſs to withhold the grant of the further favours which he had intended to confer on the exiled prelate. The diſſatisfaction of the people of England with

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the government of Richard II. increasing, archbishop Arundel had an opportunity of returning to his country, and regaining his dignities. Whilst he was in Britany, in his way home, he was encouraged to assist Henry duke of Lancaster, who had been banished by Richard, to return from France, and seize the crown: and having obviated the duke's scruples, the accession of Henry IV. was accompanied with the restoration of Arundel to the metropolitan see: and he had the pleasure of placing the crown on the head of his new master. At an early period of this reign, a design was formed of seizing the revenues of the church, in order to supply the exigencies of the public service. In a parliament held at Coventry in 1404 or 1405, and called "PARLIAMENTUM INDOCTUM," this measure was proposed for execution. Arundel was present, remonstrated against the proposal, and urged "that the clergy were at least as serviceable to the king by their prayers, as the laity by their arms; and that the kingdom could not expect to prosper as long as the prayers of the church were despised." His spirited exertions prevented, for the present, the further prosecution of this violent measure. The archbishop having thus rescued the temporalities of the church from depredation, manifested equal zeal in preserving inviolate its internal constitution. He exerted himself for restraining the progress of those new opinions, with regard both to doctrine and worship, which were disseminated by the Lollards or Wickliffites; and as the university of Oxford was beginning to be infected with these opinions, he appointed visitors to examine and to report the state of that seminary. He proceeded, in consequence of the information he received from the inquisitorial committee, delegated and sanctioned by his authority, to persecute, with an absurdity and cruelty which nothing but the ignorance and bigotry of the times can in any degree extenuate, those who were found chargeable with this new heresy. Upon the authority of the act for burning heretics, which passed in the reign of Henry IV. and which remained for a long time a disgrace to our statute books, a Lollard was condemned to the flames in 1410; and in the beginning of the reign of Henry V. sir John Oldcastle, lord Cobham, a principal patron of the Lollards, was indicted by the primate, convicted of heresy, and sentenced to the flames. He had some time before attempted to procure an order from the pope to dig up the bones of Wickliff, which was refused; and he actually procured a synodical constitution, which prohibited the translation of the scriptures into the vulgar tongue. It is said that whilst the archbishop was pronouncing sentence of excommunication and condemnation on lord Cobham, he was seized with an inflammation in his throat, which prevented his taking any sustenance, and soon terminated in his death, Feb. 20th, 1413. The death of the prelate, as to the time and manner of it, was attributed by the Lollards to the immediate interposition of God: but however superstitious such judgments may be deemed in the present enlightened age, the intolerance and cruelty of the archbishop will be universally condemned, and they will entail just reproach on his name and character as long as any records of him remain. Biog. Brit.

ARUNDEL, in *Geography*, a corporation and borough town of England, in the county of Sussex, seated on the river Arun, whence its name. It sends two members to parliament; the corporation consists of a mayor and twelve aldermen; it has two markets weekly, on Wednesday and Saturday; and is distant from London sixty-one miles. It has a harbour which admits vessels of one hundred tons burthen, and which was repaired in 1733. The castle, which stands on the north-east part of the town, was conferred by the empress Maud on William le Albano, as a recompence for his defence of it against king Stephen. It descended to the Norfolk family in 1579, and the present duke has expended large sums in repairing and adorning it. To this place belongs the peculiar privilege of conferring the title of earl on its possessors without any patent or creation from the crown; and Arundel is the premier earldom in England. N. lat. 50° 45'. W. long. 0° 25'.

ARUNDEL, a township of America, in York county and district of Maine, situate between cape Porpoise and Biddeford on the north-east, on the river Saco, twenty-one miles north-east from York, and ninety-six north-east from Boston. It contains 1458 inhabitants.

ARUNDELLIAN Marbles, Marmora Arundeliana, or *Oxford Marbles*, called also *Parian Chronicle*, are supposed to be ancient stones, whereon is inscribed a chronicle of the city of Athens, engraven in capital letters in the island of Paros, one of the Cyclades, 264 years before Jesus Christ. They take their name from Thomas earl of Arundel, who procured them out of the East, or from Henry his grandson, who presented them to the university of Oxford.

These marbles, and other ancient relics, were purchased in Asia Minor, Greece, and the islands of the Archipelago, by Mr. William Petty, who was employed, in the year 1624, by Thomas earl of Arundel, in making such collections for him in the East. They were brought into England about the year 1627, and placed in the gardens belonging to Arundel house in London. Soon after their arrival, they excited very general curiosity among inquisitive and learned persons; and Sir Robert Cotton engaged Mr. Selden to explain the Greek inscriptions. Accordingly Selden and two of his friends, Patrick Young, or Patricius Junius, and Richard James, immediately undertook the business; and in the following year Selden published a small volume in 4to. under the title of "Marmora Arundeliana," containing about thirty-nine of the inscriptions, with annotations. During the civil wars, Arundel house was often deserted by its illustrious proprietors, and some of the marbles were defaced or broken, and others stolen or used for the ordinary purposes of architecture. The chronological marble, in particular, was broken and defaced; and the upper part containing thirty-one epochas, is said to have been used in repairing a chimney in Arundel house. In the year 1667, the Honourable Henry Howard, afterwards duke of Norfolk, the grandson of the first collector, presented these curious remains of antiquity to the university of Oxford; and as Mr. Selden's work was become scarce, bishop Fell engaged Dr. Prideaux, dean of Norwich, to publish a new edition of the inscription, which was printed at Oxford in 1676, with additional notes and translations, under the title of "Marmora Oxonienſia, ex Arundelianis, Seldenianis, et aliis conflata." In 1731, Mr. Mattaire favoured the public with a more comprehensive view of these marbles than all of his predecessors; and in 1763, Dr. Chandler published a new and improved copy of them, in which he corrected the mistakes of the former editors, and supplied the lacunæ in some of the inscriptions, particularly those of the Parian chronicle, by many ingenious conjectures.

These marbles, in their perfect state, contained a chronological detail of the principal events of Greece during a period of 1318 years, extending from the commencement of the reign of Cecrops in the year before Christ 1582, to the close of the archonate of Diognetus in the year before Christ 264. But the chronicle of the last 90 years is lost, so that the part now remaining terminates with the archonship of Diotimus, 354 years before Christ; and in this fragment the inscription

inſcription is very much corroded and effaced, and the ſenſe can only be diſcovered by very learned and induſtrious antiquaries, or ſupplied by their conjectures. For a tranſlation from the Greek of this ancient remain, ſee Tab. i. Playfair's Chronology, p. 297. Almoſt every event in this table between the deſtruction of Troy and the annual magiſtracy of Athens, is dated twenty-ſix years earlier than in the canons of Euſebius, and thoſe of other approved chronologers; ſo that this number of years muſt be ſubtracted from the dates in the marbles, during the time mentioned, in order to accommodate them to thoſe of Eratoſthenes, Diod. Halicarnaſſenſis, Euſebius, and other ancient writers. Theſe valuable remains of antiquity have been applied to the elucidation of many parts of ancient hiſtory that had been long involved in obſcurity. However their inconſiſtency with other authentic hiſtorical accounts has depreciated their importance and uſe; and ſir Iſaac Newton, as well as ſome other modern philoſophers, have paid little or no regard to them. Their authenticity has indeed of late been the ſubject of particular diſcuſſion between Mr. Robertſon, who, in his "Parian Chronicle," 8vo. 1788, queſtioned it; and Mr. Hewlett, in his "Vindication of the Authenticity of the Parian Chronicle," 8vo. 1789, defended it. See an account of the arguments on both ſides, under the article PARIAN *Chronicle*.

ARUNDINACEA, in *Conchology*, a ſpecies of SABELLA found in rivers in ſome parts of Europe. It is ſubconic, open at both ends, and compoſed of fragments of the bark of reeds placed on each other. Gmelin, &c.

ARUNDINACEA, in *Entomology*, a ſpecies of ARANEA that is found among reeds. The abdomen is ſub-globoſe, and white ſpotted with pale brown. Linn. Fn. Suec.

ARUNDINACEUS, in *Ornithology*, a ſpecies of TURDUS that inhabits reedy marſhes of Europe, and is called La Rouſſerolle, ou Roucherolle, by Briſſon, Buffon, and other French writers. Ray and Willughby named it Junco, or greater reed ſparrow; and Dr. Latham, the reed thruſh.

This bird is rather larger than the common lark; the colour is ferruginous brown; white with a teſtaceous tinge beneath; quill feathers brown, reddiſh at the end. Gmel. &c. Of this ſpecies Gmelin enumerates three varieties; viz. β. Turdus arundinaceus uropygio caudaque rufis: var. with rufous rump and tail. γ. Turdus arundinaceus ſupra ſagittis nigris varius: var. varied above with black arrow-ſhaped ſpots. δ. Turdus arundinaceus minimus, ſupra ex luteſcente virens, tectricibus alarum ferrugineis: var. ſmall, above yellowiſh green, wing ferruginous. In the ſouthern parts of Ruſſia, and in Poland, this ſpecies, it is ſaid, is very common. It makes its neſt on the moſſy hillocks among reeds and ruſhes, or according to Cramer, ſuſpends the neſt between two or three reeds which are faſtened together to ſupport it. The female lays five or ſix eggs; and the male, it is likewiſe obſerved, is perpetually ſinging while the female is ſitting; and hence it has acquired the name of water nightingale.

ARUNDINETI, in *Entomology*, a ſpecies of TIPULA deſcribed by Linnæus and Fabricius. It is whitiſh; antennæ villoſe; eyes black. A native of Europe, and inhabits reedy marſhes.

ARUNDINIS, a ſpecies of PHALÆNA (*Noctua* Linn.) that lives on the ſtalks of reeds. It is an European kind; the wings are cinereous with black dots, and marginal lunules of the ſame colour; and the wings beneath marked with a central brown ſpot. Fabricius, &c.

ARUNDINIS, a ſpecies of APHIS, that lives on the leaves of *arundo ſigeios*. The body is green; head and thorax brown, and covered with white dots. Fabricius, Gmelin, &c.

ARUNDO, in *Botany*, Reed (ſuppoſed to be derived from *areo*, becauſe it ſoon becomes dry). Lin. g. 93. Schreb. 124. Juſſ. 32. Claſs, *triandria digynia*. Nat. Ord. *Gramineæ* or *graſſes*. Gen. Char. *Cal.* glume one, or many-flowered, two-valved, erect; valves oblong, acuminate, awnleſs; one ſhorter. *Cor.* two-valved; valves the length of the calyx, oblong, acuminate; from their baſe ariſes a *lanugo*, almoſt the length of the flower; nectary, two-valved, very ſmall. *Stam.* filaments three, capillary; anthers forked at both ends. *Piſt.* germ oblong; ſtyles two, capillary, reflex, villoſe; ſtigmas ſimple. *Per.* none; corolla adheres to the ſeed without gaping; ſeed ſingle, oblong, acuminate at both ends, furniſhed with long down (pappus) at the baſe.

Eſſ. Gen. Char. *Cal.* two-valved; florets congregated, ſurrounded with wool.

Species, 1. A. *lambos*; bambu or bamboo-cane; A. *bambee*. Lour. Cochinch. 56. A. *arbor*, Bauh. Pin. 18.—*vaſaria*, Bulu Java. Rumph. Amb. l. 6. c. 4. Ily. Rheed. Mal. i. 25. t. 16. *Bambos arundinacea*, Retz. Obſ. 5. 24. n. 58. "Calyxes many flowered, (one-flowered. Lour.) ſpikes in threes, (unequal in number, Retz.) ſeſſile." Lin. flowers ſix-ſtamened; panicle diffuſed, with imbricate ſpikelets, branches of the culm ſpiny; calyxes one-flowered. Loureiro. Panicle branched, divaricate, hard; ſpikes heaped alternately, unequal in number, ſeſſile. Retzius. The bamboo has a woody hollow round ſtraight culm, forty feet high and upwards, ſimple and ſhining; the internodes a foot in length and in circumference; ſheaths thick, hairy, rough, convolute, deciduous; branches alternate, ſlender, ſolid, ſpiny, reclining, ſpringing out from the baſe to the top; the lower ones being uſually cut off; leaves ſmall, entire, lanceolate, roundiſh at the baſe, ſtriated, rough, on alternate round petioles. For the parts of inflorescence we refer to the ſpecific characters. It grows almoſt every where within the tropical regions. Over a great part of Aſia it is very common: in China, Cochinchina, Tonquin, Cambodia, Japan, Ceylon, the peninſula of India, and the iſlands. The bamboo-cane has been long ſince introduced into the Weſt Indies, and flouriſhes alſo in South Carolina. Mr. Miller cultivated it here in 1730, and if our ſtoves were high enough, theſe plants would probably riſe to the height of forty feet, as a ſtrong ſhoot from the root has been found to attain to half this height in ſix weeks.

There is perhaps no plant uſed for ſuch a variety of purpoſes as bamboo. In the Eaſt Indies, great uſe is made of it in building, and the houſes of the lower claſs of people are almoſt entirely compoſed of it. Bridges are alſo made of it, maſts for their boats, boxes, cups, baſkets, mats, &c. Paper is alſo made of it by bruiſing and ſteeping it in water, and thus forming it into a paſte. It is the common fence for gardens and fields, and is frequently uſed as pipes for conveying water. The leaves are generally put round the tea which is ſent in cheſts to Europe from China. A ſubſtance called *Tabaſheer* or *Tabashir*, which is a concretion of the liquor in the cavities of the cane, and extracted at certain ſeaſons, is ſaid to be indeſtructible by fire, to reſiſt the action of the ſtrongeſt acids, and by fuſion with alkali to form a tranſparent permanent glaſs which may be decompoſed by acids &c. The tabaſheer is much eſteemed as a medicine by the orientaliſts, and indeed ſeveral parts of the bamboo, according to Loureiro, poſſeſs medicinal virtues. A. *arborea*, and A. *orientalis*, of Miller, ſeem to be only varieties of A. *bambos*, and we learn from Loureiro and others, that there are ſtill more varieties, if not found to be diſtinct ſpecies. 2. A. *donax*, cultivated reed. A. *ſativa*. Bauh. Pin. 17. Raii Hiſt. 1275. Mor. Hiſt. ſ. 8. t. 8. f. 5. "Calyxes five-flowered, panicle diffuſed, culm ſmooth," culm from ſix

to twenty feet in height, hard, [illegible] nearly, jointed or knotted, with [illegible] branches. Above each joint a leaf embracing the culm, with a yellow sheath, two feet long, and three inches broad. The top of the culm ends in a point, the leaves rolling in the form of a cone; panicle a foot and a half long, erect, many flowered. Number of flowers in the calyx variable, often two, but more commonly three. It is a native of the south of Europe, Siberia, Egypt, Cochinchina, &c. It was cultivated in 1648, in the Oxford botanic garden, and flowers here in July and August. The canes are brought to us from Spain and Portugal, for the use of weavers, and for making fishing-rods &c. There is a variety of A. *donax*, with striped leaves, noticed by Miller and others. 3. A. *phragmites*, common reed. Smith Flor. Brit. 144. Hudf. 53. With. 166. Relh. 51. Eng. Bot. 401. "Calyxes five-flowered, panicle loofe;" root perennial, creeping; culms annual, erect, fimple, fix feet high, round, jointed, leafy, fmooth, white within; leaves lanceolate, acuminate, fpreading, ftriated, rough at the edges, underneath very fmooth and glaucous; fheaths cylindric, ftriated, fmooth; ftipules very fhort, hairy on both fides; panicle erect, diffufed, much branched; glumes of the calyx very unequal, lanceolate, acute, the larger three-nerved; florets from four to fix, furrounded at the bafe with a filky wool; interior glume ciliated, half the length of the exterior; feed covered with the indurated corolla. A variety of this fpecies with variegated leaves is noticed by Relhan. It is common in ditches, ftanding waters, and on fides of rivers, flowering from July till September. The common reed is ufed for fcreens in gardens, alfo as a foundation for plaifter in ceilings, and for various other purpofes. 4. A. *epigejos*, wood reed. Eng. Bot. t. 402. Smith Flor. Brit. 145. A. calamagroftis, Hudf. 54. Relh. 52. Lightf. 106. calamagroftis lanceolata, With. 122. gramen arundinaceum paniculâ molli fpadiceâ majus, Raii. Syn. 401. "Calyxes one-flowered, longer than the corolla, panicle erect, leaves lanceolate;" root creeping; culm nearly as high as the preceding, but weaker, and often branched at the bafe; leaves lanceolate acuminate, nervofe, underneath glaucous and rough at the edges; fheaths fmooth, ftriated; ftipule lanceolate, many times divided, naked on both fides; panicle, erect, rough, fpreading; flowers in cluſters all on the fame fide, nodding; glumes of the calyx nearly equal, lanceolate, acute, nervofe, rough on the keeled part; floret folitary, much fhorter than the calyx, white, membranaceous, inferted in a woolly fubftance longer than the petals, often cloven at the apex; near the bafe, and from the back arifes an awn, which is jointed, and nearly the length of the wool. We are told by Dr. Smith, that the wool and awn here noticed, were, from an error, not repreſented in the figure referred to in Eng. Bot. It grows in fhaded ditches and wet meadows: and flowers in July. 5. A. *calamagroftis*, fmall reed, Eng. Bot. 403. Flor. Dan. 180. Smith Flor. Brit. 146. 180. A. epigejos, Hudf. 54. Relh. 51. Calam. epigejos, With. 123. Cal. minor glumis ruffis & viridibus, Trul. in Raii Syn. 401. "Calyxes one-flowered, longer than the corolla; panicle erect, diffufed: flowers fcattered, erect; leaves linear." Smith. Root perennial, fibrous, fcarcely creeping; culm erect, three or four feet high, round, very fmooth, leafy, much ſlenderer than the preceding, and ſometimes branched; leaves linear, acute, narrow, ſomewhat involute, pale green underneath, rough above, ſometimes hairy; ſheaths long, cloſe, ſtriated, almoſt ſmooth; ſtipule lanceolate, often lacerated, decurrent, ſmooth on both ſides; panicle very branching, diffuſed; flowers ſcattered, erect; glumes of the calyx of a cheſnut or purple colour, nearly equal, lanceolate, acute, keeled, rough on the back, ſcarcely nervoſe; floret ſolitary, much ſhorter than the calyx, white, torn at the apex, incloſed in wool longer than the petals, a ſmall awn at the apex, between the diviſions of the larger petal. It grows in groves, hedges, and wet ſituations, flowering in July. 6. A. *arenaria*, ſea-reed. Merram, Sea-matweed, Smith Flor. Brit. 148. Hudf. 54. Mart. Flor. Ruſt. t. 32. Dickſ. H. S. Fasc. 12. 5. Flor. Dan. t. 917. Calamagroſtis arenaria, With. 122. "Calyxes one-flowered, longer than the corolla; panicle ſpicated; flowers erect, awnleſs; leaves rolled inwards, pungent." Root perennial, creeping, jointed, ſpreading itſelf to a great extent; culm about three feet high, ſtiff, round, ſmooth, articulated, leafy; leaves erecto-patent, rigid, turning inwards, ſharply pointed, glaucous, ſmooth on the under ſide, on the upper furrowed; ſheaths nervoſe, ſmooth; panicle erect, ſpike-like, with ſhort erect branches; flowers lanceolate, acute, compreſſed, keeled, obſcurely three-nerved; florets ſolitary, rather ſhorter than the calyx; glumes lanceolate, unequal, nervoſe, with a rough keel, the outer broadeſt, eroded at the apex, and embracing the other; wool about one-third the length of the floret. Common on the ſea-coaſts, growing in the ſand. By means of its extenſive creeping roots, it is of great uſe in giving ſtability to driving ſands which gather about it in hills or banks. It is planted about Wells in Norfolk to aid in repelling the ſea; a purpoſe for which it ſeems peculiarly well adapted. 7. A. *colorata*, Canary reed-graſs. Soland. in Ait. Hort. Kew. Smith Flor. Brit. 147. Phalaris arundinacea. Sp. Pl. Hudſ. Relh. Flor. Dan. 259. Cal. variegata. With. 124. Gramen arundinaceum aceroſâ glumâ noſtras. Raii. Syn. 400. β. G. arundinaceum aceroſâ glumâ Jerſeianum. Raii Syn. 400. γ. Phalaris arundinacea; β. picta. Sp. Pl. 80. "Calyxes one-flowered, equal to the corollas; panicle erect, glomerate; flowers inclining to the ſame ſide, awnleſs; leaves flat." Root perennial, creeping, ſcaly, or turfy; culm erect, three to five feet high, round, leafy, ſtriated, ſmooth, furniſhed with many joints; leaves ſpreading, lanceolate, ſtriated, with a ſmooth margin on both ſides, on the variety β. glaucous, in γ. variegated; ſheaths nervoſe, ſomewhat inflated, ſmooth; ſtipule ſhort, obtuſe; panicle erect, branched, in lobes, branchlets angular, rough; flowers rolled together, inclining to one ſide, variegated with white and purple; glumes of the calyx equal, compreſſed, keeled, three-nerved; florets ſolitary, the length of the calyx, lanceolate, rather compreſſed, awnleſs, furniſhed with two nectarious pencil-ſhaped ſubſtances at the baſe; glumes or valves hairy, equal in length, but the exterior broader than the other. It grows in ſtagnant waters, and on the banks of rivers. The variety γ. cultivated in gardens, and called ribband-graſs, was alſo found wild near Cambridge by Mr. Relhan. The following are new ſpecies. 8. A. *conſpicua*. Forſt. Fl. Auſt. n. 48. "Calyxes one-flowered; panicle looſe, from erect ſpreading; awn of the outer petal reflex, and very long." A native of New Zealand. 9. A. *agreſtis*. Lour. Cochinch. 57. Arundarbor ſpinoſa. Rumph. Amb. l. 6. c. 7. t. 4. "Flowers ſix-ſtamened; panicle ſpiked; ſpikelets cluſtered; lower branches of the culm very ſpiky; calyxes one-flowered." It grows to the height of thirty feet, and to the thickneſs of a man's arm. A native of Cochinchina, growing on mountains and dry deſert places. 10. A. *mitis*, Lour. Cochinch. 57. arundabor fera, Rumph. Amb. l. 6. c. 7. t. 4. "Flowers ſix-ſtamened, panicle erect, contracted; ſpikes long, imbricate; culm very even, unarmed; calyxes one flowered." This is rather a higher and thicker plant than the A. *agreſtis*. It is cultivated in Cochinchina, and being cut into long pieces, it is uſed for weaving into hats, coffers, baſkets, and a variety of utenſils, which are very elegant. 11. A. *multiplex*, Lour. Cochinch. 58. Arundabor,

daber, &c. Rumph. Amb. l. 6. c. 1. t. 1. "Flowers ſix-ſtamened: ſpikes interrupted; ſpikelets in whorls; culm divided; calyxes one-flowered." Culm perennial, twelve feet high, with very long internodes; leaves linear-lanceolate. A native of the northern provinces of Cochinchina. 12. A. *bengalenſis*, Retz. Obſ. 5. 20. n. 45. "Calyxes two-flowered, panicle erect, with three flowered pedicels." Culms lofty, thick, leafy; leaves two feet long. A native of Bengal. 13. A. *piſcatoria*. Lour. Cochinch. 55. "Calyxes one-flowered, ſpike terminating, culm branched, leaves minute." It riſes eight feet, with a perennial culm; knots approximating; leaves lanceolate-linear. A native of Cochinchina. Being tough and tapering towards the end, it is well adapted for fiſhing-rods. 14. A. *diſtans*, Lour. Cochinch. 55. "Calyxes one-flowered, ſpikes in bundles, compound; ſpikelets linear;" culm perennial, eight feet high; knots diſtant; flowers dioecous. A native of Cochinchina, in woods.

Propagation and Culture. The bamboo muſt be preſerved in a warm ſtove, and as the roots ſpread very wide, it ſhould be planted in a large tub, filled with rich earth; this muſt be plunged into the hot-bed in the bark ſtove, and muſt have plenty of water. When the tub decays, if the plant be permitted to root in the tan, it will grow to a larger ſize; but then care muſt be taken, when the bed is refreſhed with new tan, to leave a ſufficient quantity of the old tan about the roots. It may be propagated by ſlips from the roots, taken off in the ſpring. 2. The cultivated reed will bear the cold of our winters in the open ground, provided it be planted in a ſoil not too wet; and if the winter ſhould prove very ſevere, a little mulch be laid over the roots. The ſtem dies in autumn and a new one riſes the ſucceeding ſpring, which will grow to ten or twelve feet high during the ſummer, if properly ſupplied with water in dry weather. It is very proper to be intermixed with trees and ſhrubs, where it will have a pleaſing effect in adding to the variety. It is propagated by parting the roots in the ſpring before they begin to ſhoot. It never flowers in England. The variety with variegated leaves is more tender, and muſt be ſheltered in this country during the winter. See Martyn's Miller's Dict.

ARUNDO. See AGROSTIS, ANDROPOGON, CENCHRUS, MELICA, SPINIFEX, and ZIZANIA.

ARUNDO *Florida et Indica*. See CANNA.

ARUNDO *Rotang*. See CALAMUS.

ARUNDO *Saccharifera*. See SACCHARUM.

ARUPINUM, ARUPIUM, or ARYPIUM, in *Ancient Geography*, a town of Liburnia, being one of the four which were occupied by the Japodes or Japydes, according to Strabo.

ARURA, in *Antiquity*. See AROURA.

ARURA, in *Middle Age Writers*, denotes a field ploughed and ſowed.

ARUSINI CAMPI, in *Ancient Geography*, erroneouſly written by Cluverius *Taurafſini*, plains in Lucania famous for the laſt battle fought between Pyrrhus and the Romans. Pyrrhus being at Tarentum, and hearing that the two conſuls, Curius Dentatus and Cornelius Lentulus, had divided their forces, the one invading Lucania, and the other Samnium, divided a choſen detachment of his army into bodies, and marched with his Epirots againſt Dentatus, in hopes of ſurpriſing him near Beneventum. The conſul prepared to meet him, repulſed his van-guard; and having thus far ſucceeded, marched into the Arufian fields, and drew up his army in a plain, which was wide enough for his troops, but too narrow for the Epirot phalanx to act with its full effect. However, the king's eagerneſs to try his ſtrength and ſkill induced him to engage, notwithſtanding this great diſadvantage. Upon the firſt ſignal, the action began, and as one of the king's wings gave way, victory ſeemed to incline to the Romans. But the wing under the king's own immediate command repulſed the enemy, and drove them to their intrenchments. Dentatus perceiving that this advantage was partly owing to the elephants, commanded a corps de reſerve, poſted near the camp, to advance, and to attack thoſe animals with burning torches; which ſo terrified them, that they turned about, broke into the phalanx, and occaſioned the utmoſt diſorder. The Romans, availing themſelves of the confuſion, charged with ſuch fury, that the enemy were entirely broken and defeated. Upon this diſaſter, Pyrrhus retired to Tarentum, leaving the Romans in full poſſeſſion of his camp; which they ſo much admired, that they made it a model which they followed ever after. Pyrrhus, after this defeat, determined to leave Italy, and prepared for ſetting ſail for Epirus, where he at length arrived with 8000 foot and 500 horſe, regretting that he had ſpent ſix years in Italy and Sicily to no purpoſe. Anc. Un. Hiſt. vol. ix. p. 91.

ARUSIS, a town of Aſia, in the interior part of Media. Ptolemy.

ARUSPICES, an order of prieſts among the *Ancient Romans*, who foretold things to come, chiefly by inſpecting the entrails of beaſts which were killed in ſacrifice. They alſo took their obſervations from the victims before they were cut up; from the flame that uſed to riſe while they were burning; and from the flour, bran, frankincenſe, wine, or water, uſed in the ſacrifice. The word ſeems more properly written *haruſpices*; as being derived from *haruga*, which ſignifies the entrails of victims; and *aſpicere*, to view or conſider; others derive *aruſpices*, *ab aris aſpiciendis*, from their looking on the altar. Theſe diviners were all at firſt taken from Hetruria, where their art was in great repute; but afterwards the ſenate ordered twelve of the ſons of the chief men of Rome to be ſent into that country to acquaint themſelves with the rites and ceremonies of the Etruſcan religion, of which this ſcience was the chief part; the ceremony, however, of conſulting the entrails of victims was practiſed among the Greeks before it was introduced into Hetruria. An inſtance of it occurs at the battle of Platea; and it was recurred to on other occaſions among the Aſiatics. But the Etruſcans were perhaps the firſt who reduced it to an art, and eſtabliſhed the rites by which it was conducted. The doctrine or diſcipline of the aruſpices was formed into a preciſe art, called *aruſpicina*. Cato, who was an augur, uſed to ſay, he wondered how one aruſpex could look at another without laughing in his face; by which we learn what opinion he had of the ſolidity of the aruſpicina. Conſtantine paſſed ſeveral laws againſt the aruſpices; and though he allowed the Pagans to conſult them, he forbade their entering the houſes of private perſons, upon pain of being burnt alive, and ſuch as received them were to forfeit their eſtates, and be baniſhed for life. His intention was to prevent all private ſacrifices and conſultations, and by one law he obliged thoſe who conſulted the aruſpices to ſend their anſwers to his ſecretary.

ARUSPICI *libri*, a kind of ſacred writings among the ancient Hetrurians, wherein the laws and diſcipline of the aruſpices were deſcribed. They were alſo called *rituales*, ſometimes *fulgurales libri*, as directing how to take indications from thunder, lightning, &c.

ARVUM, in *Ancient Agriculture*, properly denoted ground ploughed but not ſowed. Though the word is alſo ſometimes extended to all arable or corn land, in contradiſtinction from paſture.

ARWACAS BAY, in *Geography*, lies on the eaſt coaſt

of South America, and has the river Amona to the weſt. It has a good road for large ſhips, well ſheltered from ſouth and weſterly winds, but expoſed to the north.

ARWANGEN, a town and caſtle of Switzerland, in the canton of Berne, ſeated on the Aar, 12 miles eaſt of Soleure.

ARX, in the *Ancient Military Art*, a town, fort, or caſtle, for the defence of a place. The arx, in ancient Rome, was a diſtinct edifice from the capitol, though ſome have confounded the two. According to Ryckius, the arx, properly ſpeaking, was a place on the higheſt part of the Capitoline Mount, ſtronger and better fortified than the reſt, with towers and pinnated walls; in which was alſo the temple of Jupiter Capitolinus. Struv. Synt. Ant. Rom. c. ix. p. 522.

ARX alſo denoted a conſecrated place on the Palatine Mount, where the augurs publicly performed their office. Some will have the arx to have been the augural temple; but Varro expreſly diſtinguiſhes between the two.

ARX was particularly uſed for a public place in Rome, ſet apart for the operations of the augurs. In this ſenſe, arx amounts to the ſame with what is otherwiſe called *auguraculum*, and *augurium*, and in the camp *augurale*. Out of this arx it was that the *feciales*, or heralds, gathered the graſs uſed in the ceremony of making leagues and treaties. Liv. i. c. 24.

ARX *Britannica*, in *Ancient Geography*, a citadel of Batavia, near the old mouth of the Middle Rhine. Its foundation is ſeen at low water, and after a ſtrong ſouth-weſterly wind. Some ſuppoſe it to be the pharos or very high tower of Caligula, as Suetonius calls it; a monument of his pretended conqueſt of Britain; others imagine that it was built by Druſus, with an altar, erected by Claudius, on his expedition into Britain. But the uſual paſſage was from Geſſoriacum, and Suetonius ſays expreſsly, that Claudius paſſed over from thence. Its ancient name is no where expreſſed; it is now called t'huys te Britten or Brittenburg, i. e. Arx Britannica; but it does not appear from what authority. Cellarius.

ARXAMA, a town of Aſia, in the interior part of Meſopotamia. Ptolemy.

ARXANA, a town of Aſia, in Armenia Major, near the river Nymphias.

ARXATA, a town of Armenia Major, on the confines of Atropatene. Strabo.

ARXEN, a town of Thrace.

ARXIANUS AGER, a plain of Aſia near the river Lerma.

ARYCA, a town of Greece, in the country of the Locrian Epicnemydii. Diod. Sic.

ARYCANDA, a town of Aſia, in Lycia. Steph Byz.

ARYCANDUS, a river of Aſia, in Lycia, that diſcharged itſelf into the Limyra. Pliny.

ARYES, in *Geography*, a people of South America, in Brazil, in the neighbourhood of Capitania, or the government of Porto Seguro.

ARYMAGDUS, or ORYMAGDUS, in *Ancient Geography*, a river of Aſia, in Cilicia. Ptolemy.

ARYMPHÆI, a people who inhabited the territory adjoining to the Palus Mæotis and Tanais. They were clothed like the Scythians, ſpoke a peculiar language, and lived in the woods. They were honoured as a ſacred people, and their country ſerved as an aſylum. They are mentioned by Herodotus and Mela.

ARYS, in *Geography*, a town of Italy, belonging to the republic of Venice, in the province of Friuli, ten miles W. S. W. of Palma la Nuova.

ARYTÆNOIDES CARTILAGO, in *Anatomy*, a cartilage ſituated at the back part of the larynx. There are two cartilages which bear this name.

ARYTÆNOIDEUS MUSCULUS, is ſubſervient to the motions of the above mentioned cartilages. For an account of both theſe articles, ſee LARYNX.

ARYTHMUS, or ARHYTHMUS, formed from the privative α, and ῥυθμὸς modulus or meaſure, in *Medicine*, is uſed by ſome for a ſinking or failure of the pulſe, ſo that it can no longer be felt: but it more properly denotes an irregularity, or want of due order and proportion of the pulſe.

ARZAC, in *Geography*, a town of France, in the department of the Lower Pyrenées, and chief place of a canton in the diſtrict of Orthes, five leagues north of Pau.

ARZACHEL, or AZARCHEL, in *Biography*, a Spaniſh mathematician, lived in the tenth or eleventh century, and wrote a book on aſtronomy, intitled "Obſervationes de Obliquitate Zodiaci." Vorſius.

ARZAMAS, in *Geography*. See ARSAMAS.

ARZANNO, a town of France, in the department of Finiſterre, and chief place of a canton in the diſtrict of Quimperlé, five miles E. N. E. from Quimperlé.

ARZBERG, a town of Germany, in the circle of Franconia, and principality of Bareuth, ſeven miles eaſt of Wonſiedel.

ARZENGAN, or ARZINGAN, a town of Aſiatic Turkey, in the province of Aladulia, eighty miles ſouth-eaſt of Erzerum. It was taken in 1242 by the Mogul Tartars.

ARZENI BAY lies on the coaſt of Barbary, in the Mediterranean, on the eaſt ſide of cape Ferrat or Ferrol, and extends to the north-eaſt as far as cape Dyvy or Ivoy. The town is at the ſouth-weſt, in the bottom of the bay, and before it is good anchorage. It ſtands on the eaſt ſide of the river which here falls into the bay.

ARZENZA, or CHERVESTA, a river of European Turkey, in Albania, diſcharges itſelf into the gulf of Venice, between Durazzo and Pirgo.

ARZES, in *Ancient Geography*, a town of the iſland of Cyprus, formerly a conſiderable city, and ſee of a Greek biſhop, but ſince the reduction of the iſland by the Turks, reduced to a village.

ARZES, a town of Aſia, ſituate towards the middle of the northern part of the lake Arſiſſa.

ARZEW, in *Geography*, a ſea-port of Africa, in the weſtern province or province of Tlen ſan, twelve miles S.S.E. of cape Ferrat. It is called by the Moors, the port of the "Beni Zeian," after the name of the neighbouring Kabyles, who were formerly a conſiderable community. Ptolemy places his "Deorum portus" betwixt Quiza and Arſenaria, which, ſays Dr. Shaw, can be no other than this, provided Geeza or Warran is the ancient Quiza; as Arzew is, without doubt, the ancient *Arſenaria*. Arzew is at the diſtance of three Roman miles from this port, as Pliny places his Arſenaria. The country behind it is a rich champaign ground, but towards the ſea there are ſteep rocks and precipices, which muſt have ſerved for its defence in that direction. The water now uſed by the inhabitants lies lower than the ſea, and of courſe is brackiſh. But for obtaining a ſupply of freſh water, the whole city was formerly built upon ciſterns, of which ſeveral ſtill remain, and ſerve for dwellings to the inhabitants. Several ancient ruins of capitals, baſes, and ſhafts of pillars, with ſepulchral inſcriptions, are ſcattered over this place. Five miles from the ſea-coaſt are the ſalt-pits of Arzew, which ſupply the neighbouring communities with ſalt. This commodity, as the pits are inexhauſtible, would

would be a very valuable branch of trade under any other government than that of the Turks. Shaw's Travels, p. 14.

ARZILLA, a sea-port town of Africa, on the coast of the Atlantic, in the empire of Morocco, built by the Romans at the mouth of a river, situate five leagues from Tangiers, and now inhabited by Moors and Jews, who carry on no trade. It was formerly a Roman colony, afterwards fell under the government of the Goths, and was next taken by the Mahometans. It was taken and burned by the Engliſh; after which it remained waſte and uninhabited for thirty years, but was rebuilt by the caliphs of Cordova. In the year 1470, it was taken by Alphonſo, king of Portugal, called the Africa; and abandoned by the Portugueſe about the end of the ſixteenth century. N. lat. 35° 30'. W. long. 5° 30'. Chenier's Morocco, vol. i. p. 22.

ARZUS, in *Ancient Geography*, a river of Thrace, which ran into the Propontis at the latitude of about 42°.—Alſo, a town of Thrace, called alſo *Arzum* and *Aſſus*, ſituate between Opizus and Sabzupara, eighteen miles from the former, and twenty miles from the latter.

AS, among *Antiquaries*, ſometimes ſignifies a particular weight; in which ſenſe the Roman *as* is the ſame with the Roman *libra*, or pound. See LIBRA.

The word is by ſome derived from *æs*, which, in the Doric dialect, is uſed for *as*, *ens*, q. d. an entire thing; though others will have this money named *as*, quaſi *æs*, becauſe made of braſs.—Budæus has written nine books *De aſſe, & ejus partibus*: "Of the *as*, and its parts."

The *as* had ſeveral diviſions. See the table under As, an integer. See alſo Wright.

As was alſo the name of a Roman coin, which was made of different materials and different weights, in different ages of the commonwealth.

Under Numa Pompilius, according to Euſebius in his "Chronicon," the Roman money was either of wood, leather, or ſhells. In the time of Servius Tullius, who reigned in Rome about 578 years before Chriſt, it was copper or braſs, and was called *as*, *libra*, *libella*, or *pondo*, becauſe actually weighing a pound, or twelve ounces. Mr. Pinkerton is of opinion, that we may value the *as libralis* of ancient Rome at about eight-pence Engliſh. This was called *Æs grave*; and theſe *aſſes* were weighed, and not counted. The coinage of Tullius ſeems to have been confined to the *as*, or piece of braſs, with the impreſſion of Janus on the one ſide, and the prow of a ſhip on the other, becauſe Janus arrived in Italy by ſea. Varro, however, informs us, that the firſt coins of Tullius had the figure of a bull, or of other cattle upon them, like the Etruſcan coins, of which they were imitations; and hence it is ſaid they were called *pecunia*. Thoſe *aſſes* with the figure of Janus and the prow of a ſhip upon them, may be ſuppoſed, according to Mr. Pinkerton, firſt to have appeared about 400 years before Chriſt; but, in a ſhort time, various ſubdiviſions of the *as* were coined. The *ſemis*, or half, is commonly ſtamped with the head of Jupiter laureated; the *triens* or third, with four cyphers, as being originally of four ounces weight, has the head of Minerva; the *quadrans* or quarter, marked with three cyphers, has the head of Hercules wrapt in a lion's ſkin; the *ſextans* or ſixth, with two cyphers, is marked with the head of Mercury with a cap and wings; and the *uncia*, having one cypher, is marked with the head of Rome. All theſe coins appear to have been caſt in moulds, by a conſiderable number at a time; afterwards the ſmaller diviſions were ſtruck, inſtead of being caſt; but the larger continued to be caſt until the *as* fell to two ounces. At this time, however, it was called *libra*, and accounted a pound of copper; though larger denominations of it were coined, ſuch as the *libra* or double *as*, *treſſis* and *quadruſſis* of three and four *aſſes*, and even as far as *decuſſis* or ten *aſſes*, marked X. The ſmaller parts of the *as* ſeldom occur, owing to their ſmall value; though ſome are ſtill found, ſuch as the ſemis, triens, quadrans, ſextans, and uncia, coined in the times of Nero and Domitian. Some coins occur which exceed the *as libralis* in weight; and theſe are ſuppoſed to be prior to the time of Servius Tullius. The Romans reckoned by *aſſes* before they coined ſilver, in the 485th year of the city, or 269 before Chriſt, and afterwards they kept their accounts in ſeſterces.

Pliny ſays, that when the firſt Punic war had exhauſted the treaſury, they reduced the *as* to two ounces. They thus gained fifteen parts, and were enabled to pay their debts. Mr. Pinkerton is of opinion, that Pliny, in aſſerting that the *as* continued of a pound weight till the end of the firſt Punic war, is miſtaken. Coins, that refute this aſſertion, are ſtill found; and he thinks it probable that the *as* decreaſed gradually and ſlowly in weight, as from a pound to eleven ounces, then to ten, nine, &c.; but neither the *as* nor its parts were ever correctly ſized. In the ſecond Punic war, when the Romans were much preſſed by Hannibal, about the year of Rome 538, or 216 before Chriſt; Fabius Maximus being dictator; the *aſſes* were further reduced to an ounce each; and the ſilver denarius was made to paſs for ſixteen *aſſes*, the quinarius for eight, and the ſeſterce for four: and the republic gained upon the copper money one half. This took place about thirty-ſix years after the former reduction. The *as libralis*, with the face of Janus upon it, is the form moſt commonly occurring before it was reduced to two ounces. Mr. Pinkerton ſuppoſes, that this continued for at leaſt a century and a half after the coinage of Tullius, till about 300 before Chriſt, in the year of Rome 454, between which and the 502d year of Rome, a gradual diminution of the *as* to two ounces muſt have taken place. The following table exhibits, according to Mr. Pinkerton, the dates of the Roman coinage. The *libralis* coined by Tullius with the figures of oxen, &c. about 167 years after the building of Rome, according to ſir Iſaac Newton, or about the year before Chriſt 460, or 587 according to Blair;

As libralis, with Janus and the prow of a ſhip	400
As of 10 ounces - - - -	300
8 - - - -	290
6 - - - -	280
4 - - - -	270
3 - - - -	260
2, according to Pliny - -	250
1, according to the ſame -	214

Laſtly, by the Papirian law, the *as* was reduced to half an ounce: and it is generally thought that it reſted here all the time of the commonwealth, and even till Veſpaſian's reign. This laſt was called the Papirian *as*, becauſe the law juſt mentioned was paſſed in the year of Rome 563, or, according to the Varronian computation, 191 before Chriſt, by C. Papirius Carbo, then tribune of the people. Thus, there were four different *aſſes* in the time of the commonwealth. The figure ſtamped on the *as* was at firſt a ſheep, ox, or ſow; and from the time of the kings, a Janus with two faces on one ſide, and the *roſtrum* or prow of a ſhip on the reverſe.

The triens and quadrans of copper had the figure of a ſmall veſſel called *ratis* on the reverſe. Thus Pliny: *Nota æris* (i. e. *aſſis*) *fuit ex altera parte Janus geminus, ex altera roſtrum navis: in triente vero & quadrante rates.* Hiſt. Nat. lib. xxxiii. cap. 3. Hence theſe pieces were ſometimes called *ratiti*.

After the Romans began to have an intercourſe with Greece, various elegant figures appear upon the parts of the

as, though not on the *as* itſelf till after the time of Sylla. Towards the latter end of the republic, *dupondii*, or double *aſſes*, were coined, together with the *ſeſtertii nummi*, which ſupplied the place of the *quadruſſis*, when the denarius began to be reckoned at ſixteen *aſſes*; probably at the time when the latter was reduced to half an ounce. M. Pauctun, in his "Metrologie," eſtimates the value of the *as*, from the foundation of Rome till the year 537, at 20 ſols, or a livre; though it was ſometimes 29 ſols: from the year of Rome 537 to the year 544, at 3 French ſols, its weight being two Roman ounces of copper: from 544 to 586, at 1 ſol 10½ deniers, its weight being one Roman ounce: from 586 to the reign of Claudius or of Nero, 1 ſol 1½ denier: from the reign of Claudius or of Nero to that of Conſtantine, about 1 ſol. See Coin, and Coinage.

As was alſo uſed to denote any integer, or whole.—Whence the Engliſh word *ace*.

Thus, *as* ſignified the whole inheritance; whence *hæres ex aſſe*, the heir to the whole eſtate.

So the *jugerum*, or Roman acre of land, being reckoned the *integer*, was called *as*, and divided, like it, into twelve *unciæ*.

The *as*, and its parts or diviſions, ſtand thus:

1	*As*	12 *Unciæ*	½	*Semis*	6 *Unciæ*
11/12	*Deunx*	11	5/12	*Quincunx*	5
10/12	*Dextans*	10	4/12	*Triens*	4
9/12	*Dodrans*	9	3/12	*Quadrans*	3
8/12	*Bes*	8	2/12	*Sextans*	2
7/12	*Septunx*	7	1/12	*Uncia*	1

As, or *Aſh*, in *Mythology*, a name given to a deity of the inhabitants of the north. Sperlingius ſuggeſts, that when the Aſiatics were driven from their country by Pompey, they retired into the northern regions; but as they were a delicate and poliſhed people, they deſpiſed the barbarous names of the north, and they were regarded among the rude inhabitants of theſe countries as ſuperior to mortals, or as a ſpecies of divinities. Accuſtomed therefore to expreſs any thing that was ſublime and excellent by the terms *Aſa* and *Æſis*, they applied theſe appellations to their gods.

ASA, in *Scripture Biography*, a king of Judah, was the ſon of Abijam, and ſucceeded him A. M. 3049, B. C. 955. He was zealous in the eſtabliſhment and maintenance of true religion, and active in demoliſhing altars created to idols, and in reſtraining and puniſhing ſuch as were addicted to the infamous practices connected with idolatry, and reſtoring the worſhip of Jehovah. He obtained a deciſive victory over Zerah, king of Ethiopia, in the plain of Zephathah or Zephalah near Mareſhah. In his conteſt with Baaſha, king of Iſrael, he called in the aſſiſtance of Benhadad, king of Syria, for which he was reproached by the prophet Hanani, whom he ſeverely puniſhed. He died A. M. 3090. B. C. 913, after having held the ſceptre of Judah nearly forty-one years. 1 Kings xv. 8, &c. 2 Chron. xiii—xvi.

Asa, in *Geography*, a river of Germany in the archduchy of Auſtria, which runs into the Danube two miles north of Efferding.

Asa, among *Naturaliſts*. The writers of the later ages have formed this word aſa from the laſar of the ancients, and attributed it to a gum very different from that anciently known by the name they have thus corrupted. The aſa of the ancients was an odoriferous and fragrant gum; and the aſa of the after ages had ſo little title to this epithet, that they diſtinguiſhed it by one, expreſſing its being of an offenſive or ſtinking ſmell. The Arabian writers, according to this diſtinction, deſcribe two kinds of aſa, the one ſtinking, the other aromatic; and the modern Greeks appropriated the name *aſa*, or *laſar*, to the ſtinking gum the Latins called by that name, but added a diſtinctive epithet to expreſs its uſeful, and called it *ſuccidaſarum*.

Asa *Dulcis*, in the *Materia Medica*, a name by which ſome authors have called the *benjamin* or Benzoin of the ſhops. Dale.

Asa *Fœtida*, or Assa *Fœtida*. See Ferula.

ASABORUM Promontorium, in *Ancient Geography*, a promontory of Arabia, in the ſtraits of the Perſian gulf. Ptolemy.

ASABRA, in *Geography*, a river of Spain, which runs into the Aragon near Morillo.

ASAD, a town of Perſia, in the province of Fariſtan, forty-ſeven leagues north-eaſt of Schiras.

ASAD-ABAD, a large and populous town of Perſia, in the province of Irac-Agemi, on the frontiers of Kurdiſtan, twenty-two leagues N. N. E. of Amadan.

ASEI, in *Ancient Geography*, a people of Aſia, in Sarmatia. Ptolemy.

ASAM, or Assam, in *Geography*, a country of Aſia, ſituate to the north-eaſt of Bengal, and bounded on the north by Thibet, on the weſt by Hindoſtan, on the ſouth by Meckley, and on the eaſt by part of the Birmah empire, or Ava. Its diſtricts commence, where thoſe of Bengal end, in N. lat. 26°. and E. long. 91°. This country is divided into two parts by the river Brahmaputra, or Burrampooter, which flows from Khata. The northern part is called Uttarcul, and the ſouthern Dacſhincul: the former begins at Gowahutty, the boundary of the Mogul poſſeſſions, and terminates in mountains inhabited by a tribe called Meeri Mechmi; and the latter extends from the village Sidea to the hills of Strinagar. Aſam is of an oblong figure; its length about 200 ſtandard coſs, and its breadth from the northern to the ſouthern mountains about eight days journey. Several rivers flow from the ſouthern mountains of Aſam, and fall into the Burrampooter; and the chief of theſe is the Dhonec. Between theſe rivers is an iſland well inhabited, and in an excellent ſtate of tillage, containing a ſpacious and pleaſant country that extends about fifty coſs. The cultivated tract is bounded by a thick foreſt, which harbours elephants, and where thoſe animals may be caught, as well as in four or five other foreſts of Aſam. Theſe animals are ſo numerous, that five or ſix hundred may be procured in a year. Acroſs the Dhonec, on the ſide of Ghergong, which is the capital of the country, is a wide, agreeable, and level country, the face of which is marked with population and tillage, and preſents every where delightful proſpects of ploughed fields, harveſts, gardens, and groves. This iſland lies in the part called *Dacſhincul*. As the country is overflowed in the rainy ſeaſons, a high and broad cauſeway has been raiſed for the convenience of travellers from Salagereh to Ghergong; each ſide of which is planted with bamboos, the branches of which meet and are intertwined, and thus afford a pleaſant ſhade. Amongſt the fruits which this country produces are mangoes, plantains, jacks, oranges, citrons, limes, pine-apples, and punialeh, a ſpecies of amleh, which has ſuch an excellent flavour, that every perſon who taſtes it prefers it to the plum. There are alſo cocoa-nut trees, pepper-vines, areea-trees, and the ſadii, or malabathrum, in great plenty. The ſugar-cane excels in ſoftneſs and ſweetneſs, and is of three colours, red, black, and white. There are ginger which is free from fibres, and betel vines. Such are the ſtrength and fertility of the ſoil, that any ſeed that is ſown, or ſlips that are planted, always thrive. The principal crop of the country conſiſts in rice and maſh, which is a ſpecies of grain: wheat and barley are never ſown. The ſilks are excellent, and reſemble

reſemble thoſe of China; but they manufacture few more than are required for uſe. They embroider with flowers, and weave velvet and alſo tautbund, a kind of ſilk, of which they make tents and kenauts, or the walls that ſurround them. Salt is precious and ſcarce; but it is found at the bottom of ſome of the hills, of a bitter and purging quality; a better ſort, extracted from the plantain-tree, is more common. The mountains, inhabited by a tribe called "Nanac," produce plenty of excellent lignum aloes, which the natives annually import into Aſam, and barter for ſalt and grain. Theſe people are naked, and feed on dogs, cats, ſnakes, mice, rats, ants, and locuſts. The hills of Camrup, Sidea, and Luckhigereh, ſupply a fine ſpecies of lignum aloes, which ſinks in water. Several of the mountains contain muſk-deer.

The country of *Uttarcul* on the northern ſide of the Burrampooter, is in the higheſt ſtate of cultivation, and produces plenty of pepper and areca nuts: it even ſurpaſſes Dacſhincul in population and tillage. The breadth from the banks of the river to the foot of the mountains, where the climate is cold, and in which there is ſnow, is various; but it is no where leſs than fifteen nor greater than forty-five coſs. The inhabitants of the mountains are ſtrong, have a robuſt and reſpectable appearance, and are of the middling ſize. Their complexions, like thoſe of the natives of all cold climates, are red and white; and they have alſo trees and fruits peculiar to frigid regions: ſeveral of the hills in the country of Dereng, on the ſide of Gowahutty, ſupply muſk, kataus or mountain-cows, bhoat and peree, which are two kinds of blanket, and two ſpecies of horſes called goont and tanyans. Gold and ſilver are procured here, as alſo in the whole country of Aſam, by waſhing the ſand of the rivers. This, indeed, is one of the ſources of revenue. It is ſuppoſed that 12,000, and ſome ſay 20,000 inhabitants, are employed in this occupation; and each of them pays a fixed revenue of a tola of gold to the rajah; a tola containing eighty reti-weights and eight retis being equal in weight to twenty-four barley corns or ſeven carats among jewellers. The people of Aſam (ſays the writer whoſe account is here cited) are a baſe and unprincipled nation, and have no fixed religion. They follow no rule but that of their own inclinations, and make the approbation of their own vicious minds the teſt of the propriety of their actions. They do not adopt any mode of worſhip practiſed either by Mahometans or Heathens; nor do they concur with any of the known ſects which prevail amongſt mankind: unlike the pagans of Hindoſtan, they do not reject victuals which have been dreſſed by muſſulmans, and they abſtain from no fleſh except human. They even eat animals that have died a natural death. It is not their cuſtom to veil their women. The men have often four or five wives each, and publicly buy, ſell, and change them. They ſhave their heads, beards, and whiſkers, and reproach and admoniſh every perſon who neglects this ceremony. It has been aſſerted that their language has not the leaſt affinity with that of Bengal; but others ſay, that young Brahmins often come from Aſam to Nadiya for inſtruction, and that their vulgar dialect is underſtood by the Bengal teachers. Their ſtrength and courage are apparent in their looks; but their ferocious manners and brutal tempers are alſo betrayed by their phyſiognomy. They are ſuperior to moſt nations in corporal force and hardy exertions. They are enterpriſing, ſavage, fond of war, vindictive, treacherous, and deceitful. The virtues of compaſſion, kindneſs, friendſhip, ſincerity, truth, honour, good faith, and purity of morals, have been left out of their compoſition. Their dreſs conſiſts of a cloth tied round their heads, another round their loins, and a ſheet thrown upon their ſhoulders; but it is not cuſtomary to wear turbans, robes, drawers, or ſhoes. There are no buildings of brick or ſtone, or with walls of earth, except the gates of the city of Ghergong, and ſome of their idolatrous temples. The habitations of the rich and poor are conſtructed of wood, bamboos, and ſtraw. The raiah and his courtiers travel in ſtately litters; but the opulent and reſpectable perſons among his ſubjects are carried in lower vehicles, called doolies. Aſam produces neither horſes, camels, nor aſſes; but thoſe animals are ſometimes brought thither from other countries. The brutal inhabitants, from a congenial impulſe, are fond of ſeeing and keeping aſſes, and they buy and ſell them at a high price; but they are much ſurpriſed at ſeeing a camel; and are ſo afraid of a horſe, that if one trooper ſhould attack 100 armed Aſamians, they would all throw down their arms and fly, or if unable to eſcape, would ſurrender themſelves priſoners. Yet if one of this deteſtable race ſhould encounter two men of another nation on foot, he would defeat them.

The ancient inhabitants of this country, were divided into two tribes, the Aſamans and the Cultanians. The latter excel the former in all occupations except war and the conduct of hardy enterprizes, in which the former are ſuperior. A body guard of 6 or 7000 Aſamians, fierce as demons, of unſhaken courage, and well provided with arms and warlike accoutrements, always keep watch near the rajah's ſitting and ſleeping apartments: theſe are his loyal confidential troops and patrol. The martial weapons of this country are the muſket, ſword, ſpear, and arrow and bow of bamboo. In their forts and boats they have plenty of cannon, zerbzen or ſwivels, and ramchangee, in the management of which they are very expert. Whenever any of the rajahs, magiſtrates or principal men die, they dig a large cave for the deceaſed, in which they inter his women, attendants, and ſervants, and ſome of the magnificent equipages and uſeful furniture which he poſſeſſed in his life time, ſuch as elephants, gold and ſilver, badcaſh or large fans, carpets, clothes, victuals, lamps, with plenty of oil or a torch burning, for they conſider theſe articles as ſtores for a future ſtate. They afterwards conſtruct a ſtrong roof over the cave upon thick timbers. The rajahs of this country have neither yielded ſubmiſſion and obedience, nor paid tribute and revenue to the moſt powerful monarch; but they have curbed the ambition, and checked the conqueſts of the moſt victorious princes of Hindoſtan. When an invading army has entered their territories, the Aſamians have covered themſelves in ſtrong poſts, and diſtreſſed the enemy by ſtratagems, ſurpriſes, and alarms, and by cutting off their proviſions. If theſe means have failed, they have declined a battle in the field, but have carried the peaſants into the mountains, burnt the grain, and left the country empty. But when the rainy ſeaſon has ſet in upon the advancing enemy, they have watched their opportunity to make excurſions, and vent their rage; and the famiſhed invaders have either become their priſoners, or been put to death.

The preceeding account of the Aſamians, who are probably ſuperior in all reſpects to the Moguls, exhibits a ſpecimen of the malignity and intolerance with which it was uſual, in the reign of Aurengzebe, to treat all thoſe whom the crafty, cruel, and avaricious emperor, was pleaſed to condemn as infidels and barbarians. It is extracted from "A deſcription of Aſam," written by Mohammed Cazim, and tranſlated from the Perſian by Henry Vanſittart, eſq. Aſiatic Reſearches, vol. ii. p. 171—185. It ſhould be recollected, in juſtice to the people of Aſam, that the author was an enemy, and a rigid Mahometan, reſident at the

the court of Aurengzebe. The dialect of the Afamese, though less refined than that of the Hindoos of Bengal, is by no means promiscuous; and their religious rites materially differ from those of Hindostan, as may be proved by their coins, on which are inscribed the names of the Hindoo deities.

ASAMA, or Asawa, in *Ancient Geography*, a river of Africa, in Mauritania Tingitana.

ASAMON, a mountain of Palestine, in Galilee, over-against Sephoni. Josephus.

ASANAMARA, a town of India, on this side of the Ganges. Ptolemy.

ASANCA, a town of Germany. Ptolemy.

ASANCHIF, in *Geography*, a town of Asia, in the country of Diarbekir, situate on the Tigris, on the borders of Armenia.

ASANGARO, a jurisdiction of South America, under the bishop of Cusco, in Peru, fifty leagues from that city, in which are bred many cattle. In the north-east part of it there are some silver mines.

ASAPH, in *Biography*, a celebrated musician in the time of David, was the son of Berechias of the tribe of Levi. Asaph, and also his descendants, presided over the musical band in the service of the temple. Several of the psalms, as the 50th, the 73d to the 83d, have the name of Asaph prefixed: but it is not certain, whether the words or the music were composed by him: with regard to some of them, which were written during the Babylonish captivity, they cannot in any respect be attributed to him. Perhaps they were written or set to music by his descendants, who prefixed to them his name, or by some of that class of musicians of which the family of Asaph was the head. 1. Chron. vi. 39. 2. Chron. xxix. 30. xxxv. 15. Nehem. xii. 46.

ASAPH, *St.* a monk of North Wales, was descended of a good family, and belonged to the church of Llan-Elvy, over which Kentigern the Scotch bishop of that place presided. Upon the removal of this prelate to his own country, he assigned his convent and cathedral to St. Asaph, so that after his death Llan Elvy lost its name and took that of the saint. He was a diligent preacher, and frequently repeated this saying, "They who withstand the preaching of God's word, envy man's salvation." He flourished about the year 590, under Carentius king of the Britons; but the time of his death is unknown. The see seems to have continued vacant above 500 years, till it was filled by Geoffrey of Monmouth. St. Asaph was eminent in his time for learning and sanctity; he wrote the "Ordinances" of his church, the "Life" of Kentigern his master, and some other pieces. Biog. Brit.

ASAPH, *St.* in *Geography*, a city and bishop's see in Flintshire, which derived its name from *St.* ASAPH. The diocese consists of part of Denbigh, Flint, Montgomery, and Merionethshire, and a small part of Shropshire; containing 121 parishes, and 131 churches and chapels, most of which are under the patronage of the bishop. The fee is valuable, and the patronage extensive. The town is seated on an eminence near the sea, at the termination of the vale of Clwydd. Although it is denominated a city, it is merely a village in extent. Its fine Gothic cathedral has been lately improved in its external decoration, and its palace has been rebuilt by the late bishop (Shipley); which being situated above the town, fronting the hill towards Holywell, commands a pleasant view.

ASAPHEIS, ασαφεις, from α, negative, and σαφης, *clear, open*, in Hippocrates, in Prorrh. & Coac. are such patients as do not utter their words in a clear manner. The defect is occasioned, as Galen says, Comm. 2. in Prorrh. "either by some hurt which the organs of speech have contracted from a disorder of the nerves, or else by a *delirium*."

ASAPHIDAMA, in *Ancient Geography*, a town of Syria, in the Chalcidic territory. Ptolemy.

ASAPPES, or AZAPES, an order of soldiers in the Turkish army, whom they always expose to the first shock of the enemy; to the end that the enemy being thus fatigued, and their swords blunted, the spahis and janissaries may fall on and find an easy conquest.

The word is derived from the Turkish *saph*, which signifies *rank*, from whence they have formed *azaph*, *to range in order*.

The asappes are said to be held of so little value, that they frequently serve as bridges for the cavalry to pass over in bad roads, and as faggots to fill up the ditches of places besieged.—The greatest part of them are natural Turks; they travel on foot, and have no pay but the plunder they can get from the enemy.

ASAR, in *Commerce*, a Persian coin worth 6*s.* 8*d.* sterling.

ASARABACCA, or ASSARA-BACARA, in *Botany*. See ASARUM.

ASAR-HADDON, or ASSARHADON, in *Biography*, son of Sennacherib king of Syria, succeeded his father about 709 years before Christ, and having reigned 29 years in Nineveh, he became also king of Babylon, in the year 680 before Christ. He sent a colony of Babylonians and Cutheans into Samaria; and his generals having taken captive king Manasses, sent him loaded with chains to Babylon. His reign terminated in the year 667 before Christ.

ASARINA, in *Botany*. See ANTIRRHINUM, and CHELONE.

ASARO, in *Geography*, a town of Sicily, in the valley of Noto, eight miles south of Nicosia.

ASARÓTA, ασαρωτα, from α and σαιρω, *I sweep*, a kind of painted pavements, in use before the invention of mosaic work. The most celebrated was that at Pergamus, painted by Sosus, and exhibiting the appearance of crumbs, as if the floor had not been swept after dinner, whence according to Pliny, the denomination. Perrault supposes them to have been a black kind of pavements of a spongy matter. Plin. Nat. Hist. lib. xxxvi. cap. 25. Perrault ad Vitruv. lib. vi. cap. 5.

ASARUM, in *Botany*, *Asarabacca*. Lin. gen. 589. Schreb. 801. Juss. 73. Gærtn. t. 14. Class, *dodecandria monogynia*. Nat. Ord. *Sarmentaceæ*. *Aristolochiæ* Juss. Gen. Char. *Cal.* perianth one-leafed, bell-shaped, three or four cleft, coriaceous, coloured, permanent; clefts erect bent in at the apex. *Cor.* none. *Stam.* filaments twelve, subulate, half the length of the calyx; anthers oblong, fastened to the middle partition of the filaments. *Pist.* germ inferior or concealed within the calyx; style cylindric, the length of the stamens; stigma stellate, six-parted. *Per.* capsule coriaceous, usually six-celled. *Seeds*, several, ovate.

Ess. Gen. Char. *Cal.* three or four cleft, placed on the germ. *Cor.* none. *Capsule* coriaceous, crowned. *Stigma*, six-cleft.

Species, 1. A. *europæum*, common asarabacca. Hudf. 205. With. 440. Smith Flor. Brit. 509. Med. Bot. t. 86. Flor. Dan. t. 633. "Leaves kidney-shaped, obtuse, in pairs;" root perennial, creeping; stems short, simple, round, pubescent, one-flowered, and commonly two-leaved; leaves opposite, on long footstalks, reniform, perfectly entire, somewhat downy; flower terminal, pitcher-shaped, of a dark purple colour, villose, on a slender peduncle. It has been found in the north of England, in woods, particularly in Lancashire, but it is a very scarce plant in Britain. The time of its flowering is in May.

Medicinal

Medicinal Properties. The leaves and roots of aſarabacca are ſtrongly emetic and cathartic; the latter indeed has been obſerved to excite vomiting ſo invariably, that they have been propoſed as a ſubſtitute for ipecacuanha. At preſent, however, this plant is ſeldom given internally, as the evacuations expected from its uſe, may be procured with more certainty and ſafety by various other medicines: it is now chiefly employed as an errhine or ſternutatory, and is found to be the moſt uſeful and convenient in the Materia Medica. For this purpoſe the leaves, being leſs acrid than the roots, are preferred. A few grains ſnuffed up the noſe ſeveral evenings produce a conſiderable watery diſcharge, which ſometimes continues for ſeveral days, by which head-ache, tooth-ache, ophthalmia, and ſome paralytic and ſoporific complaints, have been effectually relieved. The college directs a pulvis aſari compoſitus. See Woodv. Med. Bot. p. 238. 2. A. *canadenſe*, Canadian aſarabacca. Mill. *fig.* 53. 1. 6. "Leaves kidney-ſhaped, mucronate;" the leaves of this are much larger than thoſe of the preceding; their foot-ſtalks are alſo longer; in this ſpecies the leaves are pointed and hairy, and the flower greeniſh on the outſide. A native of Canada, cultivated by Miller in 1731. It flowers from April to July. 3. A. *virginicum*, ſweet-ſcented aſarabacca. Lour. Cochinch. 292. Pluk. Alm. t. 78. f. 2. Mor. t. 7. f. 3. "Leaves heart-ſhaped, blunt, ſmooth, petioled;" the leaves of this are veined and ſpotted on their upper ſurface, like thoſe of the autumnal cyclamen. The flowers are ſhaped like the others, but ſtand on longer peduncles, and are of a darker purple. A native of Virginia and Carolina; alſo of ſeveral provinces in China. Both this and the ſecond ſpecies were found in Japan by Thunberg. Cultivated by Miller in 1759.

Propagation and Culture. Theſe plants delight in a moiſt ſhady ſituation, and may be increaſed by parting the roots in autumn. Much wet in winter will rot the Canadian ſpecies, and the laſt ſpecies will not bear too much ſun. See Martyn's Miller's Dict.

ASARUM *Hypociſtis*. See CYTINUS.

ASASI, a name given by the people of Guinea to a tree, the leaves of which being boiled in water, and held to the mouth, cure the tooth-ach. This tree in its form and manner of growing reſembles the laurel; the leaves are very hard and ſtiff, and grow alternate on the ſtalks; they have ſhort pedicles, and the branches are blackiſh and rugged, but they are variegated with ſmall reddiſh ſpangles, or ſcaly protuberances. Phil. Tranſ. N° 232.

ASAWNLLY, in *Geography*, a town of Hindoſtan, in the circar of Oudipour, eighteen miles ſouth-weſt of Oudipour.

ASBAMÆA, in *Ancient Geography*, a fountain dedicated to Jupiter, near Tyana in Cappadocia. Philoſtratus, in his life of Apollonius, ſays, that the waters, though in a ſtate of ebullition, were cold, and that they were pleaſant and refreſhing to thoſe who obſerved their oaths, but poiſonous and fatal to liars and perjured perſons. Jupiter had a temple near this fountain.

ASBANIKEI, a town of Aſia, in Mawaralnaher Tranſ-Oxana, or Zagatai.

ASBECK, in *Geography*, a town of Germany, in the circle of Weſtphalia, four miles ſouth-eaſt of Ahauz.

ASBESTINE, ſomething incombuſtible, or that partakes of the nature and qualities of the *lapis aſbeſtos*. Such as aſbeſtine paper and cloth. See ASBESTUS.

ASBESTINITE and ASBESTRID of Kirwan, in *Mineralogy*. See STRAHLSTEIN.

ASBESTINUM, in *Natural Hiſtory*, a ſpecies of ALCYONIUM, deſcribed by Petiver, Pallas, and others. It inhabits the American ſeas, is very porous, white, and roſy within; the ſpecific character is, ſtem rather ſimple, round iſh, with largiſh, oblong pores ſcattered on every part. Gmelin, &c. Petiver calls this kind *Porus ſpongoides Americana*, Gaz. t. 23. f. 2. 2.

ASBESTOS, *falſe*, is a name given to plume-alum. See ALUM.

ASBESTUS, in *Chemiſtry*, formed of the priv. α, and σβεννυμι, to *extinguiſh*. *Aſbeſt non mûr.* Fr. *Aſbeſtus immaturus* of the old mineralogiſts. *Gemeiner aſbeſt.* Germ. *Talcum aſbeſtus vulgaris.* Werner. The moſt uſual colour of aſbeſtus is leek-green; ſometimes mountain or olive-green, more rarely greeniſh or yellowiſh grey. It occurs in maſs. Hexahedral priſmatic cryſtals of aſbeſtus are alſo mentioned as having been found at Grieſbach near Paſſau, and rhomboidal priſms of the ſame at Gemundt in Carinthia, and at Bagnères; according, however, to Emmerling and Lenz, theſe are not cryſtals of aſbeſtus, but of ſtrahlſtein. Internally it is ſhining, or little ſhining with a ſilky or waxy luſtre. Its fracture is parallel fibrous, either ſtraight or curved, ſometimes alſo ſplintery. It generally flies, when broken, into long ſplintery fragments. It is tranſlucid at the edges; is tender, paſſing into half-hard; is brittle, ſlightly elaſtic; ſomewhat unctuous to the touch. Sp. gr. according to Kirwan, 2.547.

Aſbeſtus does not effervеſce with acids; before the blow-pipe it fuſes without addition, but very difficultly, into a greyiſh black ſlag: at 160° of Wedgewood, it forms a grey porous porcelain, of ſufficient hardneſs to give fire with ſteel.

The reſults of the analyſis of this mineral are as yet but little ſatisfactory. Bergman analyſed three ſpecimens, from which it appears, that aſbeſtus conſiſts of 60..67 per. cent. of ſilex, 13...16 carbonated magneſia, 6...12 carbonated lime, and a very variable proportion of alumine and iron. Weigleb on the other hand, found in the aſbeſtus of Zöblitz 48.45 magneſia, 46.66 ſilex, 4.79 iron. It is ſo lately, however, that the art of chemical analyſis has been brought even to an approximation of certainty, and the cauſes of error are ſtill ſo numerous, that, with the exception of Klaproth, Vanquelin, Chenevix, and perhaps a few others, hardly any authority is to be attached to the various chemiſts who have been engaged in this very important but moſt difficult branch of mineralogical ſcience.

Aſbeſtus is found in ſerpentine rock, and, in general, in the ſame ſituations as amianthus. It is ſometimes mixed with indurated talc and magnetic iron.

The more flexible varieties have been applied to the manufacture of incombuſtible cloth, in the ſame manner as AMIANTHUS; which ſee. Kirwan's Mineralog. vol. i. 159. Brochant. Mineralog. v. i. 497. Widenmann. Handbuch. der Mineral. p. 451. Lenz. Verſuch, &c. v. 1. p. 373.

ASBISI, in *Geography*, a ſmall kingdom of Africa, in Guinea, on the gold coaſt.

ASBOTUS, in *Ancient Geography*, a town of Greece, in Theſſaly. Steph. Byz.

ASBROIT, in *Geography*, a town of Sweden, in South Gothland, ſix miles north of Wardberg.

ASBURG, a town of Germany, in the circle of Weſtphalia, and county of Meurs, two leagues eaſt of Meurs, and ſix weſt of Duiſburg.

ASBYSTÆ, in *Ancient Geography*, a people of Africa, in Libya, placed by Herodotus above Cyrene. Euſtathius places them near the temple of Jupiter Ammon, and the fountain of the ſun.

ASCA, in *Geography*, the name of a town of Arabia Felix.

ASCAGNE, ASCANIUS, in *Zoology*, a new ſpecies of

Simia or monkey, deſcribed by Audebert in his "Hiſtoire des Singes," fam. 4. ſect. 2. *fig.* 13; and by Sonnini in his late edition of the works of Buffon, t. 36. This animal was brought alive from Marſeilles to Paris, where it was painted; but the native country is unknown. It is conjectured to be a native of the American continent, being of the family which the French naturaliſts call *guenons*, as it is obſerved that all the ſpecies hitherto diſcovered of that family, are inhabitants of America. This is a ſmall kind, meaſuring about thirteen inches from the muzzle to the tail; all the upper parts of the body are of a duſky olive colour; beneath a deep greyiſh; face violet-blue, with a flat white noſe, and a kind of black whiſkers that reach from the mouth to the ears; on the temples are tufts of white hair; the eyes are red; beard and breaſt grey. This is a fond, lively, and agreeable animal, and very partial to fruit.

ASCAIN, in *Geography*, a town of France, in the department of the Lower Pyrenées, four leagues from Bayonne.

ASCALINGIUM, in *Ancient Geography*, a town of Germany. Ptolemy.

ASCALON, a maritime town of Paleſtine, and one of the five Satrapies of the Philiſtines, ſituate on the Mediterranean, and placed by Joſephus at the diſtance of 320 furlongs weſt of Jeruſalem, between Azotus to the north, and Gaza to the ſouth. It was eſteemed the ſtrongeſt on the Philiſtine coaſt; and yet the tribe of Judah, to whoſe lot it fell, made themſelves maſters of it ſoon after the death of Joſhua. Venus, called Urania or Cœleſtis, was worſhipped in this city; and Herodotus relates, that this temple was pillaged by the Scythians about 630 years before the Chriſtian æra. There was another divinity, which was the object of worſhip in this place, called by Diodorus Siculus, Derceto, repreſented as half a woman and half a fiſh; and near it was a lake full of fiſhes, conſecrated to this goddeſs, which the inhabitants, on this account, reſtrained from eating, as they alſo did from pigeons, ſuppoſed to be under her protection. This city had its own kings, and was ſucceſſively under the dominion of the Aſſyrians, Perſians, Greeks, and Romans. It was the native place of Herod the Great, who was hence called Aſcalonites, and who built a palace, which Auguſtus, after the death of Herod, gave to his ſiſter Salome. The port of Aſcalon was at ſome diſtance from the city. This city was made an epiſcopal ſee from the earlieſt ages of Chriſtianity; and, during the holy war, was adorned with many ſtately edifices, all which have been ſince ruined by the Saracens and Turks. It is ſtill in being, though reduced to a ſmall village called *Scalona*. It was anciently famous for its eſcallions, which took their name from this town. N. lat. 31° 30'. E. long. 16° 44'.

ASCALPHUS, in *Entomology*, the name of a Fabrician genus of neuropterous inſects, which in the Linnæan ſyſtem belong to that of *Myrmeleon*. The character is, palpi nearly equal, and filiform; jaw ciliated; lip horny, rounded, and entire. In other works of Fabricius it is thus defined: palpi ſix, nearly equal, and filiform; antennæ elongated and clubbed. Gmelin forms a ſubdiviſion of his genus *Myrmeleon*, under the name aſcalpus, in which are included the ſpecies longicornis, barbarus auſtralis, and cayennenſis, all of which are truly aſcalphi of Fabricius.

ASCANDALIS, in *Ancient Geography*, a town of Aſia Minor, in Lycia. Pliny.

ASCANIA, a name given by Pliny to one of the iſlands of the Archipelago.

ASCANIA, a country of Aſia Minor, in Bithynia, extending from the river and lake Aſcan, between the ſea, the river Sengar, and mount Olympus. Salluſt.

ASCANIÆ, ſmall iſlands on the coaſt of the Troade. Pliny.

ASCANII, in *Entomology*, a ſpecies of Curculio, of a cylindrical ſhape, black, and blueiſh on the ſides. Fabricius, Herbſt, &c.—*Obſ.* Curculio cylindricus of Herbſt apud Fueſsli (Archives des Inſectes), is conſidered by Gmelin as a variety (β) of this inſect. Inhabits the ſouth of Europe.

ASCANIUS, in *Biography*, called alſo *Iulus* or *Ilus*, the ſon of Æneas by Creüſa, the daughter of Priam; or, as others ſay, by Lavinia, accompanied his father in his flight and dangers, and ſucceeded him in the government of Lavinium, in the year before Chriſt 1177. He was called Aſcanius from a river of that name in Phrygia, and Ilus, changed into Iulus, from Ilium or Troy. Having defeated Mezentius, king of the Tuſcans, who demanded of the Latins a tribute of all the wine produced in Latium, he made peace with him upon condition that the Tiber ſhould be the boundary between the Latin and Hetrurian territories. When he found it expedient to reſign Lavinium to Lavinia and his ſon Sylvius, he determined to build another city for the place of his reſidence, and the capital of his kingdom, which he called Alba *Longa*. Here he reſided about 12 years; and, after a reign of about 38 years, died in this city in the year before Chriſt 1140. Dion. Hal. l.i. p.51, &c. Livy, l.i. c. 3.

Ascanius, in *Entomology*, a ſpecies of Papilio (*Eq. Tro.*). Above and beneath black, with a common white band; poſterior wings clouded with red. Fabricius, &c. Inhabits Braſil.—The body of this inſect is black, and the breaſt is ſpotted with red.

Ascanius, in *Ancient Geography*, a river of Aſia Minor, in Bithynia, according to Ptolemy, by which the lake Aſcania or Aſcanius diſcharged its waters into the ſea. Pliny places it in a gulf near Etheleum.—Alſo, a port of Aſia, placed by Pliny near the city of Phocæa.—Alſo, a lake of Aſia Minor, in Bithynia, now the lake of Iſnich, near which Pliny places the city of Nicæa.

ASCARA, in *Geography*, a town of Japan, in the province of Simoodſuke.

ASCARDIC, the capital of the country of Aſia, called *Little* Thibet.

ASCARINA, in *Botany*, (from ασκαρις, *a little worm*: the anther having that ſhape). Schreb. 1487. Forſt. Gen. 59. Juſſ. 442. Claſs, *dioecia monandria*. Generic Char. * Male flowers. *Cal.* amentum filiform; floſcules ſcattered, ſeſſile; *Perianth*, a very ſhort ſcale. *Cor.* none. *Stam.* filaments ſingle, very ſhort; anther oblong, from ſpreading recurve, four-furrowed, large. * Female flowers in a different plant. *Calyx* as in the male. *Cor.* none. *Piſt.* germ globoſe; ſtyle none; ſtigma flat, three-lobed, growing to the germ. *Per.* drupe? *Seed*, ſingle.

Eſſ. Gen. Char. ament filiform. *Cor.* none. Male anther wormſhaped. Female, ſtyle none; ſtigma three-lobed: drupe?

Species, 1. *aſcarina polyſtachya*. Forſt. Flor. Auſtral. n. 364. A native of the Society iſles in the South ſeas.

ASCARIS, in *Natural Hiſtory*, is the generic name of thoſe creatures belonging to the tribe of Vermes *inteſtina*, which have a round and elaſtic body, tapering towards each extremity; three protuberances at the head; tail obtuſe or ſubulate; and the inteſtines ſpiral, milky white, and pellucid.

The knowledge of the ancients concerning theſe animals was apparently very limited; and they invariably confounded the aſcarides with other inteſtinal worms. To Redi much credit is due for directing his reſearches to this intricate ſubject; and though his diſcoveries are not of material moment, he was certainly the firſt among modern writers who endeavoured to improve upon that knowledge which

the ancients had left us. He deſcribes the aſcarides of the eagle, the raven, the ſwan, and ſeveral other creatures, in his work "De animalculis vivis quæ in corporibus animalium vivorum reperiuntur Obſervationes." Amſt. 1708. Some further obſervations were made by different perſons after the time of Redi, but many years intervened before any conſiderable advances were made in this important branch of ſcientific inquiry.

Although it is evident that ſeveral ſpecies of the aſcarides were moſt clearly aſcertained before the time of Linnæus, that celebrated naturaliſt has thought proper to inſert only two ſpecies of them in his Syſtema Naturæ, which are A. *vermicularis* and A. *lumbricoides*. In the laſt edition of that work, Gmelin has availed himſelf of more recent diſcoveries, and has augmented that number to ſeventy-eight: ſome ſpecies have even been diſcovered by naturaliſts ſince the publication of that work, of which one or two is deſcribed by Dr. Pulteney in the Tranſactions of the Linnæan ſociety of London for the year 1800; and there can be no juſt reaſon to doubt, that many other kinds of them exiſt in different animals, which have hitherto eſcaped inveſtigation.

Profeſſor Pallas publiſhed an elaborate work on the aſcarides and other inteſtinal vermes, intitled, "Theſis de infeſtis viventibus intra viventia." It was printed at Leyden in 1760, and deſervedly acquired a very diſtinguiſhed reputation. In this book the author has judiciouſly collated every uſeful information the labours of his predeceſſors could afford him, as well as his own experience and obſervations, and has given ample deſcriptions and accurate ſpecific diſtinctions, by which the kinds he deſcribes may be aſcertained.

O. F. Müller has aſſiduouſly purſued the ſame inquiry, and greatly extended our knowledge of theſe creatures. The royal ſociety of Copenhagen alſo, aware of the vaſt importance of this ſubject to the welfare of mankind, propoſed a premium for the beſt diſſertation on the origin, generation, and beſt means of deſtroying the various kinds of *tæniæ*, *aſcarides*, *faſciolæ*, and other pernicious *vermes*, about the year 1780. This excited the diligence both of M. Bloch and M. Goëze, and to each of them a prize was aſſigned as a reward for their labours. M. Bloch afterwards publiſhed his diſſertation in the German language, at Berlin, in 1782; and in 1788, a tranſlation of it into French appeared in Straſburgh, under the title of "Traité de la generation des vers des inteſtines et des vermifuges." That of M. Goëze was publiſhed in German with forty-four illuſtrative plates, and is alſo a work of conſiderable merit and utility.

Among the French naturaliſts of the preſent day M. Lamarck's "Syſtême des animaux ſans vertèbres," and "L'Hiſtoire naturelle des vers," a ſequel to Deterville's edition of Buffon, are much eſteemed. "In ſpite of the obſervations of all the writers who have treated on the aſcarides," ſays a modern French author, "it is to Lamarck and Cuivier we are indebted for circumſcribing the number of ſpecies within the proper limits." M. Chabert, a man of acknowledged ſkill in the veterinary art, has alſo written on the inteſtinal vermes; as a naturaliſt, it ſeems he has incurred ſome blame; his ſpecies may however be aſcertained, and what is of equal if not greater moment than the mere accuracy of arrangement and ſcientific definitions, he has endeavoured to point out the beſt means of extirpating them.

From the obſervations of different writers it appears, that the aſcarides are of the two ſexes; and that the female is oviparous and very prolific. All the ſpecies that are truly aſcarides, live in the ſtomach of man or of animals; and their origin, which it is of the utmoſt conſequence to aſcertain, is ſtill a matter of profound obſcurity. The three tubercles at the head have been miſtaken by ſome for the accompaniments of the vent, becauſe there is obviouſly an aperture or pore in the middle, but this is unqueſtionably the mouth, and Brugière notices two little tranſverſe openings below, which he names *ſtigmates*; and theſe, it is conjectured, are the organs of reſpiration.

It will be proper to obſerve, that beſides the prodigious number of aſcarides already aſcertained, there is a numerous hoſt of ſimilar internal enemies peculiar to different animals which do not poſſeſs the generical character of the aſcaris, and are therefore arranged in the new genera *trichocephalus*, *filaria*, *uncinnaria*, *ſcolex*, *ligula*, *ſtrongylus*, *echynorhynchus*, *hæruca*, *cucullanus*, *caryophyllæus*, *linguatula*, *faſciola*, *tænia*, &c. The ſpecies of aſcaris deſcribed by Gmelin are arranged in the following order:

Infeſting Man, and the Mammalia.

Vermicularis, lumbricoides;—veſpertilionis, in the long-eared bat:—Phocæ, bifida, canis, viſceralis, lupi, vulpis, leonis, tigridis, felis, cati, martis, bronchialis, renalis, mephitidis, gulonis, talpæ, muris, hirci, vituli, equi, ſuis, apri.

Infeſting Birds.

Aquilæ, albicillæ, buteonis, milvi, ſubbuteonis, hermaphrodita, cornicis, coraciæ, cygni, anatis, fuligulæ, lari, ciconiæ, tardæ, papilloſa, gallopavonis, galli, gallinæ, phaſiani, tetraonis, columbæ, alaudæ, ſturni, turdi.

Infeſting Reptiles.

Teſtudinis, lacertæ, bufonis, pulmonalis, rubetræ, trachealis, ranæ, inteſtinalis, dyſpnoos, inſons.

Infeſting Fiſhes.

Anguillæ, marina, blennii, rhombi, percæ, globicola, lacuſtris, ſiluri, farionis, truttæ, maraenæ, acus, halecis, argentinæ, gobionis, rajæ, ſquali, lophii.

Infeſting Worms.

Lumbrici.

In the ſequel of this article we ſhall confine ourſelves to the two ſpecies of aſcarides that belong to the human body; viz. the A. *lumbricoides* and *vermicularis*, referring for their ſcientific characters to their ſpecific names.

The aſcarides of the firſt ſpecies generally infeſt the ſmall inteſtines; ſometimes they aſcend through the duodenum into the ſtomach, and creep out of the mouth and noſtrils; they ſeldom deſcend into the large inteſtines, except on the exhibition of medicines increaſing the action of the inteſtines. Sometimes they are very numerous. Dr. Hooper (to whoſe excellent Paper in the Memoirs of the Medical Society of London we are indebted for much of this detail) relates a caſe of a girl eight years old who voided per anum upwards of 200 in the courſe of a week. Sometimes, however, they appear even ſolitary. When recently excluded, they are tranſparent, and appear as if they had been ſucking water tinged with blood; this colour, however, ſoon diſappears, and they become at length of a light opaque yellow. After being evacuated, their motion is feeble, and they ſoon die; ſometimes when they have been haſtily evacuated, they will be very lively, and by means of putting them into warm milk and water, they will continue ſo for ſome time. Their motion is ſerpentine, and in no reſpect reſembles the motion of the lumbricus terreſtris, or earth-worm, which has the power of diminiſh-

ing its length and extending it to a circle, while the length of the afcaris lumbricoides is never altered; the head is alſo often found by the worm curling itſelf to circles, and ſuddenly extending it with conſiderable force to ſome diſtance.

It is ſaid that the afcaris lumbricoides is not hermaphrodite. The worm here deſcribed is conſidered as the female. Dr. Hooper ſays he has examined a very conſiderable number, and has never met with any other appearances than theſe.

Anatomical Deſcription. Cuticle.—The covering or external membrane of the worm, which may be conſidered as the cuticle, is very ſtrong, ſolid, thin, ſmooth, and tranſparent, and eaſily ſeparated from the parts underneath by maceration in water; under this we find the cutis or true ſkin, which is conſiderably thicker than the former, and retains marks of the muſcles which it covers; it is alſo very ſtrong, ſolid, and tranſparent. When the cutis is removed, the muſcles, obſervable through the ſkin, preſent themſelves; they do not entirely ſurround the worm as they at firſt appear, but are two diſtinct orders acting in oppoſition to each other, for the two longitudinal lines which extend from one extremity of the worm to the other, are each of them compoſed of two diſtinct tendons, ſeparable from one another; theſe tendons ſerve for the attachment of the ſemilunar muſcles which cover the worm from the head to the tail. Upon carefully removing the ſemilunar muſcles from the head to the depreſſed band, a number of minute veſicles are to be ſeen (by means of a glaſs) filled with a ſubmucous fluid which iſſues out upon puncturing them. This cellular or parenchymatous apparatus cloſely embraces the inteſtinal canal from the head to the depreſſed band; but from thence to the tail there is merely a fibrous kind of cellular membrane. When the muſcles are removed from the depreſſed band to the tail, an extremely delicate membrane appears, which as a peritoneum embraces the abdominal viſcera, and lines the cavity of the abdomen, which cavity extends from the depreſſed band to the tail; it is diſtended with a tranſparent fluid, and contains the inteſtinal tube, and an apparatus ſuppoſed to be ſubſervient to generation. The inteſtinal tube or canal begins from the mouth, and continues nearly half an inch in a parallel form, which Dr. Baillie calls œſophagus; it then becomes larger and tranſparent, increaſing in ſize till it arrives to the beginning of the abdomen, cloſely embraced by the parenchymatous ſubſtance; it now obtains the dimenſions of a crow quill, and paſſes ſtraight, ſtill enlarging, through the whole length of the worm to within an eighth part of an inch, where it ſuddenly becomes narrow, and terminates in an anus. This canal is generally filled with a greeniſh coloured fluid of the conſiſtence of mucus. If a portion of this tube be macerated a few days in water, it exhibits diſtinct tunics, the external of which is a portion of the peritoneum; it is externally covered with filaments, which may be veſſels of nutrition. The ſecond viſcus is conſidered by ſome as peculiar to the female, and all agree it is for the purpoſe of generation; it begins about the middle of the worm, where the cavity of the abdomen commences by a ſlender tube which is continued from the punctiform aperture ſituated in the depreſſed band between the two longitudinal lines. This tube, which is termed the vagina, ſoon becomes larger, when it commences uterus, and divaricates into two large crura, which for the ſpace of four or five inches are of an uniform diameter, then ſuddenly diminiſh and appear like opaque threads, embracing in every direction the inteſtinal tube. Werner conſiders theſe as Fallopian tubes. This convoluted apparatus is compoſed of very fine tranſparent membranes; it is never found empty, but always diſtended with an opaque fluid, in which are a number of ova containing young worms. Some have conſidered theſe threads (which always protrude if the ſkin of the worm be divided) as young worms, and have contended that the afcaris was viviparous; but it is not; and ova, ſimilar to thoſe found in the Fallopian tubes, will be found in the mucus ſurrounding the worm in the inteſtines.

As the afcaris lumbricoides has long been confounded with the lumbricus terreſtris, or earth-worm, it may be proper to mention that the lumbricus terreſtris has but one veſicle at its head, in the middle of which is its mouth; it is flat towards the tail, and is furniſhed with ſharp briſtles on its under ſurface that ſerve it for feet, which the animal can erect or depreſs at pleaſure; its annulæ are very large and ſtrongly marked, and its colour is of a duſky red. Upon the under ſurface there is a large ſemilunar fold in the ſkin, into which the animal can draw its head or thruſt it out at will; in all theſe it is ſtrongly diſtinguiſhed from the afcaris lumbricoides. This lumbricus has alſo an elevated belt in its middle, the afcaris a depreſſed band; on each ſide of the afcaris there is a longitudinal line; on the lumbricus, there are three lines upon its upper ſurface.

The afcaris vermicularis, called the maw or thread worm, when full grown, is about half an inch in length, and in thickneſs reſembling a piece of fine thread; the head, or obtuſe extremity, is divided into three veſicles or papillæ, in whoſe middle is an aperture, which is the mouth. The body is about a third of the length of the animal, beginning from the head, and terminating in the tail, and is of a rugoſe, pellucid, annular fabric; the tail commences at the ſmall aperture or anus, and becomes leſs and leſs, terminating in a fine point.

Theſe worms are moſtly confined to the rectum and colon, and that principally of children; but they are often found in the cœcum and ſmall inteſtines, and even the ſtomach, and frequently get into the vagina, and even uterus, bladder, &c. Their number ſometimes exceeds all bounds; in which caſe the excrements, when firſt evacuated, appear quite alive from being covered with them; generally a ſmall number are evacuated from the rectum every day, producing a moſt unpleaſant ſenſation of itching by their piercing the ſkin in a degree with their awl-ſhaped tails. Their conſtant action is one of their moſt ſtriking characters, appearing to be never at reſt. On expoſure to the air, they have the power of piercing the fæces, and burying themſelves in it almoſt inſtantly. From the extreme action of this ſpecies, the genus has obtained the name *aſcaris*, for ασκαριζω ſignifies the ſame as σκαριζω, *ſaltare, inquietè movere.*

They are not hermaphrodite: the male does not exhibit any of the gyrated apparatus; the ſtomach and inteſtinal canal have in appearance a different arrangement from thoſe in the female: but the male organs of generation have not been detected, probably they are too minute. The female has upon its external ſurface, about the eighth of an inch from the head, a ſmall punctiform aperture through which the young are protruded, and when highly magnified, its internal cavity appears filled with the convoluted apparatus; and Dr. Hooper ſays he has ſeen upwards of one hundred young ones eſcape through this aperture all alive, and very vivacious ſeveral hours after the death of the mother; upon a little preſſure being made upon it.

Anatomical Obſervations. The integuments of this ſpecies are ſimilar to thoſe of the lumbricoid aſcaris, and conſiſt

ſkin of cuticle, cutis, and one ſet of annular muſcles; there do not appear to be any longitudinal lines on its external ſurface. The cavity, containing the viſcera, begins at a very ſmall diſtance from the head, and terminates where the tail commences, at which place is a very ſmall opening, or the anus. The only viſcera in the male worm are œſophagus, ſtomach, and inteſtines: the œſophagus begins at the mouth, gradually enlarges for a ſmall ſpace, and terminates in the ſtomach; the ſtomach is a round bag, ſo that œſophagus and ſtomach together reſemble a glaſs peſtle which, according to Goeze, conſtitutes a diſtinguiſhing ſpecific character. The ſtomach evacuates its contents into the inteſtinal canal, which continues through the worm more or leſs contracted and dilated to the anus: the contents of the ſtomach and inteſtines is always of a brown colour. The female has, beſides theſe viſcera, an apparatus ſubſervient to generation, which begins by a ſlender tube leading from the ſmall punctiform opening ſituated nearly in the body of the worm; it ſoon becomes much larger, embraces the inteſtinal tube in every direction, and fills up the cavity of the worm. This gyrated apparatus is not bifurcated as in the aſcaris lumbricoides, nor has it the ſame filiform appendages; its end or fundus is as large as any other part; it appears under a high magnifier like a bladder diſtended with worms, for its young are ſeen diſtinctly moving about from one end to the other.

Symptoms of Worms. When theſe worms exiſt in any number, they produce more or leſs emaciation, paleneſs of the countenance, with ſometimes flushing of the face, a blueiſh circle about the eyes, itching of the noſe, [illegible] ſtetude with ſtarting and talking during ſleep, thirſt in the morning, nauſea and diſguſt for food, though more frequently great appetite, fœtid breath, pinching, griping, and tenderneſs in the belly, eſpecially about the navel; belly frequently much enlarged, flatulency, coſtiveneſs ſometimes, at other times purging, weakneſs, languor, epileptic fits, and more or leſs ſymptomatic fever, pulſe weak and ſometimes intermitting. Theſe ſymptoms ariſe more from the lumbricoides than the vermicularis; but where the latter are numerous, they will occaſion nearly as violent ſymptoms; otherwiſe they are more known by their effects in and about the rectum and its neighbourhood, producing itching there more or leſs intolerable, with teneſmus, and even fluor albus. There are a number of other ſymptoms brought on by the exiſtence of worms; theſe, however, are the principal and moſt deciſive; but the beſt and moſt ſatisfactory evidence is their being ſeen in the evacuations.

Cure. The indications for the cure of aſcarides are of two kinds; firſt, the expulſion of them, their young, their ova, and the mucus containing them, from the bowels: and ſecond, the correction of that weak ſtate of the bowels, or other morbid diſpoſitions of them, whatever they may be, which favour the production of them, and that mucus which becomes a nidus for their propagation. For although the only place in nature where theſe two ſpecies of inſects are known to be generated, is the human inteſtines, during life, and therefore it might be reaſonable to ſuppoſe, they might exiſt in them (not in great numbers) in a ſtate of health, yet they are generally found in them when at leaſt in a ſtate of leſs vigour, as in infancy and age, or when weakened by any foreign means, among the cauſes of which (it may be proper to mention here) the draſtic purgatives, employed to get rid of them. Theſe frequently weaken ſo much that the patient rather ſubmits to the inconvenience of them, eſpecially the aſcaris vermicularis, than to the pernicious effects of vermifuges upon the digeſtive organs.

There is hardly a purgative, eſpecially among the draſtic ones, which has not been employed for this purpoſe. Theſe ſhould be uſed with every precaution; and occaſionally ever neceſſary for the expulſion of the aſcarides. The [illegible] is not very tenacious of life, and is eaſily deſtroyed and evacuated by means of calomel, with ſcammony or jalap, and other milder purgatives, in moderate doſes, adapted to the ſtrength of the patient. The purgative ſhould be ſeveral times repeated, at ſhort intervals, in order to remove ſuch worms and ova as have been ſecreted by the folds of the inteſtines, or in the mucus, from the action of the preceding doſe. The ſame means are employed to remove the aſcaris vermicularis, but not with the ſame ſucceſs. This is much more tenacious of life, and as it is generally ſeated ſo far from the ſtomach, medicines adminiſtered by the mouth have little other effect upon it than as they evacuate the contents of the rectum in common with the other viſcera; but adminiſtered by glyſter, the relief they afford is very conſiderable, though not in all caſes certain. A ſmall quantity of aloes, diſſolved in ſome mucilaginous fluid, and employed as a glyſter, is very powerful in this way, aſſiſted at the ſame time by medicine, to evacuate them from above. There are caſes where no effectual remedy has been found to remove theſe troubleſome vermin. We ſhall below tranſcribe the accurate hiſtory of a caſe of theſe worms, given by the late Dr. Heberden in the firſt volume of the Medical Tranſactions, which will greatly illuſtrate this part of our ſubject.

The ſecond indication of cure, the removal of that weak and morbid ſtate of the inteſtines which proves favourable to the generation of the aſcaris, is by no means the leaſt; and it is on this principle perhaps only that bitters have been ranked with worm medicines: it is hardly probable that inſects always bred in bitterneſs, and which have been found in the ductus communis choledochus, and even gall bladder, ſhould be poiſoned by bitters. Bitters, and tonics, as preparations of ſteel and other mineral and vegetable tonics, will be found nearly as uſeful as the medicines which ſimply expel them. The conſideration of other remedies employed in the removal of worms, we muſt refer to the article TAENIA.

Dr. Heberden tells us, that being acquainted with an experienced and intelligent phyſician, who had from his infancy been troubled with aſcarides, he deſired to be informed by him what were the inconveniences which they had occaſioned, and what was the ſucceſs of the remedies which he had uſed: to which he replied, that according to his experience the peculiar ſymptoms of this ſpecies of worms are, a great uneaſineſs in the rectum, and an almoſt intolerable itching of the anus. Theſe ſenſations uſually come on in an evening, and prevent ſleep for ſeveral hours; they are attended with a heat, which is ſometimes ſo conſiderable as to produce a ſwelling in the rectum, both internally and externally; and if theſe ſymptoms be not ſoon relieved, a teneſmus is brought on with a mucus dejection. Sometimes there is a griping pain in the lower part of the abdomen, a little above the os pubis. If this pain be very ſevere, there follows a bloody mucus, in which there are often found aſcarides alive. They were ſometimes ſuſpected of occaſioning diſturbed ſleep, and ſome degree of head-ache. Purging and irritating clyſters were tried with very little ſucceſs. One dram and a half of tobacco was infuſed in ſix ounces of boiling water, and the ſtrained liquor being given as a clyſter occaſioned a violent pain in the lower part of the abdomen, with faintneſs and a cold ſweat. This injection, though retained only one minute, acted as a ſmart purge, but did little or no good. Lime water was alſo uſed

as a clyſter, which brought on a coſtiveneſs, but had no good effect. Six grains of ſalt of ſteel were diſſolved in ſix ounces of water, and injected. This clyſter in a few minutes occaſioned an aching in the rectum, and griped a little without purging, and excited a tenſmus. Some few aſcarides were brought off with it, but all of them were alive. The uneaſy ſenſation occaſioned by this clyſter did not abate till ſome warm milk was thrown up. Wherever the tenſmus or mucus ſtools were thought worth taking notice of, warm milk and oil generally gave immediate relief. If purging was neceſſary, the lenient purges, ſuch as manna with oil, were in this caſe made uſe of; rhubarb was found too ſtimulating. But, in general, the moſt uſeful purge, and which therefore was moſt uſually taken, was cinnabar and rhubarb, of each half a drachm: this powder ſeldom failed to bring away a mucus as tranſparent as the white of an egg, and in this many aſcarides were moving about. The cinnabar frequently adhered to this mucus, which did not come off in ſuch large quantities, when a purge was taken without the cinnabar. Calomel did no more than any other purge, which operates briſkly, would have done; that is, it brought away aſcarides, with a great deal of mucus. Oil, given as a clyſter, has ſometimes brought off theſe animalcules: the oil ſwam on the ſurface of the mucus, and the aſcarides were alive moving in the mucus, which probably hindered the oil from coming in contact with them and killing them. The ſame mucus may reaſonably be ſuppoſed to preſerve theſe worms unhurt, though ſurrounded with many other liquors, the immediate touch of which would be fatal. If the aſcarides be taken out of their mucus, and expoſed to the open air, they become motionleſs, and ſeem to die in a very few minutes.

The general health of this patient did not ſeem to have at all ſuffered by the long continuance of his diſorder, nor the immediate inconveniences of the diſorder itſelf to have increaſed. It is perhaps univerſally true that this kind of worm, though as difficult to be cured as any, is yet the leaſt dangerous of all. They have been known to accompany a perſon through the whole of a long life, without any reaſon to ſuſpect that they have haſtened its end. As in this example there was no remarkable ſickneſs, indigeſtion, pain of the ſtomach, giddineſs, nor itching of the noſe, poſſibly theſe ſymptoms, where they have happened to be joined with the aſcarides, did not properly belong to them, but aroſe from other cauſes. There is indeed no one ſign of worms, but what in ſome patients will be wanting. From this caſe it further appears, that mucus or ſlime is the proper neſt of the aſcarides, in which they live, and perhaps the food by which they are nouriſhed. It is hard to ſatisfy ourſelves by what inſtinct they find it out in the human body, and by what means they get at it; but it is obſervable in many other parts of nature as well as here, that where there is a fit ſoil for the hatching and growth of animals and vegetables, nature has taken ſufficient care that their ſeed ſhould find the way thither. Worms are ſaid to have been found in the inteſtines of infants who have been born dead. Purges, by leſſening this ſlime, never fail to relieve the patients; and it is not unlikely that the worms which are not forced away by this quickened motion of the inteſtines may, for want of a proper quantity of it, languiſh and at laſt die. Experience furniſhes no objections againſt ſuppoſing that the kind of purge is of little moment in the cure of all other kind of worms as well as of the aſcarides, the worms being always defended from the immediate action of medicines; and that therefore thoſe purges are the beſt which act briſkly, and of which a frequent repetition can be moſt eaſily borne. Purging waters are of this kind, and jalap, eſpecially for children; two or more grains of which mixed with ſugar are eaſily taken, and may be daily repeated.

ASCAROIDES, a ſpecies of Cucullanus found in the ſtomach of the *Silurus glanis*; it reſembles the larva of the *muſca*, is about an inch in length, of a whitiſh grey colour, and is gregarious, Goëze and Gmel. thus define its ſpecific character: head orbicular, and hooked on each ſide; tail rounded, ſhort, and pointed with two exſerted ſpicules.

ASCAUCALIS, in *Ancient Geography*, a town of Germany. Ptolemy.

ASCELUM, a town of Venetia, north-weſt of Taviſium.

ASCENDANT, in *Aſtrology*, denotes the *horoſcope*: or the ecliptic which riſes upon the horizon, at the time of the birth of any one. This is ſuppoſed to have an influence on the perſon's life and fortune, by giving him a bent and propenſity to one thing more than another. In the celeſtial theme this is called the *firſt houſe*, the *angle of the eaſt*, or *oriental angle*, and the *ſignificator of life*.—Such a planet ruled in his *aſcendant*.—Jupiter was in his *aſcendant*, &c. Hence the word is alſo uſed in a moral ſenſe, for a certain ſuperiority which one man has over another, from ſome unknown cauſe.

Ascendant, in *Genealogy*, is underſtood of anceſtors, or ſuch relations as have gone before us; ſuch are father, grandfather, &c.—They are thus called in contradiſtinction to deſcendants, or the deſcending line. It is a canon in law, that inheritances never lineally aſcend. See Inheritance. Marriage is always forbid between the aſcendants and deſcendants, in a direct line. See Marriage.

ASCENDENS *obliquus*. See Obliquus.

ASCENDING, in *Aſtronomy*, is underſtood of thoſe ſtars or degrees of the heavens, &c. which are riſing above the horizon, in any parallel of the equator.

Ascending *latitude*, is the latitude of a planet when going towards the north pole. See Latitude.

Ascending *node*, is that point of a planet's orbit, wherein it paſſes the ecliptic, to proceed northward.

Ascending *ſigns*, among *Aſtrologers*, are thoſe which are upon their aſcent, or riſe from the nadir, or loweſt part of the heavens, to the zenith or higheſt.

Ascending, in *Anatomy*, is applied to ſuch veſſels as carry the blood upwards; thus part of the aorta, and the inferior cava, have been termed the aſcending aorta, and aſcending vena cava.

Ascending, in *Botany*, denotes growing firſt horizontally, and then bowed upwards; and the term in this ſenſe is applicable to leaves, to ſtalks, to ſtems, as in ſpiked ſpeedwell; or to ſtamens, as in all the ſpeedwells.

Ascending *Harmony*, in *Muſic*, is modulating by 5ths; deſcending harmony is acquired by the baſe moving by 4ths.

ASCENSION, Ascensio, a riſing or moving upward.

Ascension, in *Theology*, is particularly uſed for that miraculous elevation of our Saviour, when he mounted to heaven in the ſight of his apoſtles. Acts i. 14, &c.

Ascension-*Day*, popularly called Holy Thurſday, a feſtival of the church, held ten days before Whitſuntide, in memory of our Saviour's aſcenſion. The appointment of this day for the feſtival of the aſcenſion is traced to the Apoſtolical

Apoſtolical Conſtitutions, l. v. c. 19. Its origin is not known; and hence ſome have been led to imagine, that it was received by tradition from the apoſtles.

Ascension, in *Aſtronomy*, is either right or oblique.

Ascension, *right*, of the ſun, or of a ſtar, is that degree of the equinoctial, accounted from the beginning of Aries, which riſes with the ſun, or ſtar, in a right ſphere. Or, right aſcenſion is that degree and minute of the equinoctial, counted as before, which comes to the meridian with the ſun, or ſtar, or other point of the heavens. The reaſon of thus referring it to the meridian, is, becauſe it is always at right angles to the equinoctial, whereas the horizon is only ſo in a right or direct ſphere. The right aſcenſion ſtands oppoſed to the right deſcenſion, and correſponds to the longitude of places on the earth. Two fixed ſtars, which have the ſame right aſcenſion, i. e. which are at the ſame diſtance from the firſt point of Aries, or, which amounts to the ſame, are in the ſame meridian, riſe at the ſame time in a right ſphere, or with reſpect to people who live under the equator. If they be not in the ſame meridian, the difference between the times of their riſing or coming to the meridian is the preciſe difference of their right aſcenſion. In an oblique ſphere, where the horizon cuts all the meridians obliquely, different points of the meridian never riſe or ſet together; ſo that two ſtars, on the ſame meridian, never riſe or ſet at the ſame time; and the more oblique the ſphere, the greater is the interval of time between them. To find the right aſcenſion of the ſun, ſtars, &c. trigonometrically, ſay, for the ſun, As radius is to the coſine of the ſun's greateſt declination, or obliquity of the ecliptic, ſo is the tangent of the ſun's longitude to the tangent of the right aſcenſion.

Let PESQ (*Aſtronomy*, *Plate* II. *fig.* 15.) repreſent the ſolſtitial colure, the centre of which is ♈, and let the diameter EQ be the equator and the diameter PS be the equinoctial colure. Suppoſe the obliquity to be E♋ = 23° 28′, and the diameter ♋♑ to be the ecliptic, in which take ♈⊙ for the ſun's longitude or diſtance from the point ♈ = 43° 16′; and through P⊙S deſcribe a circle of right aſcenſion. Then in the right-angled ſpherical triangle ♈⊙B, we have

Radius - - -	10.00000
to t. ſun's long. = 43° 16′	9.97371
As coſ. obl. ecl. = 23° 28′	9.96251
to t. right aſcenſion = 40° 48′	9.93622.

While the ſun is moving from ♈ to ♋, or in the firſt quadrant of the ecliptic, the given longitude is the hypothenuſe in the triangle ♈⊙B, the declination B⊙ is north, and ♈B is the right aſcenſion. When the ſun has paſt the ſolſtice ♋, and is deſcending towards ♎, or in the ſecond quadrant, his longitude or diſtance from ♈ being taken from 180°, the remainder ♎⊙ becomes the hypothenuſe, and the declination is ſtill north; but the arc B♎ found for the right aſcenſion is only the ſupplement, and muſt therefore be taken from 180°. The ſun having paſt the point ♎, and deſcending towards ♑, is in the third quadrant, and his longitude, reckoned from ♈, will be greater than 180°; in which caſe the exceſs above 180°, or his diſtance from ♎, will be the hypothenuſe ♎⊙; the declination will be ſouth, and the arc ♎A, found for the right aſcenſion, muſt be added to 180° in order to obtain the right aſcenſion eſtimated from ♈. When the ſun has paſt the ſolſtice ♑, and is aſcending towards ♈, he is then in the fourth quadrant; therefore the longitude will be greater than 270°, and muſt be taken from 360°, for the hypothenuſe ♈⊙. In this caſe the declination is ſouth, and the right aſcenſion, found by the above proportion, muſt be taken from 360°, in order to have the right aſcenſion from ♈.

If the obliquity of the ecliptic, and the ſun's declination were given, the proportion for the right aſcenſion would be; radius to the cotangent of the obliquity of the ecliptic, as the tangent of the ſun's declination to the ſine of the right aſcenſion.

The ſun's right aſcenſion in time is uſeful to the practical aſtronomer in regular obſervatories, who adjuſts his clock by ſidereal time. It ſerves alſo for converting apparent into ſidereal time; as e. g. that of an eclipſe of Jupiter's ſatellites, in order to know at what time it may be expected to happen by his clocks. For this purpoſe, the ſun's right aſcenſion at the preceding noon, together with the increaſe of right aſcenſion from noon, muſt be added to the apparent time of the phenomenon ſet down in the ephemeris. The ſun's right aſcenſion in time ſerves alſo for computing the apparent time of a known ſtar's paſſing the meridian: thus, ſubtract the ſun's right aſcenſion in time at noon from the ſtar's right aſcenſion in time, the remainder is the apparent time of the ſtar's paſſing the meridian nearly: from which the proportional part of the daily increaſe of the ſun's right aſcenſion from this apparent time from noon being ſubtracted, leaves the correct time of the ſtar's paſſing the meridian. The ſun's right aſcenſion in time is alſo uſeful for computing the time of the moon and planets paſſing the meridian.

For finding the right aſcenſion of a ſtar, ſuppoſing its latitude and longitude, and alſo the obliquity of the ecliptic, to be given the method is as follows. Let PESQ, (*fig.* 16.) or the primitive circle, be the ſolſtitial colure; EQ the equator, PS its poles, and *c b* a parallel of latitude interſecting a circle of longitude *p* A *q* in the place of a ſtar. Suppoſe the latitude of the ſtar to be 7° 9′ N. and its longitude ♈ 29° 1′, and the obliquity of the ecliptic 23° 28′. In the triangle PA*p*, we have P*p* the diſtance of the poles of the equator and ecliptic, or the obliquity of the ecliptic = 23° 28′, *p*A, or the complement of the latitude = 82° 51′, and the contained angle P*p*A = 60° 59′, or the longitude from the firſt point of ♋, and we are to find the angle *p*PA or the right aſcenſion. The proportion is as follows: rad.: coſine P*p*A :: tang. *p*A: tang. M. Take the difference between the ſide adjacent to the required angle and M, and call it N: then ſay, ſine N: ſine M. :: tang. P*p*A : tang. *p*PA. Or, firſt find the declination (ſee Declination), which is 17° 49′ N. Then ſay, S. co-declin. : S. long. :: S. co-lat.: S. co-right-aſcenſion; i. e. S. 72° 11′ : S. 60° 59′ :: S. 82° 51′ : S. co-right-aſcenſion:—or, 9.9786554 : 9.9417492 :: 9.9966096: 9.9597034 the ſine of 65° 41′; and therefore the right aſcenſion will be 24° 19′.

The right aſcenſion and declination of a fixed ſtar or planet, whoſe longitude and latitude, as well as (O) the obliquity of the ecliptic, are given, may be found by the following problem, communicated by Dr. Maſkelyne to Dr. A. Mackay.

Tan. lat. — ſine long. = tang. A, north or ſouth, as latitude is. Call. O north in ſix firſt ſigns, and ſouth in ſix laſt ſigns.

A + O = B.

A leſs than 45°, co. ar. coſ. A + coſ. B + tang. long.
A more than 45°, tang. A + co. ar. ſine A + coſ. B + tang. long. } =

tang. right aſcenſion of the ſame kind as longitude; unleſs B be more than 90°, when the quantity found of the ſame kind as longitude muſt be ſubſtracted from 12 ſigns.

AR

A S C

AR (right aſcenſion) nearer III and IX ſigns than } = tang. declination of the ſame title as B, true to the neareſt ſecond by Taylor's logarithms, to neareſt 10″ by Gardiner's logarithms, or to neareſt minute by Sherwin's or Hutton's logarithms, without proportioning.

Example.

Let the moon's long. be 7 14 26′ 21″, and lat. 4° 0′ 34″ N. and the obliquity of the ecliptic 23° 27′ 45″. Required the right aſcenſion and declination?

Lat. 4° 0′ 34″ tang. 8.8456713.

Long. 224 26 21 ſine 9.8451920 — tang. — 9.9914974

A = 5 43 0. 7 tang. 9.8004793 ar. co. coſ. 0.0021654

O = 23 27 48. S

B = 17 44 47. 3 S.—coſ. —9.9788260 tang. 9.5051970

R.A. 223 21 11. 2 —tang. —9.9724888 ſine 9.3852940

Decl. 12 21 14. 6 S. tangent - - 9.3438910

N.B. The right aſcenſion and declination may be found by the following formulæ:

Co-v. ſ. Decl. = v. ſ. long. a ♋ × ſ. co. lat. × ſ. ob. ecl. + v. ſ. co. lat. ♎ ſ. ob. ecl.

Coſ. Right aſcenſion from ♈ or ♎ =

ſecant decl. × coſ. lat. × coſ. long. from ♈ or ♎.

Mackay's Theory and Practice of finding the Longitude &c. vol. i. p. 42.

For other methods of determining the right aſcenſion of a fixed ſtar by Mr. Flamſtead, and Dr. Maſkelyne, illuſtrated by examples, ſee Vince's Aſtronomy, vol. i p. 31, &c.

The practical method of finding the right aſcenſion of a body from that of a fixed ſtar, by a clock adjuſted to ſideral time, is this:—Let the clock begin its motion from 0ʰ 0′ 0″ at the inſtant the firſt point of aries is on the meridian; then, when any ſtar comes to the meridian, the clock would ſhew the apparent right aſcenſion of the ſtar, the right aſcenſion being eſtimated in time at the rate of 15° an hour, provided the clock was ſubject to no error, becauſe it would then ſhew at any time how far the firſt point of aries was from the meridian. But as the clock is liable to err, we muſt be able at any time to aſcertain its error, or the difference between the right aſcenſion ſhewn by the clock and the right aſcenſion of that point of the equator which is at that time on the meridian. To do this, we muſt, when a ſtar, whoſe apparent right aſcenſion is known, paſſes the meridian, compare its apparent right aſcenſion with the right aſcenſion ſhewn by the clock, and the difference will ſhew the error of the clock. E. g. let the apparent right aſcenſion of Aldebaran be 4ʰ 23′ 50″ at the time when its tranſit over the meridian is obſerved by the clock; and ſuppoſe the time ſhewn by the clock to be 4ʰ 23′ 52″, then there is an error of 2″ in the clock, as it gives the right aſcenſion of the ſtar 2″ more than it ought. If the clock be compared with ſeveral ſtars, and the mean error taken, we ſhall have more accurately the error at the mean time of all the obſervations. Theſe obſervations, being repeated every day, will give the rate of the clock's going, or ſhew how much it gains or loſes. The error of the clock, and the rate of its going, being thus aſcertained, if the time of the tranſit of any body be obſerved, and the error of the clock at the time be applied, we ſhall have the right aſcenſion of the body. This is the method by which the right aſcenſion of the ſun, moon, and planets are regularly found in obſervatories.

To find the right aſcenſions mechanically by the globe, ſee Globe.

The *arch of right aſcenſion* is that portion of the equator intercepted between the beginning of aries, and the point of the equator which is in the meridian: or, it is the number of degrees contained in it. This coincides with the right aſcenſion itſelf.—The right aſcenſion is the ſame in all parts of the globe.

We ſometimes alſo ſay, the right aſcenſion of a point of the ecliptic, or any other point of the heavens. The right aſcenſion of the mid-heaven is often uſed by aſtronomers, particularly in calculating eclipſes by the nonageſimal degree; and it denotes the right aſcenſion of that point of the equator which is in the meridian, and is equal to the ſum of the ſun's right aſcenſion and the horary angle or true time reduced to degrees, or to the ſum of the mean longitude of the ſun and mean time.

Ascension, *angle of right*. See Angle.

Ascension, *oblique*, is an arch of the equator intercepted between the firſt point of aries, and that point of the equator which riſes together with a ſtar, &c. in an oblique ſphere.

The oblique aſcenſion is numbered from weſt to eaſt; and is greater or leſs, according to the different obliquity of the ſphere.

To find the oblique aſcenſion of the ſun by the globe, ſee Globe. See alſo Ascensional *Difference*.

The *arch of oblique aſcenſion*, is an arch of the horizon intercepted between the beginning of aries, and the point of the equator, which riſes with a ſtar or planet in an oblique ſphere.—This coincides with the oblique aſcenſion itſelf. —The oblique aſcenſions change according to the latitude of the places.

Ascension *and Deſcenſion, Refraction of*. See Refraction.

Ascension, *Iſle of*, in *Geography*, one of the African iſlands ſituate in the Southern Atlantic ocean. S. lat. 7° 56′ 30″. W. long. 14° 22′ 31″. This dreary deſolate iſland was firſt diſcovered in 1501, by J. de Nova Galego, a Portugueſe navigator, who called it "Ilha de Noſſa Senhora de Conceiçaõ;" and it was ſeen a ſecond time by Alfonſo d' Albuquerque, on his voyage to India in 1503, probably on Aſcenſion-day when it received its preſent name. Capt. Cook ſtopped at this iſland in 1775; and he ſays that it is about ten miles in length, from north-weſt to ſouth-eaſt, and about five or ſix in breadth. Its ſurface is compoſed of barren hills and vallies, or a collection of rocks and hollows, without a ſhrub or plant for ſeveral miles, and exhibiting by the ſtones and aſhes which abound in it, ſufficient evidence that at ſome period or other it was a volcanic production. Mr. Forſter, in his account of this iſland, ſays, that they could diſcern from the ſhip, near the centre of it, a broad white mountain of conſiderable elevation, on which there was ſome verdure, and from this circumſtance it obtained the name of the "Green Mountain." When they landed on the beach, through a high ſurf, they found themſelves amidſt rocks, which conſiſted of minute ſhell-ſand, chiefly of a ſnowy white, deep and dry, and by the reflection of the ſun intolerable to the eyes. In their progreſs, they aſcended through heaps of black cavernous ſtone, which perfectly reſembled the common lavas of Veſuvius and Iceland. After a perpendicular aſcent of about twelve or fifteen yards, they arrived at an extenſive level plain, about ſix or eight miles in circuit, at the different corners of which they obſerved large hills, of a conical ſhape, and of a reddiſh colour, which were perfectly inſulated. Between theſe hills the plain was covered with a

great

great number of ſmall hillocks, compoſed of lava ſimilar to that which they found on the ſea-ſhore, and the pieces of which ſounded like glaſs when ſtruck againſt each other. Between the heaps of lava the ſoil was a firm black earth, and where the heaps did not appear, the whole was a red earth, ſo looſe and compoſed of ſuch minute particles, that the wind raiſed from it clouds of duſt. The conic hills conſiſted of a different ſort of lava, which was red and ſoft, and crumbled into earth. One of theſe hills ſtands directly in front of the bay, and has on its ſummit a wooden croſs, whence the bay is ſaid to take its name. The ſides of the hill are very ſteep, but a path about ¾ of a mile long winds to the ſummit. The plain on which they ſtood, they concluded to have been once the crater of a volcano, by the accumulation of whoſe cinders and pumice ſtones the conic hills had been gradually formed; the currents of lava, which were now diſtributed in many heaps, had, as they conjectured, been gradually buried in freſh cinders and aſhes; and the waters, flowing from the interior mountain in the rainy ſeaſon, had carried every thing before them, and thus filled up by degrees the cavity of the crater. The rocky black lava was the reſidence of numberleſs men-of-war birds, and boobies, which ſat on their eggs and allowed of a cloſe approach. Here they found a New York ſloop, which came to the iſland to catch turtles, in order to ſell them at the Windward iſlands. The Eaſt India ſhips, it is ſaid, touch at this iſland for the purpoſe of furniſhing themſelves with turtles, which are plentiful and very large. On a ſecond viſit to the iſland, Mr. Forſter and his companions croſſed the plain, and arrived at a prodigious current of lava, interſected by many channels from ſix to eight yards deep, which appeared to have been formed by torrents of water, but which they found dry, as the ſun was in the northern hemiſphere. In theſe gullies they perceived a ſmall quantity of ſoil which was a black volcanic earth mixed with ſome whitiſh particles, that were gritty to the touch. This ſoil afforded ſufficient nutriment to purſlane, and a ſpecies of graſs, the "panicum ſanguineum." Having with difficulty climbed over this lava current, they came to the foot of the "Green mountain," which was ſurrounded by a lava, that was covered with purſlane, and a kind of new fern, "lonchites adſcenſionis," on which ſeveral wild goats were feeding. This mountain is divided in its extremities by various clefts into ſeveral bodies, which run together towards the centre, and form one broad maſs of great height. The whole appears to conſiſt of a gritty tophaceous limeſtone, which has never been attacked by the volcano, but probably exiſted, as Mr. Forſter ſuggeſts, prior to its eruption: its ſides are covered with a kind of graſs peculiar to the iſland, which Linnæus has named "ariſtida adſcenſionis." The goats which feed on it were very numerous, but being very ſhy, they fled with great velocity over tremendous precipices, where it was impoſſible to purſue them. This iſland, with a little trouble, ſays this writer, might in a ſhort ſpace of time be rendered fit for the reſidence of men. The introduction of furze, "ulex Europæus," and ſome other plants which thrive beſt in a parched ſoil, and which are not likely to be attacked by rats or goats, would ſoon have the ſame effect as at St. Helena. The moiſture attracted from the atmoſphere by the high mountains in the centre of the iſland, would then not be evaporated by the heat of the ſun, but gradually be collected into rivulets, and ſupply the whole iſland. A ſod of graſſes would everywhere cover the ſurface of the ground, and annually increaſe the ſtratum of the mould, till it could be planted with more uſeful vegetables. The outſkirts of the iſland are repreſented to be beyond deſcription dreary.

It is ſaid that, as this iſland is viſited by the homeward-bound ſhips on account of its ſea-fowls, fiſh, turtle, and goats, there is in the crevice of a rock a place called by the ſailors the "Poſt Office," where letters are depoſited, ſtuck up in a well-corked bottle, for the ſhips that next viſit the iſland. Mod. Un. Hiſt. vol. xi. p. 458.

Ascension, or *Aſcenſion, Iſle of*, a ſmall iſland about 120 leagues eaſt from the coaſt of Brazil, N. lat. 20° 30′. W. long. 35° 40′. Some have ſuppoſed this iſland to be the ſame with the iſle of Trinidad or Trinity. M. la Perouſe, who wiſhed to aſcertain the exiſtence of the iſland of Aſcenſion, made ſearch for it, and avers (ſee his voyage vol. i. p. 24.) that no ſuch iſland exiſts from the meridian of Trinidad to about ſeven degrees weſt longitude, between the latitudes of 20° 10′, and 20° 50′. M. le Paute d'Agelet alſo ſuſpects (Mem. Acad. Sc. Paris, for 1788) the French geographers have committed an error with regard to the iſle of Trinity, which they have laid down in their maps of the African ſeas, but which he thinks is really the iſle of Aſcençaon, which, by ſome error of reckoning, occaſioned probably by currents, has been twice laid down. But M. Dapres (Neptune Oriental, p. 10.) has placed the iſland of Aſcenſion 100 leagues weſt of Trinidad, and fifteen miles to the ſouthward. It appears alſo, that though the latitudes of theſe two iſlands were nearly the ſame, their longitudes were very imperfectly aſcertained; and from the minute and very different plans which Dalrymple has given of theſe two iſlands and their appearance, it is preſumed that they are not the ſame. La Perouſe did not purſue his reſearches far enough, as the iſle of Aſcenſion is probably ſomewhat nearer the coaſt of Brazil than Dapres has placed it.

Ascension *Bay*, lies on the eaſt ſide of the peninſula of Yucatan, in the bay of Honduras, having Amber bay on the north, and the northern point of Ambergreaſe key on the ſouth, which forms a paſſage into Hanover bay, ſouth from Aſcenſion bay.—Alſo, a bay in the north part of the gulf of Mexico, ſituate between cape Balize at the mouth of the Miſſiſippi, and the bay of Freſh-water on the weſt, in N. lat. 30°. and W. long. 92°.

ASCENSIONAL *Difference*, in *Aſtronomy*, is the difference between the right and oblique aſcenſion of the ſame point on the ſurface of the ſphere.

To find the aſcenſional difference trigonometrically, having the latitude of the place, and the ſun's declination given, ſay, As radius is to the tangent of the latitude, ſo is the tangent of the ſun's declination to the ſine of the aſcenſional difference.

E. G. Let it be required to find the ſun's aſcenſional difference at London, lat. 51° 32′ N. on the 21ſt of June, being the longeſt day, when the ſun's declination 23° 28′ N.

Let the primitive circle PESQ (*Aſtron. Pl.* II. *fig.* 17.) repreſent the meridian of the place, and the diameter HR the horizon; take RP from R, the north point, for the latitude = 51° 32′; draw the axis, or 6 o'clock hour circle, PS, and perpendicular to it draw the equator EQ; make E*n*, Q*m*, each = 23° 28′, the declination, and deſcribe the parallel of declination *nm*, interſecting the horizon in ⊙, the place of the ſun at his riſing or ſetting, and through this point deſcribe the hour circle P⊙S.

In the ſpherical triangle ♈⊙A, right-angled at A, the angle Q♈R, meaſured by the arc QR, is the co-latitude; A⊙ is the ſun's declination; and the required aſcenſional difference is ♈A, which may be found by the proportion above ſtated; viz.

Rad.

Rad. - - -	=10.000000
To t. lat. P$\gamma\odot$=51° 32′	10.099913
As t. decl. A$\odot$=23° 28′	9.637611
To fine aſc. dif. γA=33° 7′	9.737524

This aſcenſional difference, 33° 7′, converted into time, gives 2^h 12′ 28″ for the time which the ſun riſes before, and ſets after the hour of ſix, on the longeſt day. Hence it appears, that when the latitude and declination have the ſame name, the ſun riſes before, and ſets after ſix; but when they are of contrary names, the ſun riſes after, and ſets before ſix. And as the ſun deſcribes the parallel of declination *rm* in 24 hours, being at *n* when it is noon, and at *m* when it is midnight, the time in paſſing from *m* to $\odot$, or the time of riſing being doubled, gives the length of the night; and the time of ſetting being doubled gives the length of the day. Conſequently, 6^h+2^h 12′ 28″=8^h 12′ 28″, will be the time of ſetting, and 6^h-2^h 12′ 28″=3^h 47′ 32″, will be the time of riſing; and 8^h 12′ 28″×2=16^h 24′ 56′ the length of the day, and 3^h 47′ 32″×2=7^h 35′ 4″ the length of the night.

But when it is the ſhorteſt day at London, that is, when the ſun has 23° 28′ ſouth declination, the lengths of the day and night will change places; the day being 7^h 35′ 4″, and the night 16^h 24′ 56″.

When the latitude and declination have the ſame name, the difference between the right aſcenſion and the aſcenſional difference, is the oblique aſcenſion; and their ſum is the oblique deſcenſion; but when they are of contrary names, the ſum is the oblique aſcenſion, and the difference is the oblique deſcenſion.

The above ſolution is applicable to a ſtar, as well as to the ſun; but on account of the ſmall change in the declination of the ſtars, the ſame ſtar in any latitude may be conſidered as having the ſame aſcenſional difference through the year. Hence it appears, that the diurnal difference of the ſame ſtar's riſing, culminating, and ſetting in the ſame latitude, is nearly equal to the diurnal difference of the ſun's right aſcenſion. As the ſun's mean apparent daily motion is 59′ 8″ nearly, or in time 3′ 56″ 32‴, this will be the daily difference in the riſing, ſouthing, and ſetting of any fixed ſtar in the ſame latitude.

ASCENSIONIS, in *Ichthyology*, a ſpecies of Perca that inhabits the ſea about Aſcenſion iſland; it is reddiſh above, whitiſh beneath, and the tail is bifurcated. Oſb. It. p. 388.

ASCENSORIUM ſometimes occurs, in our ancient writers, for a ſtair or ſtep.

ASCENT, in a general ſenſe, the motion of a body tending upwards; or the continual receſs of a body from the earth. In this ſenſe the word ſtands oppoſed to *deſcent*.

The Peripatetics attribute the ſpontaneous aſcent of bodies, to a principle of levity inherent in them. The moderns deny any ſuch thing as ſpontaneous levity, and ſhew, that whatever aſcends, does it in virtue of ſome external impulſe or extruſion. Thus it is that ſmoke, and other rare bodies, aſcend in the atmoſphere; and oil, light woods, &c. in water: not by any internal principle of levity, but by the ſuperior gravity, or tendency downwards of the parts of the medium in which they are.

The aſcent of light bodies in heavy mediums is produced after the ſame manner as the aſcent of the lighter ſcale of a balance.—It is not that ſuch ſcale has an internal principle by which it immediately tends upwards; but it is impelled upwards by the preponderancy of the other ſcale, the exceſs of the weight of the one having the ſame effect by augmenting its impetus downwards, as ſo much real levity in the other: becauſe the tendencies mutually oppoſe each other, and that action and re-action are always equal. See this farther illuſtrated under the articles Specific *Gravity*, and Fluid.

Ascent *of Bodies on inclined Planes*. See its doctrine and laws, under *Inclined* Plane.

Ascent *of Fluids*, is particularly underſtood of their riſing above their own level, between the ſurfaces of nearly contiguous bodies, or in ſlender capillary glaſs tubes, or in veſſels filled with ſand, aſhes, or the like porous ſubſtances. This effect happens as well *in vacuo*, as in the open air, and in crooked as well as ſtraight tubes. Some liquors, as ſpirit of wine, and oil of turpentine, aſcend with greater celerity than others; and ſome riſe after a different manner from others. Mercury does not aſcend at all, but rather ſubſides. The phenomenon, with its cauſes, &c. in the inſtance of capillary tubes, will be ſpoken of more at large under Capillary *Tube*. Upon the ſame principle, two ſmooth poliſhed plates of glaſs, metal, ſtone, or other matter, being ſo diſpoſed as to be almoſt contiguous, have the effect of ſeveral parallel capillary tubes; and the fluid riſes in them accordingly: the like may be ſaid of a veſſel filled with ſand, &c. the divers little interſtices of which form as it were a kind of capillary tubes. So that the ſame principle accounts for the appearance in them all. And to the ſame may probably be aſcribed the aſcent of the ſap in vegetables. Thus Sir I. Newton.—"If a large pipe of glaſs be filled with ſifted aſhes, well preſſed together, and one end dipped into ſtagnant water, the fluid will aſcend ſlowly in the aſhes, ſo as in the ſpace of a week or fortnight to reach the height of thirty or forty inches above the ſtagnant water. This aſcent is wholly owing to the action of thoſe particles of the aſhes which are upon the ſurface of the elevated water; thoſe within the water attracting as much downwards as upwards: it follows that the action of ſuch particles is very ſtrong; though being leſs denſe and cloſe than thoſe of the glaſs, their action is not equal to that of glaſs, which keeps quickſilver ſuſpended to the height of ſixty or ſeventy inches, and therefore acts with a force which would keep water ſuſpended to the height of about ſixty feet. By the ſame principle, a ſponge ſucks in water; and the glands in the bodies of animals, according to their ſeveral natures and diſpoſitions, imbibe various juices from the blood." Optics, p. 367.

If a drop of oil, water, or other fluid, be laid on a glaſs plane, perpendicular to the horizon, ſo as to ſtand without breaking, or running off; and another plane inclined to the former ſo as to meet a-top, be brought to touch the drop, then will the drop break, and aſcend towards the touching end of the planes; and it will aſcend the faſter in proportion as it is higher, becauſe the diſtance between the planes is conſtantly decreaſing. After the ſame manner, the drop may be brought to any part of the planes, either upward, or downward, or ſideways, by altering the angle of inclination. Laſtly, if the ſame perpendicular planes be ſo placed, as that two of their ſides meet, and form a ſmall angle, the other two only being kept apart by the interpoſition of ſome thin body; and thus immerged in a fluid tinged with ſome colour; the fluid will aſcend between the planes, and this the higheſt where the planes are neareſt; ſo as to form a curve line, which is found to be a juſt hyperbola, one of the aſymptotes whereof is the line of the fluid, the other being a line drawn along the touching ſides. The phyſical cauſe, in all theſe phænomena, is the ſame power of attraction. See Hydrostatics (*Pl.* I. *fig.* 1.), and Cohesion.

Ascent *of vapour.* See Evaporation, Cloud, and Vapour.

Ascent, in *Aſtronomy*, &c. See Ascension.

Ascent, in *Logic*, denotes a kind of argumentation, wherein we riſe from particulars to univerſals. As when we ſay, this man is an animal, and that man is an animal, and the other man, &c. therefore, every man is an animal.

ASCESIS properly denotes exerciſe of the body. It is formed from the verb ασκειν, uſed by the ancients in ſpeaking of the ſports and combats of the athletæ.

Ascesis is alſo uſed by philoſophers, to denote an exerciſe conducive to virtue, or to the acquiring a greater degree of virtue. Buddæus has a diſſertation on this philoſophical aſceſis.

ASCETERIUM, in *Eccleſiaſtical Writers*, is frequently uſed for a monaſtery, or a place ſet apart for the exerciſes of virtue and religion. The word is formed from *aſceſis* "exerciſe;" or *aſcetra*, one who performs exerciſe. Originally it ſignified a place where the athletæ, or gladiators, performed their exerciſes.

ASCETIC, derived from ασκειω, "I exerciſe," an ancient appellation given to ſuch perſons as, in the primitive times, devoted themſelves more immediately to the exerciſes of piety and virtue, in a retired life; and, particularly, to prayer, abſtinence, and mortification. Moſheim (Eccl. Hiſt. vol. i. p. 193.) traces the origin of this ſect in the Chriſtian church to the ſecond century. He ſays, that the aſcetics owed their riſe to certain Chriſtian doctors, who maintained, that Chriſt had eſtabliſhed a double rule of ſanctity and virtue, for two different orders of Chriſtians; the one was ordinary, and deſigned for perſons in the active ſcenes of life; the other, extraordinary and more ſublime, and intended for thoſe who, in a ſacred retreat, aſpired after the glory of a celeſtial ſtate. Accordingly, they diſtributed thoſe moral doctrines which they had received either by tradition or writing into the two claſſes of precepts and counſels; the former being univerſally obligatory upon all orders of men, and the latter, relating to Chriſtians of a more ſublime rank, who propoſed to themſelves great and glorious ends, and breathed after an intimate communion with the Supreme Being. Perſons of this latter deſcription declared their reſolution of obeying all the counſels of Chriſt, in order to their enjoying communion with God here; and alſo that, after the diſſolution of their mortal bodies, they might aſcend to him with the greater facility, and find nothing to retard their approach to the ſupreme centre of perfection and happineſs. They looked upon themſelves as prohibited the uſe of things which other Chriſtians were allowed to enjoy, ſuch as wine, fleſh, matrimony, and commerce. See Athenagoras Apol. pro Chriſt. c. 28. They thought it their indiſpenſable duty to extenuate the body by watchings, abſtinence, labour, and hunger. They ſought felicity in ſolitary retreats, and in deſert places, where, by ſevere and aſſiduous efforts of ſublime meditation, they raiſed the ſoul above all external objects and all ſenſual pleaſures. Both men and women impoſed upon themſelves the moſt auſtere diſcipline, which, though at firſt it was the fruit of pious intention, proved in the iſſue extremely detrimental to Chriſtianity. Theſe perſons were called *aſcetics*, Σπουδαιοι Ευκτικοι, and philoſophers; nor were they diſtinguiſhed from other Chriſtians merely by their appellation, but alſo by their garb. In this century, ſuch as embraced this kind of auſtere life, contented themſelves with ſubmitting to all theſe mortifications in private, without breaking aſunder their ſocial bonds, or withdrawing themſelves from intercourſe with mankind. In the next century, and particularly in the reign of Conſtantine, theſe aſcetics, who, as an elegant hiſtorian deſcribes them, (Gibbon's Hiſt. vol. vi. p. 239.) "obeyed and abuſed the rigid precepts of the goſpel, and were inſpired by the ſavage enthuſiaſm which repreſents man as a criminal, and God as a tyrant; fled from a profane and degenerate world to perpetual ſolitude, or religious ſociety, and aſſumed the name of "Hermits," "Monks," and "Anachorets," expreſſive of their lonely retreat in a natural or artificial deſert. The reaſons which gave riſe to this auſtere ſect are ſufficiently obvious. One of the principal was, the ill-judged ambition of the Chriſtians to reſemble the Greeks and Romans, many of whoſe ſages and philoſophers diſtinguiſhed themſelves from the generality by their maxims, by their habit, and, indeed, by the whole plan of life and manners which they had formed to themſelves, and by which they acquired a degree of eſteem and authority. Of all theſe ancient philoſophers, there were none whoſe ſentiments and diſcipline were ſo well received by the ancient Chriſtians, as thoſe of the Platonics and Pythagoreans, who preſcribed in their leſſons two rules of conduct, one for the ſage who aſpired to the ſublimeſt heights of virtue, and another for the people involved in the cares and agitation of an active life. As the opinions of ſome of theſe philoſophers were adopted by the more learned among the Chriſtians, they were naturally led to embrace alſo the moral diſcipline which reſulted from them. Some of the religious ſeverities to which they recurred were deduced from the genius and temper of the people by whom they were firſt practiſed. This moroſe diſcipline originated in Egypt, which abounded with perſons of a melancholy complexion, and produced, in proportion to its extent, more gloomy ſpirits than any other part of the world. Here the Eſſenes and Therapeutæ, thoſe diſmal and gloomy ſects, principally dwelt, long before the coming of Chriſt, and alſo many of the aſcetic tribe, who, led by a certain melancholy turn of mind, and a deluſive notion of rendering themſelves more acceptable to the Deity by their auſterities, withdrew themſelves from human ſociety, and from all the innocent pleaſures and comforts of life. From Egypt this ſour and unſociable diſcipline paſſed into Syria and the neighbouring countries, which alſo abounded with perſons of the ſame diſmal conſtitution with that of the Egyptians; and from thence, in proceſs of time, its infection reached to the European nations. Hence ſprung that train of auſtere and ſuperſtitious rites, that yet, in many places, caſt a veil over the beauty and ſimplicity of the Chriſtian religion. Hence the celibacy of the prieſtly order, the rigour of unprofitable penances and mortifications, the innumerable ſwarms of monks that withdrew their talents and labours from ſociety, and who did this in the ſenſeleſs purſuit of a viſionary ſort of perfection. Hence alſo proceeded the diſtinction between the theoretical and myſtical life, and many other fancies of a ſimilar kind. The aſcetics acquired the reſpect of the world, which they deſpiſed; and the loudeſt applauſe was beſtowed on this "divine philoſophy," as it was called, which ſurpaſſed, without the aid of ſcience or reaſon, the laborious virtues of the Grecian ſchools. When the monks came in faſhion, the title of aſcetic was beſtowed upon them; eſpecially upon ſuch of them as lived in ſolitude. See Hermit, and Monk.

Ascetic is alſo a title of ſeveral books of ſpiritual exerciſes; as, the *Aſcetics* or devout treatiſes of St. Baſil, archbiſhop of Cæſarea in Cappadocia.

We alſo ſay the aſcetic life, meaning the exerciſe of prayer, meditation, and mortification.

A SCERETIS. See Secretary.

A-SCHACH, in *Ornithology*, the name by which the

Lanius Schach of Linnæus, or Chinese Shrike, is called in China, and under which it is described by Osbeck, Voy. p. 227. See Lanius *Schach*.

ASCHACH, in *Geography*, a town of Germany, in the circle of Franconia, and bishopric of Wurzburg, thirty-two miles north of Wurzburg.

ASCHAFF, a small river of Germany, in the circle of the Lower Rhine, which runs into the Mayne near Stockstadt.

ASCHAFFENBURG, a town of Germany, in the circle of Franconia, situate about twenty-five miles from Francfort on an eminence near the Mayne. It belongs to the elector of Mentz, who has a palace here, in which he resides during the greatest part of the year, on account of the salubrity of the air, and the singular beauty of the situation. The country surrounding the town is uncommonly fertile. At the distance of two miles towards the north-east is seen the "Spessart," one of the largest forests in Europe, forming a semicircle round part of this town, and sheltering it from the bleak winds. This forest occupies a space of fifty English miles in length, and the traveller through it meets with only one small village consisting of four houses, in which he may have any accommodation. The road through it is very good, and the elector of Mentz, to whom the greatest part of the country belongs, keeps it free from robbers, so that it may be passed any time of the day or night, without any apprehension of attack. For the security of passengers, a military establishment, consisting of a company of hussars, is fixed at Aschaffenburg; and these are traversing the road at stated hours in order to prevent the possibility of a robbery. N. lat. 49° 55'. E. long. 8° 55'.

ASCHAM, Roger, in *Biography*, an English scholar of distinguished reputation, was born at Kirby-Wiske, near North-Allerton in Yorkshire, about the year 1515, of parents who, having lived together for sixty-seven years, with uninterrupted harmony, died at the same hour of the same day. Having discovered very promising talents at an early age, he was taken under the patronage of Sir Anthony Wingfield, and after making considerable progress in classical literature under the instruction of the domestic tutor of his sons, Ascham was removed by his patron, in 1530, to St. John's college at Cambridge. Here he enjoyed peculiar advantages for improvement under the tuition of two persons who were eminent for literature at a period when the study of the Greek and Roman classics was the object of particular attention. Of these advantages he availed himself with singular assiduity and emulation; and his proficiency was so considerable, that he gained very distinguished reputation in the university at a very early age. In order to perfect himself in the Greek language, he taught it to others; and learning very soon to discriminate with regard to the comparative excellence of different authors, he lost no time in the perusal of mean or unprofitable books. Upon the model of Cicero and Cæsar, whose works he diligently studied, he formed his style; and among the philosophers, he selected Plato and Aristotle; among the historians, Thucydides and Herodotus; and among the orators, Demosthenes and Isocrates; and on these two last authors he read lectures to his pupils, as he also did on the most celebrated of the Greek poets. At the age of eighteen, in 1534, he took his degree of bachelor of arts, and soon after in the same year was elected fellow of his college, though his attachment to the reformed religion raised some obstacles in the way of this appointment. These honours were considered by Ascham as inducements to his continued and increasing application; and such was his improvement, particularly in the Greek language, that his lectures, both in the university and in his own college, were received with universal applause. In the year 1536, and at the age of twenty-one years, he was inaugurated master of arts. Such was the proficiency of those who attended his lectures, that one of them viz. William Grindal, was, at his recommendation, appointed to be tutor in the languages to the lady Elizabeth; an honour which it is probable he might have obtained for himself, if he had not declined it from a preference of the academical life to a station at court. At this time Sir John Cheke attempted to introduce a new mode of pronouncing Greek into the university, which for some time was opposed by Ascham; but upon maturer and more deliberate examination, he approved of it, and concurred in adopting and promoting it; and it has since generally prevailed in the schools of England. The purity and elegance of his Latin style was held in such estimation, that he was constantly employed in writing the public letters of the university. As a relaxation amidst his severer studies, he amused himself with the exercise of archery; and having thus given offence to some persons who were envious of his superior merit, he wrote a small treatise on the subject, intitled "Toxophilus," which was published in 1544. His design in writing this treatise was partly to vindicate himself from the aspersions of his enemies, and partly to improve the English language, by introducing a more natural, easy, and truly English diction, than that which was used by the common writers of his age. The author's views in both these respects were fully accomplished. This work, besides the purity and perspicuity of its style, abounds with learned allusions, with curious fragments of English history, and with ingenious observations on life and manners. Ascham honestly confesses, that he was actuated by another more selfish motive in the composition and publication of this treatise. He wished to make a tour into Italy, which was then the republic of letters, and particularly the seat of Greek learning, and he was desirous by dedicating his work to king Henry VIII., to obtain his patronage and encouragement in the prosecution of his plan. In this respect, his modest and laudable wish was gratified; for in 1544, the king granted him a pension of 10l. a year, equal according to Dr. Johnson, to more than 100l. at the present day. This pension, which was discontinued after the king's death, was restored by Edward VI., and doubled by queen Mary. In the same year, Ascham received the pecuniary benefit as well as honour of an appointment to the office of Orator to the university; which office, whilst he continued there, he occupied with great credit.

He had also for some years received an annual gratuity to an amount that is not ascertained, from Lee, archbishop of York. At length, viz. in 1548, upon the death of his pupil Grindal, he was called by the lady Elizabeth, to whom he had already given lectures in writing, from his college, to direct her studies. This charge he executed with equal diligence and success; but after two years, a cause of dissatisfaction occurred, and he returned from the service of the princess to the university. Notwithstanding this circumstance, the princess's regard for him continued; for in the same year, 1550, he was recalled to court, and appointed secretary to sir Richard Morysine, who was then going as ambassador to the emperor Charles V. During this expedition, which lasted three years, he had opportunity of conversing with many learned men in various parts of Germany which he visited, and made an excursion into Italy, where he was much disgusted with the manners of the inhabitants, particularly of the Venetians. One of the fruits of this tour was a curious tract, intitled, "A Report and Discourse of the

the Affairs and State of Germany," &c. which contains valuable information and judicious reflections.

On the death of Edward VI. in 1553, Maryſine was recalled, and Aſcham returned to his college, with no other ſupport than his fellowſhip and ſalary as orator to the univerſity, and the liberality of his friends. But by the intereſt of biſhop Gardiner, who, though he knew him to be a proteſtant, did not deſert him, he was appointed Latin ſecretary to queen Mary, with a ſalary of ten pounds a year, and permiſſion to retain his college preferment. Aſcham by his prudence, without any ſervile compliances that reproached his integrity, enjoyed the favour of the queen, and in the moſt perilous times, he maintained his intereſt with Elizabeth; and he was partly indebted to the fidelity of his friendſhip with Cecil for his proſperity in the next reign. Indeed, his learning, and the facility with which he wrote Latin, made him neceſſary at court. In his capacity as Latin ſecretary, he is ſaid to have written in three days forty-ſeven letters to perſons of ſuch rank that the loweſt of them was a cardinal. Upon the acceſſion of Elizabeth, Aſcham was continued in his former employments with the ſame ſtipend. He had daily acceſs to the queen, and read with her ſome portions of works in the learned languages for ſome hours every day, and of her proficiency under ſuch a maſter many proofs remain. Notwithſtanding the benefit which the queen derived from his ſervices, and the intimacy with which ſhe honoured him by permitting him to play with her at draughts and chefs, he obtained from her no other recompence than a penſion of twenty pounds a year, and the prebend of Weſtwang in the church of York. This poor pittance has been aſcribed by ſome to the parſimony of the queen, and by others to her knowledge of the extravagance of Aſcham. He has been charged, and not unjuſtly, with a propenſity, diſgraceful to a man of letters and humanity, to cock-fighting. In his "Schoolmaſter," he intimates a deſign of writing a book "Of the Cockpit," which he reckons among the paſtimes fit for a gentleman. It is a ſubject, however, of regret, that whilſt the queen did not think him unworthy of her patronage, ſhe did not think proper to remunerate him for his ſervices with a liberality more ſuitable to her high ſtation. In the year 1563, a converſation occurred at ſir William Cecil's on the ſubject of education. Whilſt the ſubject was much agitated, and different opinions were entertained, ſir Richard Sackville was ſo much prepoſſeſſed in favour of Aſcham, by the arguments which he uſed for the mild treatment of boys, that he ſolicited his counſel aud aſſiſtance with regard to the education of his ſon, and at the ſame time requeſted that he would write a treatiſe on the general ſubject of education. Thus was produced Aſcham's excellent performance, intitled, "The Schoolmaſter;" a work replete with erudition, and ſuggeſting uſeful advice on the beſt method of teaching the claſſics. Aſcham particularly recommends the method of "double tranſlation," which merits adoption in ſchools. This treatiſe was publiſhed after the author's death by his widow, in 1571; and reprinted with notes, in 8vo, at London, by Upton, in 1711. Aſcham's laſt illneſs was occaſioned by too ſedulous application to the compoſition of a poem, which he intended to preſent to the queen on the New Year's day of 1569. He died in his 53d year, December 23d, 1568. His death was generally lamented, and the queen expreſſed her concern by exclaiming, that "ſhe would rather have loſt 10,000 l. than her tutor Aſcham." His epiſtles, which have been much commended for the elegance of their ſtyle, and alſo for the abundance of hiſtorical matter which they contain, were publiſhed in 1577, by Grant, and dedicated to queen Elizabeth; and his miſcellaneous pieces have been ſince collected by Bennett into one volume, with a life by Dr. Johnſon prefixed, and publiſhed in 1761, in 4to. Aſcham is ſaid to have been an elegant poet: but his verſes are not to be found in the beſt edition of his works. One of his biographers, ſpeaking of his works, ſays, "His Toxophilus was a good book for young men, his Schoolmaſter for old men, and his Epiſtles for all men." Mr. Wood aſcribes another work to our author, intitled, "Apologia contra Miſſam," printed in 1577, 8vo.

It appears from the writings of Aſcham, and thoſe records of him that remain, that his temper was amiable; that he was kind to his friends, and grateful to his benefactors; that he was inclined to free inquiry on the ſubject of religion, but too much engaged in other purſuits to beſtow much attention on this object; that he was, as a man, reſpectable; and that, as a ſcholar, he promoted correct taſte and ſound learning; and by thus ſerving both his contemporaries and poſterity, he deſerved much more ample recompence than he received. He died poor, and left a widow and ſeveral orphans in deſtitute circumſtances. His poverty has been aſcribed by ſome to his attachment to dice and cock-fighting; and it is noticed by Buchanan in the following ſhort epigram, ſaid by ſome to diſplay more wit than friendſhip, which he conſecrated to his memory:

"Aſchamum extinctum patriæ, Grajæque Camænæ
Et Latiæ verâ cum pietate, dolent;
Principibus vixit carus, jucundus amicis,
Re modicâ, in mores dicere fama nequit."

Thus tranſlated, and paraphraſed:

"The Attic and the Latian muſe deplore
The fate of Aſcham, once their joy and pride:
His lays ſhall charm the liſt'ning crowd no more:
Eſteem'd by kings, lov'd by his friends, he died.
Fortune denied her treaſures;—juſter fame
Honoured his worth, and ſpread abroad his name."

Grant. Oratio de vita et obitu R. Aſchami. Biog. Brit. Johnſon's Life of Aſcham. Andrews's Hiſtory of Great Britain, vol. ii. p. 85.

ASCHARIANS, or Asharians, followers of Aſchari, or Aſhari, one of the moſt celebrated doctors among the Mahometans, who died at Bagdat, about the year of the Hegira 329, or of Chriſt 940, and who was ſecretly buried, leſt the Hanbalites, by whom his opinions were reckoned impious, ſhould tear up his remains from the grave. The Aſcharians were a branch of the Sefatians; and their opinions were, 1. That they allowed the attributes of God to be diſtinct from his eſſence, yet ſo as to forbid any compariſon to be made between God and his creatures. 2. As to predeſtination, they held that God hath one eternal will, which is applied to whatſoever he willeth, both of his own actions and thoſe of men, ſo far as they are created by him, but not as they are acquired or gained by them; that he willeth both their good and evil, their profit and their hurt; and as he willeth and knoweth, he willeth concerning them that which he knoweth. They went ſo far as to ſay, that it may be agreeable to the will of God that man ſhould be commanded what he is unable to perform. But while they allow man ſome power, they reſtrain it to ſuch a power that cannot produce any thing new. God, they ſay, orders his providence ſo, that he creates after or under, and together with, every created or new power, an action which is ready whenever a man wills it and ſets about it; and this action is called "caab," or acquiſition, being, in reſpect to its creation, from God, but in reſpect to its being produced, employed, and acquired, from man. This is generally eſteemed the orthodox opinion, and has been variouſly explained. 3. As to mortal ſin, the

Aſcharians taught, that if a believer, guilty of ſuch a ſin, die without repentance, his ſentence is to be left to God, whether he pardon him out of his mercy, or whether the prophet intercede for him, or whether he puniſh him in proportion to his demerit, and afterwards, through his mercy, admit him into paradiſe; but that it is not to be ſuppoſed he will remain for ever in hell with the infidels, ſince it is declared, that whoſoever ſhall have faith in his heart, but of the weight of an ant, ſhall be delivered from hell-fire. This is generally received as the orthodox doctrine in this point, and is diametrically oppoſite to that of the *Motazalites*. D'Herbelot's Bibl. Orient. Sale's Koran. Prel. Diſc. p. 165.

ASCHAUSEN, in *Geography*, a town of Germany, in the circle of Suabia, eight miles north of Ravenſpurg.

ASCHBARAT, a town of Turqueſtan, in the country of the Getæ, on the other ſide of the river Sihon.

ASCHBOURKAN, or Asch-fourkan, a town of Perſia, in the province of Choraſan.

ASCHEION, in *Ancient Geography*, a town of the Peloponneſus, in Achaia.

ASCHENGINSKOI, in *Geography*, a fortreſs of Siberia, on the confines of China, 130 miles S. S. W. of Selinginſk.

ASCHER, a diſtrict of the fief of Aggers-Herred in the dioceſe of Chriſtiania or Aggerhuus, in Norway.

ASCHERSLEBEN, a town of Germany, in the circle of Lower Saxony, and principality of Halberſtadt, ſeated on the Eine. It was once the capital of a country to which it gave name, and was one of the moſt ancient provinces of the houſe of Anhalt. The circle of Aſcherſleben, or Aſcan, comprehends the tract which was once the Aſcherſleben or Gaterſleben lake, about two German miles long and half a mile broad; but being drained between the years 1703 and 1709, is now become good corn and paſture land.

ASCHIA, Asch Cramer, Ascher Geſner, &c., in *Ichthyology*, ſynonymous names of the fiſh called *Grayling* in England; and by Linnæus Salmo Thymallus; which ſee.

ASCHOUR, in *Geography*, a river that paſſes by the town of Kaſch in Turqueſtan, towards the north.

ASCHRAFF, in *Ancient Geography*, a city of Perſia, in the province of Mazendran, near the Caſpian ſea, was once the favourite reſidence of Abbas the great, but now fallen into decay; the ſplendid palaces and gardens being ſunk into a ruinous ſtate, ſince the commotions that followed the death of Nadir Shah.

ASCHTIKAN, in *Geography*, a town of Aſia, in Independent Tartary, ſixteen leagues from Samarcand.

ASCHWOMSEE, a lake of Pruſſia, forty miles ſouth-eaſt of Konigſberg.

ASCIA, in *Antiquity*, an inſtrument, ſuppoſed to be of the ax kind, uſed in the fabric of the Roman tombs, and frequently repreſented on them.

The formula "ſub aſcia dedicare," is frequently found inſcribed on ancient tomb-ſtones. We alſo meet with "rogum aſcia ne polito," among the antique laws of the Twelve Tables. Theſe expreſſions, and the figure of the aſcia, as ſeen on the tombs, have puzzled ſeveral antiquaries, who have formed very curious conjectures concerning it. F. Martin rejects all their opinions, and with conſiderable probability affirms, that the aſcia was a hoe, or ſort of pick-ax for digging up the ground, which is to this day called *aſſados*, or *aſſaidos*, in Languedoc. This aſcia, he pretends, was not an inſtrument of common uſe, but conſecrated and employed only for digging of graves; and that it is the ſame with what Sidonius Apollinarius calls *raſtrum funebre*, wherewith the Gauls digged their graves. Lib. iii. ep. 12.

This, he thinks, appears plainly to be the ſignification of the word, from the Latin proverb, "ipſe mihi aſciam in crus impegi," which often happens to thoſe who work with this inſtrument.

On this footing the famous law of the Twelve Tables, wherein the aſcia is mentioned, and the explication of which has puzzled all our antiquaries, contained only a prohibition to dig graves with an inſtrument of iron or copper, ſuch as the aſcia. In reality it was a tradition obſerved by the remoteſt antiquity, that no inſtrument made of thoſe metals ſhould be uſed in ſepulchres.

Dom. Martin has given a diſſertation concerning the funeral monuments of the Romans, conſecrated "ſub aſcia." La Relig. des Gaul. tom. ii. liv. 5.

Mabillon, in his explication of the formula "ſub aſcia dedicare," &c. conjectures that the ancients, in dedicating their tombs to the manes, made imprecations againſt thoſe who violated their ſanctity; and theſe imprecations, he conceives, were expreſſed by the figure of the aſcia, which bore a threatening aſpect. Much to the ſame purpoſe is the opinion of Muratori, who apprehends that the formula "ſub aſcia," or the aſcia itſelf placed upon the tombs, was a tacit but well-known ſupplication addreſſed by the perſon interred to the owner of the field in which the grave was dug, that the adjacent ſoil might be hoed, the briars removed, and the earth rendered light over the aſhes of the deceaſed. Accordingly, "ſit tibi terra levis," is part of an epitaph found on ancient monuments. The ſentiments of Mabillon and Muratori have been illuſtrated and confirmed by count Caylus. Moreover it appears, that the Romans annexed no ſuperſtitious idea to the formula "ſub aſcia dedicavit," as the firſt Chriſtians made uſe of it on their monuments.

Ascia is alſo uſed, in *Surgery*, for a kind of bandage ſomewhat oblique or crooked; whoſe form and uſe are well deſcribed by Scultetus, in his Armam. Chirurg. p. 1. tab. 54. fig. 3.

ASCIBURGIUM, in *Ancient Geography*, a citadel on the Rhine, mentioned by Tacitus, in which were a Roman camp and garriſon; ſituated in a place correſponding with a ſmall hamlet, now called *Aſburg*, not far from Meurs, in the duchy of Cleves.

ASCIDIA, in *Natural Hiſtory*, the name of a genus of Vermes that belong to the *Molluſca* tribe, the body of which is fixed, roundiſh, and apparently iſſuing from a ſheath; the apertures two, generally placed near the ſummit, one below the other, Gmel. &c. Theſe creatures are more or leſs gelatinous, and have the power of contracting and dilating themſelves at pleaſure; ſome are furniſhed with a long ſtem, but moſt of them are ſeſſile. Gmelin enumerates the following ſpecies: papilloſa, gelatinoſa, inteſtinalis, quadridentata, ruſtica, echinata, mentula, venoſa, prunum, conchilega, parallelogramma, virginea, canina, patula, aſperſa, ſcabra, orbicularis, corrugata, lepadiformis, complanata, tuberculum, villoſa, clavata, pedunculata, mammillaris, globularis, phuſca, gelatina, cryſtallina, octodentata, patelliformis, pyura, aurantium, globularis: which ſee reſpectively.

ASCII, formed of the primitive α, and σκια, *ſhadow*, in *Geography*, are thoſe inhabitants of the globe, who at certain times of the year, have no ſhadow; ſuch are the inhabitants of the torrid zone, becauſe the ſun is twice a year vertical to them, and they have then no ſhadow.—To find on what days the people of any parallel are *aſcii*, ſee Globe.

ASCINDOE, in *Botany*, a name given by the people of Guinea to a ſhrub, which they uſe in medicine, boiling it in

water, and giving the decoction in gonorrhœas, and the like complaints. Petiver has named it the prickly Guinea ſhrub, with roundiſh crenated leaves, and filamentous flowers. The leaves are about an inch wide, and about an inch and a half long; they ſtand on ſhort foot-ſtalks; and at the ends of the branches, there ſtand cluſters of ſtamineous flowers. The thorns on the large branches are very ſtrong. Phil. Tranſ. N°. 232.

ASCITA, in *Ichthyology*, a ſpecies of SILURUS, that differs in ſeveral reſpects from other creatures of the ſame tribe, and is ſpecifically deſcribed as having the dorſal fin fleſhy, and eighteen rays in the anal fin. This fiſh inhabits the Indian ſeas, and is figured both by Bloch, and in Déterville's edition of Buffon. The mode of generation, or manner in which the young are produced, is ſingular, for it is neither oviparous, nor viviparous, but, partaking of both, forms a diſtinctly connecting link between thoſe two natural diviſions of fiſhes: the eggs are not compoſed like thoſe of moſt other creatures, but conſiſt merely of a yolk, without white, and ſurrounded by a thin ſkin to which the embryo is attached by means of an umbilical veſſel on the outſide, and by which it receives its proper nouriſhment till it is diſengaged. Among other reaſons it is aſſerted that it cannot be viviparous, becauſe it does not receive its nouriſhment from the parent by means of a *placenta*, but from the yolk of the egg to which it is affixed while it remains in the matrix; and that it cannot be oviparous becauſe the eggs are not as uſual depoſited when completely formed, nor are the young contained within the egg, but only attached to the outſide of it.

ASCITÆ, derived from ασκος, a *bag*, or *bottle*, in *Antiquity*, a ſect or branch of Montaniſts, who appeared in the ſecond century.

The Aſcitæ were ſo called, becauſe they introduced a kind of Bacchanals into their aſſemblies, who danced round a bag or ſkin blowed up; ſaying, theſe were thoſe new bottles filled with new wine, whereof Jeſus Chriſt makes mention, Math. ix. 17.—They are ſometimes alſo called *Aſcodrogitæ*.

ASCITÆ, in *Ancient Geography*, a people of Aſia, placed by Pliny and Ptolemy in Arabia Felix.

ASCITES, in *Medicine* (from ασκος, *uter*, a *faculus* or *bladder*), denotes a ſpecies of DROPSY which is ſeated in the *abdomen*. This diſeaſe is commonly divided into two kinds: viz. 1. When the water is contained within the peritonæum inveſting the general cavity of the lower belly; and 2. When the fluid is included within a bag, or cyſt, in which caſe it is called an *incyſted* dropſy: but the deſcription of this diſeaſe, and its appropriate treatment, will be found under the articles DROPSY, and PARACENTESIS or TAPPING.

ASCITES, *the operation for*, in *Surgery*, is named TAPPING, which ſee. This operation is likewiſe technically called PARACENTESIS. It conſiſts in drawing off from the abdomen, by means of a trocar, the water or other fluid which is contained therein.

ASCIUM, in *Botany*. Schreb. 903. *Norantea*, Aubl. 220. Juſſ. 245. Claſs, *polyandria monogynia*. Nat. Ord. *Putamineæ? Capparides* Juſſ. Gen. Char. *Cal.* perianth five-leaved, leaflets roundiſh, concave, coriaceous, coloured on the margin. *Cor.* petals five, ovate, acute, larger than the calyx, inſerted into the receptacle. *Stam.* filaments very many (40 or 50), ſhort, three-ſided, inſerted into the receptacle; anthers oblong. *Piſt.* germ ovate; ſtyle very ſhort; ſtigma headed. *Per.* berry? one-celled; containing many ſeeds.

Eſſ. Gen. Char. *Cal.* five-leaved, coriaceous. *Cor.* five-petalled; berry? one-celled, with very many ſeeds.

Species, 1. *Aſcium norantea*, Aublet Guian. t. 220. This is a tree furniſhed with alternate entire thick leaves. The flowers grow in looſe ſpikes from the ends of the branches; they are alternate, ſubſeſſile, and to each is a long bracte, with a claw to it, reſembling the cowled bag of marcgravia, to which genus this ſeems nearly allied. It is a native of Guiana.

ASCLEPIA, in *Antiquity*, feaſts celebrated in various parts of Greece in honour of Æſculapius. They chiefly conſiſted of muſic, and a conteſt between muſicians and poets. They were alſo called Μεγαλασκληπεια, or the great feſtivals of Æſculapius.

ASCLEPIAD, ASCLEPIADEUS, a Greek or Latin verſe of four feet, containing a ſpondee, a choriambus, and two dactyls; or, which amounts to the ſame, a ſpondee, two choriambuſes, and a pyrrhichius.

Such are the verſes,

"Mæcenas atavis edite regibus."
"Sublimi feriam ſidera vertice."

ASCLEPIADA, in *Entomology*, a ſpecies of CHRYSOMELA, diſcovered by Pallas in the vicinity of the rivers Volga and Irtin, in Siberia. It is of a duſky blue, and gloſſy; antennæ black; dots on the thorax ſcattered; on the wing-caſes diſpoſed in lines. Pallas, Gmelin, &c.

ASCLEPIADES, ARTORIUS, in *Biography*, phyſician and friend to Cæſar Octavianus, by whoſe advice the emperor left his camp the evening before the battle at Philippi, by which his life was probably preſerved, that part of the army being ſurpriſed and cut to pieces by Brutus. Artorius periſhed by ſhip-wreck ſoon after the battle at Actium, and the emperor cauſed a magnificent monument to be erected to his memory at Smyrna. He is ſaid to have maintained, that the ſtomach is the part principally affected in the hydrophobia. Haller Bib. Med. Pract.

ASCLEPIADES, deſcendents of Æſculapius, ſo called; who were ſuppoſed to have preſerved the tenets of their progenitor, and to have founded ſchools of medicine in various parts of Greece, which continued many ages. The moſt famous were thoſe of Rhodes, Cnidos, and Cos, formed by different branches of the family. Hippocrates was derived from the latter branch: ſee article HIPPOCRATES.

ASCLEPIADES, a celebrated phyſician, born at Pruſa in Bithynia, flouriſhed ſomewhat before the time of Pompey, and formed an intimacy with Licinius Craſſus the orator, and other perſons of diſtinguiſhed character. It is not known whence he took his name, as he was not of the family of Æſculapius. After completing his education, he went to Rome, where he commenced by teaching rhetoric; but not ſucceeding in that line, he applied himſelf to the ſtudy of medicine, in which he ſoon became famous; for, rejecting the doctrines of his predeceſſors in that art, he formed a new theory of diſeaſes, and inſtituted new methods of curing them. He avoided all harſh and violent drugs, particularly vomiting and purging medicines, which he contended injured the ſtomach, and induced complaints more dangerous than thoſe they were given to remedy, and profeſſed to cure diſeaſes, "tutò, citò, et jucundè." Romæ cum viveret (Haller ſays) ad luxum et mollitiem Romanorum artem accomodavit. He was attached to the corpuſcular philoſophy, and ſuppoſed that the free motion of the corpuſcles in the veſſels conſtituted health, and that diſeaſe enſued when they were reſtricted or checked in their motion by the ſtraitneſs of the veſſels. "Thus pains, ardent fevers, intermittents, &c. were occaſioned (he ſaid) by corpuſcles impacted in the pores." A doctrine full as intelligible, "as the lentor of the humours obſtructing the veſſels," the favourite theory of one of the moſt celebrated

teachers

teachers in the laſt century. In fevers he prohibited all food, and even drink to his patients for three or more days, but when by this means, the violence of the fever was abated, he indulged them with animal food, and with wine. When coſtive, he uſed glyſters, which he frequently employed. In pleuriſies, and in other complaints attended with violent pain, he preſcribed bleeding, but in chronic complaints he depended principally on abſtinence, exerciſe, baths, and friction. Theſe, he ſaid, opened the pores, and gave free exit to the obſtructed particles.

That he was in high repute in his time, we have the authority of Celſus, Caelius Aurelianus, Galen, and Scribonius Largus, from whoſe writings what is known of his opinions and practice is principally taken, as none of his works have been preſerved. Mithridates, king of Pontus, invited him to his court; but his employment at Rome was too lucrative to permit him to accept the offer.

But beſides the reputation he acquired by his practice, his name was farther increaſed by the number of pupils or diſciples who attended his ſchool, and who continued to follow his method long after his deceaſe. Themiſon, one of his diſciples, in part adopting, and in part deviating from his doctrine, formed a new ſect, under the title of the Methodic, which in its turn became popular. Aſclepiades is ſaid to have pledged his reputation on preſerving his health, to have lived to a great age, and to have died at length in conſequence of a fall. Le Clerc Hiſtoire de la Medicine. Haller Bib. Med. Pract. who gives a detailed and particular account of his practice in a variety of diſeaſes.

Aſclepiades, a Greek philoſopher of the Eliac ſchool, was born at Phlia, in Peloponneſus, and flouriſhed about 350 years before Chriſt. He was the intimate friend and aſſociate of Menedemus, whilſt they both attended the ſchool of Stilpo, and afterwards when they attended Phædo's ſchool at Elis. They were under a neceſſity of ſupporting themſelves by the manual labour of maſons. They left their country for the ſake of enjoying the advantages of Plato's ſchool at Athens, and gained a ſubſiſtence by grinding in the night in one of the public priſons, that they might be able to ſpend the day in the academy. When the Athenian magiſtrates, upon inquiring into their mode of ſubſiſtence, were informed of this circumſtance, which manifeſted their ardent deſire of knowledge, they applauded their zeal, and preſented them with 200 drachmas. In advanced life Aſclepiades loſt his ſight, but bore the affliction with cheerfulneſs. Athen. l. iv. c. 19. Cicero Tuſc. Diſp. l. v. c. 39. Diog. Laert. vit. Mened. Brucker by Enfield, vol. i. p. 197.

ASCLEPIAS, in *Botany*, ſwallow-wort. (From *Æſculapius*, the god of medicine.) Lin. gen. 306. Schreb. 429. Juſſ. 147. Gaertn. t. 117. Claſs, *pentandria digynia*. Nat. Order, *Contortæ*.—*Apocineæ*, Juſſ. Gen. Char. *Cal.* perianth five-cleft, ſharp, very ſmall, permanent. *Cor.* monopetalous, flat, or reflex, five-parted; diviſions ovate-acuminate, ſlightly bending with the ſun; nectaries five, growing to the tube of the filaments, fleſhy, or cowled; a ſharp horn protruding from the bottom, bending inwards. *Stam.* filaments five, collected into a tube, ſwelling at the baſe; anthers oblong, upright, two-celled, terminated by an inflex membrane lying on the ſtigma, having a reverſed wing on each ſide; the pollen is collected into ten corpuſcles, inverſely lanceolate, flat, hanging down into the cells of the anther by ſhort threads, which are annexed by pairs to five cartilaginous twin tubercles, each placed on the tip of the wings of the anthers, adhering to the angles of the ſtigma, between the anthers. *Piſt.* germs two, oblong, acuminate; ſtyles two, ſubulate; ſtigma common to both, large, thick, five-cornered, covered at the top by the apexes of the anthers, umbilicate in the middle. *Per.* follicles two, large, oblong, acuminate, ſwelling, one-celled, one-valved. *Seeds*, numerous, imbricate, crowned with down; receptacle membranaceous, free.

Eſſ. Gen. Char. Contorted; nectaries five, ovate, concave, putting forth a little horn. Species:—

* *Leaves oppoſite, flat.*

1. A. *undulata*, waved-leaved ſwallow-wort, apocynum africanum, lapathi folio, Comm. Rar. t. 16. "Leaves ſeſſile, oblong, lanceolate, waved, ſmooth." A native of the cape of Good Hope. It was introduced into our gardens in 1783. Its flowers appear in July. 2. A. *criſpa*, curled-leaved ſwallow-wort; apoc. erectum afric., &c. Herm. par. 25. Comm. Rar. t. 17. "Leaves cordate, lanceolate, waved, ſcabrous, oppoſite; umbel terminal." Its ſtem is pubeſcent, branching at the bottom; leaves ſubſeſſile, repand; one umbel of yellow flowers terminates the ſtem. Found at the cape by Sparrman. Introduced into the Kew garden by Mr. Maſſon, in 1774. 3. A. *pubeſcens*, pubeſcent ſwallow-wort; apoc. afr. tuberoſum, &c. Morr. Hiſt. 3. 610. Pluk. 139. f. 1. "Leaves ovate, veined, naked; ſtem ſhrubby; peduncles villoſe;" the ſtem is ſhrubby, ſimple or little branched, very ſhortly villoſe; leaves on very ſhort footſtalks, villoſe, pointed, much veined, rather crowded; peduncles and umbels villoſe; flowers purple. A native of the cape of Good Hope. 4. A. *volubilis*, twining ſwallow-wort, Rheed. Mal. 9. 21. t. 13. Rumph. Amb. 5. t. 175. f. 1. "Leaves ovate, entire, acuminate; ſtem arboreous, twining; umbels erect;" ſtem ſmooth; branches ſhining; leaves petioled, ovate-ſubcordate, veined; umbels ſimple, on peduncles the length of the petiole; flowers greeniſh. A native of Malabar and Ceylon. 5. A. *aſthmatica*, aſthmatic ſwallow-wort. "Leaves petiolate, cordate-ovate, above ſmooth, entire; ſtem ſhrubby, twining, hirſute; umbels few-flowered." The whole plant is villoſe, except the upper ſurface of the leaves, which reſemble thoſe of laurel, heart-ſhaped at the baſe, pointed at the apex; umbels ſhorter than the leaves, often proliferous; flowers ſmall. Found in the woods of Ceylon by Koënig. The root is eſteemed in aſthmatic caſes. 6. A. *gigantea*, curled flowered gigantic ſwallow-wort, Brown. Jam. 182. 1. "Leaves obovate-oblong; petioles very ſhort; ſegments of the corolla reflex, involute." It riſes ſix or ſeven feet in height; leaves thick; flowers white; pods very large; nectaries without horns. Browne ſays, in Jamaica it is called auricula, or French jaſmin. Cultivated at the royal garden, Hampton court, in 1690. It flowers from July till September. 7. A. *ſyriaca*, Syrian ſwallow-wort. Hort. Cliff. 78. *β* A. *exaltata*. Lin. Spec. 313. "Leaves oval, tomentoſe underneath; ſtem ſimple; umbels nodding;" root creeping; ſtem ſtrong, four feet high, on the ſides of which, and near the top, the flowers appear, theſe are of a dingy purple, ſucceeded by large oval pods. A native of North America, and cultivated by Parkinſon in 1629. In Canada, the French eat the tender ſhoots as aſparagus. Poor people collect the cotton from the pods, with which they fill their beds. On account of the ſilkineſs of this cotton, Parkinſon calls the plant Virginian ſilk. 8. A. *amœna*, oval-leaved ſwallow-wort; apocynum, Dill. Elth. 31. t. 27. f. 30. "Leaves ovate, rather hairy underneath; ſtem ſimple; umbels and nectaries erect." From a foot and half to more than three feet high; ſtems round, ſmooth, the ſize of a ſwan's quill. At each joint are placed two large leaves, which are blunt, thickiſh, ſtiff, ſmooth, with purple nerves; lower leaves ſmaller and rounder; the umbels ariſe from the top of the ſtalk, and ſome of the upper axils; the nectaries approximate more,

are ſtraighter, longer, ſtiffer, more acute, and leſs excavated than in the other ſpecies; the flowers are of a bright purple colour. Cultivated by Dr. Sherard, at Eltham, in 1732. A native of North America. 9. A. *purpuraſcens*, purple Virginian ſwallow-wort, Dill. Elth. 32. t. 28. f. 31. "Leaves ovate, villoſe underneath; ſtem ſimple; umbels erect; nectaries reſupinate;" ſtems many, as thick as the little finger, at bottom obtuſely quadrangular; leaves on ſhort footſtalks, from four to ſix inches long, with a purple midrib; flowers of a duſky herbaceous colour; horns of the nectaries horizontal. A native of North America. Cultivated by Dr. Sherard, in 1732. Linnæus obſerves that this ſpecies is nearly related to A. Syriaca. 10. A. *variegata*, variegated ſwallow-wort, apoc. americanum. Dill. Elth. 32. Pluk. Alm. 34. t. 77. f. 1. "Leaves ovate, wrinkled, naked; ſtem ſimple; umbels ſubſeſſile; pedicels tomentoſe." According to Miller, this reſembles the foregoing ſort, but the leaves are rough, and the umbels of the flowers are more compact; they come out on the ſide of the ſtalk, are of an herbaceous colour, and not ſucceeded by pods in this country. A native of North America. We learn from Plukenet, that it was cultivated here in 1696. 11. A. *curaſſavica*, Curaſſoa ſwallow-wort, baſtard ipecacuanha, Brown. Jam. 183, 2. Apocynum, Dill. Elth. 34. t. 30. f. 33. Sloan. 1. t. 129. f. 4, 5. "Leaves lanceolate, ſmooth, ſhining; ſtem ſimple; umbels erect, ſolitary, lateral." The ſtem is from one to two or three feet in height; leaves oppoſite, and decuſſated, petioled, acute, entire, ſmooth on both ſides; flowers in umbels; umbellules terminal; involucre a few ſubulate leaflets; pedicels one-flowered; corolla reflex; the flowers, according to Brown, are of a ſaffron colour in the low lands, but in the cooler inland paſtures they change to a white. This ſpecies ſo much reſembles A. nivea, that Swartz doubts whether it be really diſtinct from it. Miller affirms that the roots have been ſent to England for ipecacuanha. The juice of the plant has been uſed as a vermifuge. It is a native of South America, the Weſt Indian iſlands, and China. In 1692, it was cultivated in the royal garden at Hampton-court, where it flowered from June till September. 12. A. *nivea*, white or almond leaved ſwallow-wort. Apocynum. Dill. Elth. 33. t. 29. f. 32. Plum. Spec. 2. Ic. 30. "Leaves ovate-lanceolate, ſmoothiſh; ſtem ſimple; umbels erect, lateral, ſolitary;" ſtems two feet high, ſtraight, round, the ſize of a ſwan's quill, dark green; leaves like thoſe of common perſicaria, deep green above, pale beneath, ſmooth, rather ſtiff. The principal difference between this and the curaſſavica is in the flowers, which are green with white nectaries. A native of North America. Cultivated by Dr. Sherard in 1732. 13. A. *incarnata*, fleſh-coloured ſwallow-wort, Jacq. hort. 2. t. 107. "Leaves lanceolate; ſtem divided at the top: umbels erect, twin." This puts out ſeveral upright ſtalks, about two feet high; at the top of which are produced cloſe umbels of purple flowers in Auguſt. A native of North America. Cultivated by Miller in 1731. 14. A. *decumbens*, decumbent ſwallow-wort. "Leaves villoſe; ſtem decumbent." The ſtalks are dividing, hairy, a foot and a half high; leaves narrow; umbels compact, at the extremity of the branches; flowers of a bright orange colour. A native of North America. 15. A. *lactiflora*, milky ſwallow-wort; "leaves ovate; ſtem erect: umbels proliferous, very ſhort." This is ſo like the vincetoxicum as ſcarcely to be diſtinguiſhed from it; the leaves however are leſs cordate, the corymbs compound, and ſcarcely longer than the petioles. A native of Ceylon. 16. A. *vincetoxicum*, officinal ſwallow-wort, Flor. Dan. 849. Woodv. Med. Bot. Supp. β A. latea. Mill. Dict. "Leaves ovate, bearded at the baſe; ſtem erect; umbels proliferous;" root divided and fibrous; ſtems about two feet high, ſlender, woody, round, hairy, ſimple; leaves cordate-ovate, acuminate, ſmooth, entire, on ſhort footſtalks; peduncles axillary, many-flowered; corolla white; follicles ovate-acuminate; ſeeds ſmall, brown, incloſed in cotton. It flowers during the months of June, July, and Auguſt. It is common in the northern parts of the continent. The medical virtues of the root are ſtated by Bergius to be diuretic, ſudorific, emmenagogue, and alexipharmic. 17. A. *nigra*, black ſwallow-wort, Villars' Dauph. 487. "Leaves ovate, bearded at the baſe; ſtem twining a little at the top." This agrees with the officinal ſpecies in the ſhape of its roots, leaves, and flowers, but the ſtalks extend to a greater length, and at the upper part twiſt round other plants, &c. near them; the flowers are black. A native of the ſouth of France.

** *Leaves revolute at the ſides.*

18. A. *arboreſcens*, arboreſcent ſwallow-wort, apoc. fruteſc. &c. Burm. Afr. 21. t. 13. "Leaves ovate; ſtem ſhrubby, ſubvilloſe;" ſtem upright, as thick as the finger, rough, with hairs; leaves oppoſite, on very ſhort petioles, obtuſe, but with a minute ſmooth point; peduncles from the ſummit of the ſtem, umbelled, villoſe; corollas white. A native of the cape of Good Hope. Cultivated by the ducheſs of Beaufort in 1714. It flowers in December. 19. A. *fruticoſa*, ſhrubby, or willow-leaved ſwallow-wort, A. glabra, Mill. Dict. n. 2. apoc. erectum africanum, &c. Mill. *fig.* 45. β A. craſſifolia, Lin. Syſt. ed. 13. "Leaves linear-lanceolate, ſtem ſhrubby;" the nectaries are compreſſed, without a claw, inſtead of which are two long reflex ears; follicles inflated, ſet with ſoft prickles. This is a native of the ſame place, and was cultivated in the ſame year, and by the ſame perſon, as the A. arboreſcens. 20. A. *repanda*, repand ſwallow-wort, apoc. erectum afric. ſubhirſutum, &c. Herm. Par. 45. Comm. Rar. t. 17. "Leaves revolute, repand, hairy;" this is given on the authority of Reichard. Its native country is unknown. 21. A. *ſibirica*, Siberian ſwallow-wort, Mur. Comm. Gott. 1779. t. 7. Gmel. Sib. 4. 77. n. 21. "Leaves linear-lanceolate, oppoſite, or in threes, ſtem decumbent." This varies with alternate leaves. It is a native of Siberia, and cultivated in 1775, by Mr. J. Gordon. It flowers in July. 22. A. *verticillata*, verticillate ſwallow-wort, apoc. marianum, &c. Pluk. Mant. 17. t. 336. f. 4. "Leaves linear verticillate, ſtem erect;" ſtalks ſlender, upright; flowers ſmall, white, in umbels at the top of the ſtems; leaves frequently four together. A native of North America. Cultivated by Miller in 1759.

*** *Leaves alternate.*

23. A. *rubra*, red ſwallow-wort. "Leaves ovate, umbels many, from the ſame common peduncle." Stem upright, ſimple, annual; leaves acuminate; ſeveral umbels on a peduncle. A native of Virginia. 24. A. *tuberoſa*, tuberous ſwallow-wort, apoc. Novæ Angliæ, &c. Herm. Lugdb. t. 647. Dill. Elth. 35. t. 50. f. 34. "Leaves lanceolate; ſtem divaricate, hairy." Stems a foot high, hairy, round, duſky red; leaves alternate, except at the upper part of the ſtem, and where the branches ariſe; flowers of a bright orange colour; the tuberous roots are very large. A native of North America, flowering in Auguſt. Cultivated in 1690, in the royal garden at Hampton-court.

**** 25. A. *filiformis*, narrow leaved ſwallow-wort. "Leaves filiform; ſtem erect; umbels lateral, elongate, peduncled." This ſpecies was found at the cape of Good Hope, by Thunberg. 26. A. *grandiflora*, great flowering ſwallow-wort. "Leaves petiolate, oblong, hairy; ſtem ſimple, rough, erect; flowers axillary, peduncled." The flower of this is very large, coloured, and teſſelated like that of the

fritillary

fritillary. It alſo was found at the cape by Thunberg. 27. A. *carnoſa*, fleſhy-leaved ſwallow-wort. "Leaves ovate, fleſhy, very ſmooth;" leaves about four inches long, without veins; petioles fleſhy, half the length of the leaves; umbel ſimple, axillary, ſolitary; calyx minute; corolla ſcarcely half five-cleft, flat. This differs much from the other ſpecies. A native of China. 28. A. *ſcandens*, climbing ſwallow-wort, Mill. Dict. n. 19. "Leaves oblong, lanceolate, ſubhirſute; ſtem ſhrubby, climbing; umbels lateral, compact." It climbs to the height of ten or twelve feet. At the joints are two oppoſite leaves, on ſhort footſtalks. Flowers of a ſulphur colour, and appear in Auguſt. A native of Carthagena. Cultivated by Miller in 1759. 29. A. *procera*, bell-flowered gigantic ſwallow-wort, Ait. Hort. Kew. A. gigantea, Jacq. Obſ. 3. 17. t. 69. "Leaves obovate-oblong, petioles very ſhort; corollas ſubcampanulate." A native of Perſia. Cultivated in 1714 by the duchefs of Beaufort. It flowers from July till September. This ought to be placed before A. gigantea at 6. 30. A. *parviflora*, ſmall-flowered ſwallow-wort, Ait. Hort. Kew. 1. 305. A native of Carolina and Eaſt Florida. Introduced by Dr. Fothergill in 1774. 31. A. *linaria*, toad flax-leaved ſwallow-wort, Cavan. Hiſp. 42. t. 57. "Leaves ſcattered, ſubulate, channelled; umbels lateral, many-flowered." A foot high; leaves narrower at the baſe, numerous; corolla white. We are ignorant of its native country. It has been cultivated in the royal garden at Madrid ſince 1788, and flowers in autumn. 32. A. *mexicana*, Mexican ſwallow-wort, Cavan. Hiſp. 42. t. 58. "Leaves ſix together in whorls lanceolate; flowers umbelled." Stems upright, ſmooth, a foot and a half high; leaves quite entire, with a ſhort petiole; corolla white, deeply five-parted. A native of Mexico, and cultivated at the royal garden Madrid. 33. A. *fuſca*, Lour. Cochinch. 170. "Stem creeping; leaves cordate, lanceolate; umbels axillary, in pairs." Stem herbaceous, twining, ſlender, much branched at the top; leaves oppoſite, ſmall, bearded at the baſe; flowers duſky purple, ſmall, with five ear-ſhaped nectaries. A native of Cochinchina. 34. A. *viminalis*, Swartz. Prodr. 53. Brown. Jam. 183. 3. Sloane, 1. 207. t. 131. "Stem ſuffruticoſe, twining, filiform; leaves oppoſite, lanceolate, ſmooth; umbels lateral, many-flowered." Stalks ſlender, weak, ſpreading to the diſtance of ſome yards. It has very few leaves, but many flowers diſpoſed in large umbellate groups; it abounds with a milky juice. A native of Jamaica, in woods.

Propagation and Culture. In this numerous genus, only two ſpecies, viz. 16. and 17. are European; two or three are from South America; the reſt are natives of North America, the Eaſt and Weſt Indies, or Africa. Such as are inhabitants of North America, 7—10, 12, 13, 14, 22—24. are, as well as the European, hardy enough to bear the open air, and therefore are proper for large borders in pleaſure grounds, and to mix with ſhrubs. The other ſpecies require the protection of the green-houſe or ſtove; all of them are tall perennials, flowering from June till Auguſt or September, moſtly dying down to the root in autumn. They ſhould have little water, eſpecially in winter: they may be propagated by ſeeds where they can be obtained, or by cuttings; the hardy ſorts may be increaſed by parting the roots. 1, 2, 3, 18—20, 25—27, 30, muſt have the ſhelter of a green-houſe in winter; 4, 5, 6, 11, 15, 28, 29, 31—34. will not live but in a ſtove. Theſe muſt be raiſed from ſeeds ſown in the ſpring on a hot-bed, and being tranſplanted into pots filled with rich earth, muſt be plunged into the tan-bed in the ſtove. After the ſecond year, the 11th ſort becomes naked, and does not produce many flowers, ſo that young plants ought to be raiſed to ſucceed them, eſpecially as it produces plenty of ſeeds in England. All the Cape ſorts, 1, 2, 3, &c. may be propagated by ſeeds ſown in April on a bed of light earth in the open air, and when the plants are three or four inches high, they ſhould be each planted in a ſmall pot filled with light earth, and ſhaded till they have taken new root; then they may be placed with other exotic plants in a ſheltered ſituation until October, when they may be removed into the green houſe or dry ſtove. They may alſo be increaſed by cuttings. The roots of the 8th and 22d ſhould be planted in a warm border, and in winter covered with old tan. The 14th and 24th are propagated by ſeeds in pots placed in a moderate hot-bed, and gradually enured to the open air as ſoon as the weather will permit. When they are of a proper ſtrength, they may be planted in a warm border, and treated as other tender plants. See Martyn's Miller's Dict.

ASCLOSTER, in *Geography*, a town of Sweden, in South Gothland, twelve miles ſouth of Wardberg.

ASCO, a town of Spain, in Catalonia, ſeated on the Ebro, ten leagues from Tortoſa.

ASCODRUTÆ, in *Antiquity*, a ſect in the ſecond century, who rejected all uſe of ſymbols and ſacraments; on this principle, that incorporeal things cannot be communicated by things corporeal, nor divine myſteries by any thing viſible.

ASCOGEPHYRUS, in *Middle Age Writers*, denotes a bridge ſupported on bags made of leather or bullocks hides, Such bridges appear to have been in uſe among the ancients, and to have given the denomination to a tribe of Arabs, hence called *Aſcitæ*.

Hence alſo the appellation *aſcomanni*, given to pirates, by reaſon of their uſing bridges, or rather boats made of leather. Plin. Hiſt. Nat. lib. vi. c. 9. Du-Cange.

ASCOLI, in *Geography*, a town of Italy, in the eſtate of the church, and marquiſate of Ancona, ſeated on a mountain between the rivers Tronto and Caſtillano; twenty leagues ſouth of Ancona, twelve north-eaſt of Aquila, and thirty north-eaſt of Rome. N. lat. 42° 50'. E. long. 15° 5'.

Ascoli *de Satriano*, a town of Italy, in the kingdom of Naples, and province of Capitanata, the ſee of a biſhop. This town was almoſt deſtroyed by an earthquake in 1399. N. lat. 41° 8'. E. long. 15° 32'.

ASCOLIA, in *Antiquity*, a feaſt which the peaſants of Attica celebrated in honour of Bacchus.

They ſacrificed a he-goat to him (as being the deſtroyer of vines); and of the victim's ſkin made a foot-ball, which they blew up, and anointed with ſome unctuous matter; or, as Potter thinks, they made a bottle of it, which they filled with oil and wine. The young people playing at this, and keeping themſelves always on one foot, whilſt the other was ſuſpended in air, by their frequent falls gave occaſion of diverſion to the ſpectators. He that held the ſport longeſt, and made the largeſt hops, was the conqueror. Hence the game called *aſcoliaſm*. Pitiſcus.

ASCOMARII, in *Ancient Geography*, a people of Aſia, in Sarmatia. Pliny.

ASCONA, in *Geography*, a town of Swiſſerland, lying on the Locarno lake, in which which is a college for the inſtruction of youth, founded in the ſixteenth century.

ASCONIUS, Padianus, in *Biography*, a Roman grammarian, was a native of Padua, and lived in the time of Auguſtus; the friend of Virgil, and the acquaintance of Quinctilian and Livy. His notes on Cicero's orations are judicious, and ſtill exiſt, though in a mutilated ſtate. They were firſt publiſhed, with thoſe of Luſcus, in folio, at Venice, in 1477; and

and at Padua in 1493. They have been intermixed with thoſe of other commentators, and may be found in Gronovius's edition of Cicero, publiſhed in 4to. in 1692. Fabr. Bib. Lat. l. ii. c. 6.

ASCORA, in *Geography*, a province of the empire of Morocco. See Escura.

ASCORDUS, in *Ancient Geography*, a river of Greece, in Macedonia, one day's journey from Agaſſa. Livy.

ASCOTANEÆ, a people of Aſia, in Scythia, on this ſide of Imaus. Ptolemy.

ASCOYTIA, in *Geography*, a town of Spain, in the province of Guipuſcoa, on the river Urola, weſt of Toloſa, and two leagues eaſt of Placentia.

ASCRA, in *Ancient Geography*, a town of Greece, in Bœotia, near mount Helicon. From its having been the place where Heſiod was brought up, though he was born at Cuma in Eolis, it was called his country.

ASCRIPTI, or Adscripti, in *Antiquity*, thoſe who entered their names in the colonies, and became *coloni*.

ASCRIPTITII, or Adscriptitii, a kind of villains, who, coming from abroad, ſettle in the lands of ſome new lord, whoſe ſubjects or ſervants they commence; being ſo annexed to the lands, that they may be transferred and ſold with the ſame.

The aſcriptitii are annexed to the land they hold, ſo that they cannot ſtir from it; beſides that, whatever they acquire accedes to the benefit of the lord of the land. Du-Cange, and Calv. Lex. Jur.

Ascriptitii is ſometimes alſo uſed in ſpeaking of aliens or foreigners, newly admitted to the freedom of a city or country.

Ascriptitii was alſo uſed in the *Military Laws*, for the recruits appointed to ſupply the loſſes of the legions; called alſo Accensi.

ASCULUM Apulum, or *Aſculum* of Apulia, in *Ancient Geography*, now *Aſcoli* of Capitanata, was ſituated in the Trajan way which paſſed from Beneventum to Canuſium, between Trivicum to the weſt, and Canuſium to the north-eaſt. This place is famous as the ſcene of the firſt battle in which the Romans obtained ſucceſs againſt the Epirots, under the command of Pyrrhus. Of this action, however, hiſtorians give a different account. Plutarch pretends that Pyrrhus gained a complete victory; whereas Eutropius affirms, that he was entirely defeated, and fled to Tarentum. Dionyſius of Halicarnaſſus ſays, that the victory was doubtful, and claimed on both ſides, and that Pyrrhus being congratulated upon his ſucceſs, replied, "Such another victory would undo me."

Asculum *Picenum*, now *Aſcoli* of Ancona, was the capital of the Piceni. It was a municipal town, and a Roman colony. Cicero (De Orat. c. 46.) commends an orator, named "Betucius Barrus," who was born in this city, and of whoſe diſcourſes delivered at Aſculum, ſome remained in his time.

ASCURA, a town of Aſia, in the greater Armenia. Ptolemy.

ASCURUS, a river of Colchis, according to Arrian.—Alſo, a town of Africa, in Mauritania.

ASCUS, in *Natural Hiſtory*, a word uſed by De Laet, as the name of that pouch or bag with which nature has ſupplied the animals of the *Diadelphis* or *Opoſſum* tribe, for the protection of their young; and in which they are contained in a ſtate of imbecility, or time of danger. Later writers, as Linnæus, Gmelin, and others, call this abdominal pouch, or receptacle, *folliculus*: it is not the womb, as is vulgarly imagined, but a kind of ſkinny bag, ſituated under the belly, and in moſt ſpecies containing the teats of the animal.

ASCYRUM, in *Botany*, a genus of plants reſembling St. John's wort (ſuppoſed from α, and σκίρος, or σκῦρος, *aſperatus*, not rough, a ſoft plant). Lin. g. 903. Schreb. 1225. Gaertn. 62. Juſſ. 254. Claſs, *polyadelphia polyandria*. Nat. Ord. *rotaceæ.—Hyperica*, Juſſ. Gen. Char. *Cal.* perianth four-leaved: the outer leaves oppoſite, very minute, linear; the inner heart-ſhaped, large, flat, erect, all permanent. *Cor.* petals four, ovate; the outer oppoſite, very large; the inner leſs. *Stam.* filaments numerous, briſtle-ſhaped, ſlightly united at the baſe in four parts; anthers roundiſh. *Piſt.* germ oblong; ſtyle ſcarcely any; ſtigma ſimple. *Per.* capſule oblong, acuminate, one-celled, two-valved, incloſed by the larger leaves of the calyx. *Seeds*, numerous, ſmall, roundiſh, fixed to the edge of the valves.

Eſſ. Gen. Char. *Cal.* four-leaved; petals four; filaments many, in four diviſions.

Species, 1. A. *crux Andreæ*, common aſcyrum, or St. Andrew's croſs. "Leaves ovate; ſtem round; panicle dichotomous." Stalks about ſix inches high, ſlender, dividing into two towards the top; from between the diviſions of the branches looſe panicles of ſmall yellow flowers are produced; capſule ſmall, pointed at the ends, compreſſed like a lens, obſcurely two-furrowed. A native of North America. Cultivated by Miller, in 1759. It flowers in July and Auguſt. 2. A. *hypericoides*. Brown, Jam. 309. Swartz. Obſ. 294. Hypericoides, &c. Plum. Gen. 51. t. 152. f. 1. "Leaves oblong; branches ancipital." An elegant little ſhrub three feet high, full of leaves and branches. Branches dichotomous; twigs compreſſed and ancipital; leaves oppoſite, ſubſeſſile, lanceolate, obtuſe, entire, very finely perforated, ſmooth, at their baſe ſmall glands; flowers terminating ſolitary, yellow; two leaflets of the calyx four times larger than the others. A native of South Carolina, Virginia, Maryland, and the cooler mountains of Jamaica. Cultivated by Miller. 3. A. *villoſum*. "Leaves hirſute; ſtem ſtiff and ſtraight." This grows about three feet high. The flowers are produced at the ends of the ſtalks, and are of the ſame ſhape and colour as thoſe of common St. John's wort. It grows wild in Virginia, and was cultivated by Miller in 1759.

Propagation and Culture. Theſe are perennial plants, the ſtems decaying in the autumn. The firſt may be increaſed by laying down its branches; it loves a moiſt ſoil and ſhady ſituation. The ſecond ſort rarely produces ſeeds in England, but may be propagated by cuttings of the young ſhoots in May, planted in pots, and plunged in a moderate hot-bed, and afterwards tranſplanted into a warm border; but in ſevere winters they muſt be defended from the froſts by covering the roots with tan. The third may be increaſed by parting the roots in autumn, and planting them in a loamy ſoil. See Martyn's Miller's Dict.

Ascyrum. See Hypericum.

ASDRUBAL, in *Biography*, a name given to ſeveral of the Carthaginian generals. *Aſdrubal*, the ſon-in-law of Hamilcar, the father of Hannibal, accompained Hamilcar into Spain after the firſt Punic war; and on his death, was elected by the army his ſucceſſor. Having made conſiderable conqueſts in Spain, he built a city called New Carthage, now Carthagena, in order to ſecure them. Hannibal ſerved during three campaigns under him. His adminiſtration in Spain was proſperous for eight years; but it terminated with his aſſaſſination, which was effected by a Gaul, whoſe maſter he had put to death. The aſſaſſin was ſo gratified with his revenge, that he ſmiled in the midſt of the tortures

with which he was executed.—*Aſdrubal Barca* was the ſon of Hamilcar and brother of Hannibal. He commanded in Spain, while his brother was in Italy. After extinguiſhing a rebellion of the natives, he was ſummoned to the aſſiſtance of his brother, but in his progreſs was completely defeated by the Romans. Aſdrubal and the other Carthaginian generals maintained themſelves with difficulty in Spain, and were frequently defeated by the two Scipios; but at length theſe two leaders were overpowered by the Carthaginians, and killed. Whilſt he was advancing along the coaſt of the Adriatic to join his brother, and the exiſtence of the Roman ſtate was threatened by his numerous army, he was met at the river Metaurus, now Metauro, by the two conſuls Livius and Claudius Nero with their united forces; and a bloody engagement enſued, which proved deciſive, for Aſdrubal was ſlain, and almoſt the whole of his army deſtroyed. Claudius Nero carried the head of Aſdrubal to his ſtation before Hannibal; and when it was thrown into the Carthaginian trenches, it was preſented to Hannibal, who recognizing his brother's features, exclaimed "I perceive the fortune of Carthage," and then retired, in the year before Chriſt 203, into the extremity of Italy.—*Aſdrubal*, the ſon of *Giſco*, ſerved in Spain with the former Aſdrubal, and afterwards in Africa, againſt Scipio. He was father of the celebrated Sophoniſba.—Another *Aſdrubal* defended Carthage in its laſt ſiege by Scipio, and foreſeeing its fate, ſurrendered himſelf to the Romans. When his wife, who was left behind him with her two children in the temple of Æſculapius, perceived that the temple was ſet on fire, ſhe appeared on the walls magnificently adorned, with her two children; and having reproached and execrated her huſband for baſely deſerting her, ſhe firſt ſtabbed her children, and then threw herſelf into the flames. See CARTHAGE.

ASDYNIS, in *Ancient Geography*, an iſland of Egypt, in the lake Mœris, according to Eudoxus, cited by Steph. Byz.

ASE, in *Biography*, a celebrated Jewiſh Rabbi, was born at Sora in Perſia, and was choſen chief of the famous academy in that place in the fourteenth year of his age, which dignity he retained during ſixty years, that is till the year 427, in which he died. Aſe was the principal compiler of the Babyloniſh talmud. During his long reſidence at Sora, he publiſhed a collection of his deciſions, which he divided into four parts: the firſt contained the rules and maxims of the Miſchna, with the doubts and ſolutions relating to them: the ſecond was chiefly occupied with the various queſtions of their doctors, and the ſentiments of the Thanaim and Gemariſts: the third comprehended the deciſions and maxims publiſhed ſince Judah the ſaint: and the laſt recapitulated the texts of ſcripture relating to law-ſuits, with the comments of their learned men. This was the firſt diviſion of the Babyloniſh talmud; but as Aſe did not live to complete it, his diſciples altered his method, and made ſeveral additions, which are thought to have rendered the work more obſcure. See TALMUD.

ASEA, in *Ancient Geography*, a town of Arcadia, north-eaſt of Megalopolis.

ASEERGUR, in *Geography*, a town of Hindoſtan, in the Candeiſh, fifteen miles from Burhampour, and eighty-five ſouth of Indore.

ASELAC, a town of Perſia, in the province of Chuziſtan, thirty leagues ſouth-weſt of Iſpahan.

ASEKI, or ASEKAI, the name which the Turks give to the favourite ſultaneſſes, who have brought forth ſons. Theſe are greatly diſtinguiſhed above others in their apartments, attendants, penſions, and honours. They have ſometimes ſhared the government. The ſultana who firſt preſents the emperor with a male child, is reckoned the chief favourite, is called *buyuk aſeki*, and ranks as a legitimate wife: though from the time of Bajazet I. the ſultans are forbid to marry by a public law, which Solyman II. violated in favour of Roxalana.

ASELLA, in *Entomology*, a ſpecies of PHALÆNA that is found in Germany. The wings are browniſh, and without ſpots. Fab. It belongs to the Bombyx family.

ASELLI, in *Aſtronomy*, two fixed ſtars of the fourth magnitude, in the conſtellation Cancer.

ASELLI *Pancreatici*, in *Anatomy*. See PANCREAS.

ASELLINA, in *Natural Hiſtory*, a ſpecies of LERNÆA deſcribed by Linnæus. Fn. Sv. The body is lunated, and the thorax heart-ſhaped. Found on the gills of ſome fiſhes.

ASELLUS, in *Ichthyology*, the name of a tribe or genus of fiſhes adopted by Willughby, Ray, and other old writers on Natural Hiſtory. Linnæus arranges the fiſhes of this kind in the GADUS genus; as for example: *aſellus major* of Aldrovandus, is *gadus æglefinus* Linn. (Hadock.) *aſellus fuſcus* of Ray, is *gadus barbatus* Linn. (Bib.) *aſellus mollis minor* of Willughby and Ray, is *gadus minutus* Linn. (Poor), &c. &c. See GADUS.

ASELLUS, in *Entomology*, a ſpecific name of the common wood-louſe, or hog-louſe as it is called in England. It belongs to the ONISCUS genus. It is of an oval ſhape; and has an obtuſe tail, which is furniſhed with two ſimple ſtyles. This well-known creature delights in moiſt places, lurking under ſtones, in walls, in damp and rotten wood, &c. The young are contained in a four-valved receptacle under the abdomen of the female.

ASELLUS, in *Conchology*, a ſpecies of CHITON, found in the North ſeas, moſt frequently adhering to *mytilus modiolus*. The ſhell conſiſts of eight valves, is very black, convex above, with a yelloviſh dorſal ſpot on each valve. Chemnitz, Gmel. &c.

ASELLUS, a ſpecies of CYPRAEA, very common about the Madeira iſlands. It is white, with three brown bands. Linn. This ſhell is called *Aſellus* alſo by Rumpfius and Argenville. The ſhape is oblong; and the brown bands are bordered with yellow, or ſometimes reddiſh.

ASEMOS, ασημος, from α negative, and σημα, a *ſign*, is an epithet applied to events that fall out contrary to all appearance, and without any manifeſt cauſe.

ASEPTA, in *Medicine*, ασηπτα, from α negative, and σηπω, *to putrefy*; ſignifies any thing unputrefied, or unconcocted.

ASELE, *Aſele-Lapmark*, or *Angermannland Lapmark*, in *Geography*, a province of Lapland, lying near the Angermannland river, borders on Angermannland towards the eaſt, on Umea-Lapmark towards the north, and joins to the mountains on the weſt, and to Jamtland on the ſouth. In length it is about thirty Swediſh miles. In the reign of Charles XI. about the year 1673, meaſures were taken for improving the population of this country. In this Lapmark lies the pariſh of Aſele, about eight or nine Swediſh miles long; of which the ſouthern part is inhabited by Swediſh peaſants. This diſtrict is not capable of much improvement, and few parts of it have been cultivated. Barley is the only grain that is ſown, and when the crop fails, the inhabitants are reduced to the neceſſity of mixing the bark of fir-trees dried and pulverized with their barley-meal, and of this mixture to make their bread. They chiefly ſubſiſt by breeding of cattle and fiſhing. The country is infeſted by a kind of fœtid gnats, which are very troubleſome, againſt which they ſecure themſelves by be-

ſmearing

ſmearing their faces with an ointment of tar and greaſe, and which they drive from the houſes by ſmoke. Service is performed in a wooden church, built by queen Chriſtina in 1648, once on every other Sunday; and the Lapps meet once a fortnight, on Friday evening, and continue till Sunday evening in their huts erected near the church, and the peaſants in the houſes built by them for the ſame purpoſe. At the fair which is held every year at Xenae near Aſele church, the Lapps ſell the fleſh and ſkins of rein-deer, furs, whitings, fowls, &c.; and the Lapland peaſants carry butter, cheeſe, dried fiſh, fowls and ſome ſort of furs, to the ſame market.

ASELLIUS, Gaspar, of Cremona, in *Biography*, born toward the end of the ſixteenth century, taught anatomy at Paris with great reputation. In 1622, while proſecuting his ſtudies, he diſcovered "caſu magis quam conſilio," Douglas ſays, the lacteals running acroſs the meſentery, in a dog that had been opened alive ſoon after eating a plentiful meal. He deſcribes theſe veſſels as paſſing from the inteſtines to the liver, not knowing their real courſe, and miſtaking the lymphatics of that viſcus for them. He ſaw their valves, preventing the regurgitation of the chyle. The lacteals, he candidly obſerves, had been mentioned by ſome of the earlieſt medical writers, but not deſcribed, or their functions ſtated, and as none of the modern reſtorers of anatomy noticed them, the diſcovery is properly attributed to him. Caſpar Hoffman ridiculed the invention of them; and our great countryman, Harvey, ſuppoſed them to be only deſtined to convey the lymph.

Aſellius miſtook a collection of glands in the meſentery for the pancreas, and deſcribed the pancreas as a new diſcovered gland, which, with his error in deſcribing the courſe of the lacteals, threw much obſcurity on his diſcovery. He died ſometime in the year 1626, and was buried at St. Peter's at Milan, aged, as appears by the inſcription on his tomb, only forty-five years. The year following, his friends, Alexander Padinus and Senator Septalius, publiſhed, from a manuſcript that had been prepared by the author, "De lactibus ſeu lacteis venis, quarto vaſorum meſaraicorum genere, novo invento, diſſertatio, cum figuris elegantiſſimis Mediolani, 1627, 4to." It was re-publiſhed at Baſle 1628, at Leyden 1648, and afterwards among the works of Spigelius and Mangeti, in folio. Haller Bib. Anat. Eloy Dict. Hiſt.

ASENA, in *Ancient Geography*, a town of Spain, in the territory of the Carpetani.

ASENI, a people of India, whoſe capital was Bucephala. Pliny.

ASER, in *Geography*, a town of Aſia, in the Arabian Irac, ſituated on the Tigris, eight miles weſt-north-weſt of Baſſora.

ASES, in *Ancient Geography*, a Scythian people, who inhabited the vicinity of the Cimmerian Boſphorus.

ASFACA, in *Geography*, a town of Perſia, in the province of Mecran, 52 leagues north-weſt of Mecran.

ASFELD la Ville, a town of France, in the department of the Ardennes, and chief place of a canton in the diſtrict of Rethel, thirteen miles north of Rheims.

ASFUN, or Asfoun, a town of Egypt, four miles north of Erment. This is the ſite of one of the cities called Aphroditopolis.

ASFUR, in *Ichthyology*, a ſpecies of Chaetodon, found on the coaſts of Arabia. It is black, with a yellow tranſverſe lunar-wedged band. Forſk. Fn. Arab. The ſame author deſcribes a variety of this fiſh, of a blueiſh colour, with oblique bands, blotches, and fine lines of violet. Length five inches; body oval, covered with rhombic ſcales, diſpoſed in a quincunx order, and finely dentated; a ſtrong ſpine on the gill-cover half an inch in length; lateral line curved; dorſal and anal fin falcated; tail rounded, fulvous, and edged with black.

ASGILIA, in *Ancient Geography*, an iſland ſituated in the Perſian gulf, on the coaſt of Arabia Felix. Pliny.

ASGILL, John, in *Biography*, an Engliſh barriſter of ſingular character, was born about the middle of the 17th century, and educated at Lincoln's Inn, under Mr. Eyre, a very eminent lawyer. His political talents and ſingular vein of humour were manifeſted in two pamphlets, which were printed in 1698, and which attracted public notice: the firſt was intitled, "Several Aſſertions proved in order to create another Species of Money than Gold and Silver;" and the ſecond, "An Eſſay on a Regiſtry for Titles of Lands." Theſe were followed, in 1700, by another whimſical and enthuſiaſtical treatiſe, intitled "An Argument, proving, that, according to the covenant of eternal life, revealed in the ſcriptures, man may be tranſlated from hence, without paſſing through death, although the human nature of Chriſt himſelf could not be thus tranſlated, till he had paſſed through death." This publication excited a general clamour againſt the author as an infidel and a blaſphemer. Before this time he had removed into Ireland, and purſued the practice of the law with ſo much ſucceſs, that he was enabled to purchaſe an eſtate, and to obtain a ſeat in the Iriſh parliament; but this publication occaſioned his expulſion from the houſe, as a perſon whoſe blaſphemous writings rendered him unworthy of repreſenting a Chriſtian people. On his return to England, he obtained a return to the Britiſh parliament, in 1705, for the borough of Bramber in Suſſex, and held his ſeat for two years. But his want of œconomy involved him in debts which he was unable to diſcharge, and during the interval of privilege, he was arreſted and committed to the Fleet priſon. On the opening of the next ſeſſion of parliament, in 1707, he was demanded by the ſerjeant at arms, releaſed from cuſtody, and reſumed his ſeat. However, his embaraſſed circumſtances, and the conſideration of his being a privileged debtor, created a prejudice againſt him in the houſe, and a committee was appointed to examine his offenſive publication; in order to juſtify the propoſed meaſure of his expulſion. This committee reported that his book contained ſeveral blaſphemous expreſſions, and that it ſeemed to be intended for expoſing the ſcriptures; and though Aſgill made a ſpirited defence, and ſolemnly proteſted, that he publiſhed his treatiſe under a firm belief of the truth of the ſcriptures as well as of his own argument, he was expelled. In conſequence of this meaſure, as his debts increaſed, he was thrown by his creditors into the King's bench priſon, where he remained thirty years; furniſhing himſelf with amuſement and occaſional ſupplies, by writing pamphlets, chiefly political, againſt the pretender, and by practiſing in the way of his profeſſion. Notwithſtanding his misfortunes, and the conſciouſneſs of his own indiſcretion, he retained great vivacity of ſpirits, and peculiar powers of entertaining converſation, till his death, which happened within the rules of the King's bench, in 1738, at the age as ſome ſay of 80, or according to others 100 years. Aſgill ſeems to have been a viſionary and enthuſiaſt, rather than an infidel or blaſphemer; and his eccentricities rendered him more the object of contempt or pity, than perſecution and puniſhment. Biog. Brit.

ASH, *Common*, *Flowering*, and *Manna*, in *Botany*. See Fraxinus.

Ash, *Mountain*. See Sorbus.

Ash, *Poiſon*. See Rhus.

Ash-*Bals*, are formed of the aſhes produced by a ſlow incineration of the green plants of fern, which contain a

conſiderable portion of alkali, and are uſed in making lye for the ſcouring of linen. See Filix.

Ash Tree, in *Planting*, a tree of the deciduous kind, of which there are ſeveral ſpecies cultivated either for the ſake of variety, or for the purpoſe of ornamenting pleaſure grounds, &c.; but the kind which deſerves attention here, is the common aſh, ſo well known as a timber tree as to need no deſcription. See Fraxinus.

The aſh tree will thrive in barren ſoils, and in the bleakeſt and moſt expoſed ſituations; but it grows to the greateſt advantage on ſuch lands as have a tolerable depth of ſoil, and on which water is not liable to ſtagnate. It is found to be of ſo hardy a nature, as to withſtand the effects of the ſea-winds; it may therefore be planted on the coaſts, where but few other kinds of trees are found to proſper. When planted on the ſides of ditches, or in moiſt meadow lands, from the ſpreading of its roots it has been found to render the ground more firm and dry. From this, as well as other cauſes, it is, however, highly prejudicial when planted on arable land; it ought therefore to be chiefly planted on the waſte nooks and corners of fields, or perhaps, on improveable ſwampy lands, and on the ſpringy ſides of hills, as it would not only render them uſeful as plantations, but, from the ſpreading of its roots make them more firm and dry.

This ſort of tree propagates itſelf plentifully by means of ſeeds, which being ſcattered in autumn in places where cattle do not come, plenty of plants come up in the ſpring. Where any perſon is deſirous of raiſing a quantity of theſe trees expeditiouſly, the ſeeds ſhould be ſown as ſoon as they are ripe, and the plants will then come up in the following ſpring; but if the ſeeds be kept out of the ground till ſpring, they will not come up till the ſecond year. The ground ſhould be kept clean all the ſummer where they are ſown, and not diſturbed, leſt the ſeeds be turned out of the ground, or buried too deep to grow. When the plants are come up they muſt be kept perfectly clean from weeds during the ſummer months, and if they make good progreſs in the ſeed-bed, they will be fit to tranſplant by the following autumn; ſome ground ſhould therefore be prepared to receive them, and as ſoon as their leaves begin to fall, they ſhould be tranſplanted. In removing the plants, care ſhould be taken not to break or tear off their roots; to prevent which, they ſhould be taken up with a ſpade, and not drawn up, as is frequently practiſed; for as many of the plants which riſe firſt from ſeed will outſtrip the others in their growth, it is a frequent practice to draw out the largeſt, and leave the others to grow a year longer before they are tranſplanted; and to avoid hurting thoſe that are left, the others are drawn out by hand, and conſequently many of their roots torn off or broken. It is therefore much the better way to take all up, little or big, together, and tranſplant them out, placing the large ones together in rows, and the ſmall ones by themſelves. The rows ſhould be three feet aſunder, and the plants a foot and a half diſtant in the rows. In this nurſery they ſhould remain two years, by which time they will be ſtrong enough to plant out where they are to remain; as the younger they are planted out the better they will grow, ſo that where they are deſigned for uſe they ſhould be planted very young, and the ground where they are raiſed ſhould not be better than that where they are to grow. For when plants are raiſed in good land, and afterwards planted into worſe, they very rarely thrive well; on which account it is much the beſt method to make the nurſery upon a part of the ſame land where the trees are deſigned to be planted, and then a ſufficient number of trees may be left ſtanding upon the ground, which will generally outſtrip thoſe which are removed, and grow to a larger ſize.

Where planters reſide in the neighbourhood of aſh-trees, they may ſupply themſelves with plenty of ſelf-ſown plants, provided cattle are not ſuffered to graze on the land; and where the ſeeds fall in hedge-rows and are protected by buſhes, the plants moſtly come up and thrive well; in ſuch hedge-rows the trees are frequently permitted to grow till they have deſtroyed the hedge, for there is ſcarcely any tree ſo hurtful to all kinds of vegetables as the aſh, as it robs every plant of its nouriſhment within the reach of its roots; it ſhould therefore never be ſuffered to grow in hedge-rows, as the hedges are not only killed, but corn, or whatever is ſown near them, greatly impoveriſhed. If a plantation of this kind of trees be rightly managed, it will turn greatly to the advantage of the owner; for by the underwood which will be fit to cut every eight or ten years, there will be a continual income more than ſufficient to pay the rent of the ground and all other charges, and ſtill a ſtock will be preſerved for timber, which, in a few years, may be worth forty or fifty ſhillings, or perhaps much more per acre. In the ſixth volume of the Bath papers, Mr. South obſerves, that the growth of aſh, in ſoils adapted to its nature, is little inferior to that of elm or beech; but that there is no timber whatſoever that differs more in its value than this does, according to its ſituation. The productions of dry and healthy grounds will prove acceptable to moſt purchaſers; thoſe of woods are generally clean in the ſhaft, and more valuable than the former. The nearer the ground the tougher is the timber; the ſhaft therefore is coveted, the brittle branch is rejected; the buyers of this timber accepting the ſhaft and its continuation, or beſt bough; the reſt, be they ever ſo large, go with the top. When this ſort of timber is raiſed in damp meadows or mooriſh ſoils, it becomes light, ſpongy, brittle, and of ſmall value in compariſon of that on dry and healthy ſpots. In meadows theſe trees will attain a ſize which cannot be expected in moors and bogs; for when the roots reach the peat, the bark grows moſſy, and the top decays: how long ſtubs may be productive of poles in ſuch ſituations, remains to be determined; but experience determines that aſh thus planted will never become timber of any value, as the roots muſt periſh before the tree arrives to perfection. If aſh-trees get diſbarked, though in appearance they ſhould be flouriſhing, on being felled, the roots will be frequently found decayed, and the ſtems at bottom a complete ſhell; they ought not therefore, in point of profit, to be ſuffered to ſtand. Theſe trees, when they ſtand among firs and larches if planted cloſe, will grow too tall and ſlender, but thrive well when planted alone. They are frequently known to have thriven for at leaſt ninety years, as may be ſeen by their ring. But in the firſt ten years, as well as the laſt, the growth has been obſerved ſlow. It is remarked by Mr. Mariſhall, in his Rural Economy of the Midland Counties, that in the intermediate years, the different thickneſſes of the rings in different years were ſtriking. This kind of timber is generally eſteemed next in value to that of the oak, and in ſome places even nearly equal to it. It is of great value to the coachmaker, the wheel-wright, and cart-wright, for ploughs, axletrees, fellies of wheels, harrows, ladders, and other implements of huſbandry; and alſo to the ſhipbuilder, for oar-blocks for pulleys, and many other purpoſes.

The beſt ſeaſon for felling this ſort of timber is from November to February; for if it be done either too early in the autumn, or too early in the ſpring, the wood will be

ſubject

ſubject to be infeſted with worms and other inſects; but for lopping of pollards, the ſpring is preferable for all ſoft woods.

Great attention has lately been paid to the planting of this uſeful timber tree in different parts of the kingdom. According to the tranſactions of the Society of Arts, near Great Finborough in Suffolk, Mr. Wollaſton has planted twenty acres; and at Butsfield near Durham, Mr. White has covered thirty-five acres; in Kent a ſtill larger extent of land has been planted by Mr. Day of Frindſbury; and at Buſcot, near Farringdon, Berkſhire, Edward Loveden Loveden, eſquire, is ſaid to have planted thirty-three thouſand on ſeven acres and nine perches; in Staffordſhire, ſix thouſand have been ſet by Mr. Sneyd of Belmont; and in Weſtmoreland, the biſhop of Landaff has planted eleven acres with twenty thouſand. In Scotland likewiſe, ſomething has been done in the cultivation of aſh timber; in Cromarty, forty-two thouſand have been planted by Mr. Roſs; and fifty-ſeven thouſand by the earl of Fife, in the county of Murray.

The aſhes reſulting from the combuſtion of this kind of wood, are found to contain good pot-aſh in a larger proportion than moſt other kinds of green wood.

Ash, *Bitter*. See Quassia Amara.

Ash-*Weed*. See Ægopodium.

ASHA, in *Geography*, a town of Germany, in the archduchy of Auſtria, four miles north of Effending.

ASHAJA-TUSLA. See Soli.

ASHAN, in *Scripture Geography*, a city in the tribe of Judah (Joſhua xv. 42.): but, perhaps, afterwards ſurrendered to Simeon. (Joſh. xix. 7.) According to Euſebius, Beth-Aſhan was 16 miles weſt from Jeruſalem.

ASHAU, in *Geography*, a river of Germany, in the circle of Lower Saxony, which runs into the Lechte, near Zell.

ASHBOURN, a town of England, in the county of Derby, on the eaſt ſide of the river Dove; its weekly market is on Saturday; diſtant north-north-weſt 139 miles from London. N. lat. 53°. W. long. 1° 35′.

ASHBURNHAM, formerly *Dorcheſter-Canada*, a town of America, in Worceſter County, in Maſſachuſets, 30 miles north of Worceſter, and 54 from Boſton, was incorporated in 1765, and contains 951 inhabitants. In this townſhip is a white ſand, which is thought to be fit for making fine glaſs.

ASHBURTON, an ancient borough town of England, in the county of Devon, which ſends two members to parliament; it lies in a valley, with hills to the north and ſouth. It is one of the four ſtannary towns of Devonſhire; and has in its neighbourhood mines of tin and copper. It has two weekly markets, one on Tueſday, chiefly for woollen yarns, for the accommodation of the ſerge manufacture which is carried on in the town; and one on Saturday, for proviſions. This town gives the title of baron to the family of Dunning. It is diſtant weſt-ſouth-weſt from Exeter 19 miles, and 191½ weſt from London. N. lat. 50° 30′. W. long. 3° 10′.

ASHBY, a townſhip of America, in Middleſex county, Maſſachuſets, fifty miles north-weſt from Boſton; containing 751 inhabitants.

Ashby *de la Zouch*, a town of England, in the county of Leiceſter, near the borders of Derbyſhire; the principal trade of the town depends upon the making of malt; its market is on Saturday. The decayed caſtle, which was formerly the property of the family of de la Zouch, now belongs to the earl of Huntingdon. It is diſtant 17 miles north-weſt from Leiceſter, and 114⅛ north from London. N. lat. 52° 40′. W. long. 1° 20′.

ASHCUTNEY, or Asacutney, a mountain of America, in Vermont, ſituate partly in the townſhips of Windſor and Weathersfield, and oppoſite Claremont, on Sugar-river, in the ſtate of New Hampſhire. It is 2031 feet above the ſea, and 1732 feet above high water in Connecticut river, which runs by its eaſtern ſide.

ASHDOD, in *Ancient Geography*. See Azotus.

ASHDOTH-PISGAH, a city in the tribe of Reuben, ſo called from אשרות, *well-watered places*, and ſituated in the fertile plains at the foot of mount Piſgah, or at the ſprings of Piſgah; whence its name.

ASHENAGUR, a province of India, correſponding with the country of the Aſſacani, in which Alexander warred, on the weſt of the Indus, ſituate at or near the conflux of the Penje-koreh and Sewad rivers, and two marches from Bijore. The preſent Sewad is part of the ancient province Aſhenagur. Rennell's Memoirs, p. 159.

ASHER, the ſon of Jacob, by Zilpah, gave denomination to one of the twelve tribes which was ſettled on the north-weſt of the province of Lower Galilee, in a very fertile country producing abundance of corn, and wine, and oil, of the beſt kinds, with Phœnicia weſt, mount Libanus north, mount Carmel and the tribe of Iſſachar ſouth, and Zebulun and Naphtali eaſt. It contained ſome conſiderable cities near the ſea, but no ſea-port of any note. This tribe never poſſeſſed the whole extent of diſtrict aſſigned to it, which was to reach to Libanus, Syria, and Phœnicia.

Asher, a city of Paleſtine between Scythopolis and Shechem.—Alſo, according to Euſebius, a large town between Azoth and Aſcalon.

ASHES, in *Chemiſtry*. This is a term of general import, which is applied to the pulverulent reſidue left after the combuſtion of any ſubſtance whatever. In this ſenſe, the combuſtion of metallic bodies has been ſaid to yield *metallic aſhes*, but to theſe the terms *calx* and *oxyd* have been ſubſtituted; and it is only vegetable and animal matters that are now ſaid to afford aſhes after burning.

To conſume vegetable or animal ſubſtance to aſhes, the free acceſs of air is requiſite, more particularly with the latter.

Vegetable Aſhes. When a vegetable is ſet on fire, a vaſt quantity of aqueous vapour firſt eſcapes, together with the component parts of moſt of the other vegetable principles, ſuch as the native juices, the acids, the ſugar, the oil, &c. which latter either burn with flame or are driven off in a denſe ſmoke. The more ſolid carbonaceous part requires a longer continuance of heat, and a free acceſs of air for its complete combuſtion; but when this is effected, a certain portion of white or grey aſhes remain behind, conſiſting of the fixed ſaline, the earthy, and the metallic ingredients. In general, it is found (as would be expected) that the watery, ſucculent, and herbaceous plants, yield a leſs quantity of aſhes than the hard and woody parts of vegetables; but there are numerous exceptions to this rule, as the hardneſs of texture is more determined by the quantity of carbonaceous matter. A very violent heat either melts the aſhes into a *flag* or *ſcoria*, or diſſipates their ſaline ingredient, and leaves only the earthy and metallic; ſo that a certain management of the fire is requiſite in order to procure the greateſt poſſible quantity of aſhes from vegetable matter.

From the ſaline ingredient are procured thoſe very important articles in chemiſtry and manufacture, *the fixed alkalies*, both vegetable and mineral; the former diſtinguiſhed according to its ſpecies and purity by the terms *wood aſhes*, *pearl-aſh*, *pot-aſh of commerce*, *ſalt of tartar*, or *ſalt of wormwood*; the latter by the terms *natron*, *barilla*, *kelp*, and *ſoda*.

As the combuſtion of vegetables, when carried on in the large way, is always directed to the object of procuring the alkaline ſalt, and the ſubject includes a variety of intereſting obſervations, and the particulars of the analyſis of aſhes, we ſhall refer the reader of this article to thoſe above mentioned, and eſpecially to that of CHEMISTRY *of Plants and of Soils*.

We may add, however, that though vegetable aſhes are compoſed of fixed earths and alkalies combined with acids, and of ſome metallic oxyds, eſpecially thoſe of iron and manganeſe, almoſt every poſſible variety of combination and proportional quantity of ingredients is to be met with, according to the nature of the plant, the compoſition of the ſoil, the ſeaſon of the year, climate, and the like. In general, chemical analyſis has detected the following ſubſtances in vegetable aſhes; ſilex, magneſia, lime, pot-aſh, ſoda; the ſulphuric, carbonic, phoſphoric, and muriatic acids; and the oxyds of iron and manganeſe. The moſt uſual ſtates of combination of theſe ingredients are, the ſulphats of pot-aſh, ſoda, lime, and magneſia; the muriates and carbonats of the ſame, and the phoſphat of lime. It is ſtill a queſtion, which of the ſaline ingredients repreſent the actual ſtate of the vegetable juices, and which of them are formed by the proceſs of combuſtion; the acid of the carbonats may with great probability be ſuppoſed to ariſe from the latter cauſe.

When the ſaline part of vegetable aſhes has been ſeparated by lixiviation, the light earth that remains, probably ſtill mixed with a portion of ſulphat of lime, is ſometimes employed, after being well waſhed, for the formation of the large CUPELS uſed in the *refining of ſilver*.

The ancient alchemiſts paid conſiderable attention to the aſhes of different plants; and ſome of the Roſicruſian ſchool of deceived and deceiving impoſtors, pretended to be able, by a ſpecies of *palingeneſia* or re-production, to exhibit in the aſhes of a plant a complete miniature repreſentation of the gradual growth and maturity of the individual vegetable.

Animal Aſhes. A very few words will be requiſite on this ſubject taken ſeparately. Animal matter is much more difficult of complete combuſtion than vegetable; the volatile part of each is driven off by heat without much difficulty, but the coal of animal ſubſtance is of very difficult incineration, often requiring a very long continued and violent fire. This is probably owing in part to the greater quantity of oxyd of iron which, uniting with the carbonaceous matter by the aſſiſtance of heat, forms a *carburet of iron* that burns with extreme difficulty. The ſaline and earthy parts almoſt peculiar to animal aſhes are the phoſphat of ſoda, phoſphat of ammonia, and phoſphat of lime, and often the carbonats of ſoda and lime. The proportion of earthy ſalt in bones, horn, and the harder parts of animals, is generally full one half the weight of the ſubſtance when freſh from the body: in *bone* it is almoſt entirely phoſphat of lime, mixed however with a ſmall portion of ſulphat and carbonat of lime; in *ſhell* the earthy part is principally carbonat of lime.

For further particulars concerning animal aſhes we muſt refer the reader to the individual articles of animal matter; ſuch as BLOOD, BONE, HARTSHORN, SHELL, and to the above-mentioned earthy and alkaline ſalts.

The only animal aſhes employed to any extent in the arts are the lixiviated aſhes from bones, which when mixed up in water, and caſt in proper moulds, form the CUPELS that are employed in ASSAYING and REFINING *of gold and ſilver*. The finer and whiter aſh of calcined horn is employed to a ſmall extent in medicine, under the term *cornu cervi calcinatum*, or *calcined hartſhorn*.

ASHES, in *Agriculture*, the earthy or other particles of combuſtible ſubſtances after they have been burnt in the fire. The beneficial effects of ſuch matters, as manures, may probably, in a great meaſure, ariſe from the portion of akaline ſaline matter which they contain, which by its action on, and combination with the materials that are preſent in ſoils, may render them more ſoluble and proper for the nutrition of plants. Conſiderable utility may alſo be derived from their operating mechanically, and in that way leſſening the tenacity and ſtiffneſs of the heavier kinds of ſoils, and likewiſe by their abſorbent powers in lands of the more moiſt kind. Aſhes are of different ſorts, as *bleacher's aſhes, coal aſhes, pearl aſhes, pot aſhes, ſalters' aſhes, turf aſhes, wood aſhes*.

The firſt ſort conſiſts principally of the hard undiſſolved parts of pot-aſh, kelp, weed-aſh, and barilla. Laid on land alone, they are too ſtimulating; they ought therefore, perhaps, never to be uſed but in union with earth, or earth and dung. It is ſaid, however, they anſwer well with blood, garbage, and putrid animal ſubſtances. They are generally laid upon fallows for wheat. The greateſt advantage derived from them is upon clays or deep loams. Upon ruſhy grounds, or coarſe wet meadows, they will be found particularly uſeful, in deſtroying the coarſe plants that infeſt them.

The ſecond ſort, or coal aſhes, probably from their containing a portion of calcareous matter, are found to be highly beneficial on ſtiff and ſour lands; for which purpoſe they are ſucceſsfully uſed in the neighbourhood of many great cities, where coal is much burnt for fuel. They alſo open the texture of clayey grounds, and correct their tenacity, and other bad qualities. The gardeners and farmers about London know their value, and make a very profitable uſe of them; particularly in bringing into order thoſe grounds which have been dug up for brick-earth. Mr. Bradley long ago, indeed, blamed the people of Staffordſhire, and the countries adjoining, where there are coal-pits, for not improving their heavy grounds around them, by manuring them with coal aſhes, which might be eaſily burnt out of the waſte coals of ſuch pits; and ſuggeſts "that wherever there are plenty of coal-pits, there can be no want of good profitable land." Mortimer held the ſame opinion, eſteeming ſea-coal aſhes as the beſt manure of any for cold lands, as well as the moſt laſting and fitteſt to kill worms and ſlugs. And Worley looked upon them as an excellent compoſt, when mixed with horſe-dung; remarking, that they have great effects in removing moſs and ruſhes in moiſt grounds. Aſhes of this kind are employed in different proportions, in different places, according to the particular circumſtances of the crop, and the land on which they are applied. It is obſerved by Mr. Farey, in the Annals of Agriculture, that about Dunſtable they are uſed at the rate of from fifty to ſixty buſhels to the ſtatute acre, for a complete dreſſing; and that they ſucceed, well ſown on clover, in March or April, on dry chalky lands. They have alſo much effect on ſward-land, when applied during the winter or ſpring; but they are never uſed on wheat. It is likewiſe further remarked by the ſame writer, that in very dry ſeaſons they do little ſervice, except on cold ſwards, which they invariably improve; and that on light land they require rain, after being ſown or ſpread over the land, in order to promote their operation.

The aſhes formed from peat, are found, from long experience, to be a very good manure. The author of Modern Agriculture remarks, that in many parts of the kingdom peat-earth cut and dried in the courſe of the ſummer, is the only fuel; and that the peat dug from the moſſes that are ſo firm as to bear cattle to tread on them, is the beſt both

both for fuel, and afterwards for manure. The aſhes of the ſward, or what is pared from the ſurface of heaths and commons by the cottagers in many parts, as about Bedford, are, he ſays, of little value, when compared to thoſe above mentioned. It is probable that Berkſhire is the only diſtrict of Great Britain, where peat aſhes, without the mixture of any other ſubſtance, are at preſent generally uſed as manure. The aſhes of peat, dug from extenſive meadows in that county, have been proved, by the experience of ſixty or ſeventy years, to be a moſt excellent manure, when uſed as a top dreſſing on almoſt all kinds of crops; as oats, wheat, barley, turnips, clover, ſainfoin, meadows, paſtures, &c. The quantity generally uſed is about twenty buſhels, more or leſs, as the condition of the land ſeems to require; and the price about three-pence or four-pence a buſhel. To ſuch an extent is this mode of manuring carried on in that county, that the proprietors often receive two or three hundred pounds the acre for the liberty of cutting and carrying off peat to the depth of five or ſix feet. It would be abſurd to ſuppoſe, ſays he, that the peat aſhes of Berkſhire are ſuperior, as manure, to thoſe in every other part of the iſland; and as their effects in that country, when applied to the ſoil, have been conſpicuous for a great number of years, it is certainly a circumſtance meriting the attention of thoſe who reſide where peat is the only fuel, to aſcertain whether peat aſhes in ſuch diſtricts do not poſſeſs all the fertilizing qualities of thoſe in Berkſhire. The experiment is eaſily made; all that is neceſſary being to keep the aſhes dry, and under cover during winter; and to ſprinkle them with the hand over the crops in ſpring, at the rate that has been juſt mentioned.

Lord Dundonald, in his Treatiſe on the Connection of Agriculture with Chemiſtry, however, remarks, that the aſhes procured from peat in the neighbourhood of Reading, in Berkſhire, ſeem to poſſeſs a fertiliſing power infinitely greater than aſhes obtained from moſt other peat. They certainly, he believes, contain no alkaline ſalts; and in an haſty analyſis made ſome years ſince, no ſaline matter, ſays he, is recollected to have been got from them, but a ſmall proportion of Epſom ſalt. Had theſe aſhes, however, been analyſed with more care, and when newly made, they probably would, he thinks, have been found to contain a *hepar* of *lime*, a ſalt which is ſoluble in water; whilſt gypſum, to which it reverts on expoſure to the air, is inſoluble. To this hepar, therefore, ſays he, may the fertilizing power of theſe aſhes moſt probably be attributed. And the writer of the Survey of the County of Middleſex ſuggeſts, that as the hills on each ſide of the meadows which produce the Newbury peat aſhes, conſiſt of chalk, eaſily diſſolvable by heavy rains, which waſhes it off the ridges, down the furrows, ditches, and ſtreamlets, to the low grounds, where, mixing with the floods, it is floated over the meadows, and depoſited with the peat; conſequently the peat of that diſtrict differs from that of moſt others, by the quantity of chalk which it contains, and that when dug, dried, and burnt, the fire reduces the chalk to lime, and the reſt to aſhes. Hence Newbury aſhes are a mixture of lime and vegetable aſhes; and it is very probable, he thinks, that any common peat-aſhes, or the aſhes of rough graſs land, of turf, heath, furze, ling, wood, &c. produced by the operation of paring and burning, being mixed with chalk-lime in due proportion, would be equally fertilizing as thoſe noted aſhes. It has indeed been long ſince obſerved by Miller, that theſe aſhes are greatly bettered by being mixed with lime before they are put on the land. Theſe aſhes are produced from land that is black and crumbly at top, under which lies the peat to the depth of ſeveral feet. They do not burn the peat in the field by choice, becauſe the peat is burnt for aſhes, when it cannot be dried for ſale; and then it is burnt in large heaps, with a ſmothering fire, as is likewiſe the ſuperficial black earth, or moory ſoil, together with the refuſe of the peat: the aſhes of theſe are laid up in round or long heaps, riſing at top like the ridge of a houſe, in order to throw off the rain and keep them dry till they are ſold. Sometimes they are laid under dry ſheds or in houſes to ſave them from wet, which they cannot be wholly protected from by laying them up in ridges expoſed to the weather, into which the rain penetrates for ſome inches deep; but theſe aſhes are never ſo good manure as thoſe that are kept dry. Near the ſurface of the peat earth there is ſometimes a bed of whitiſh earth called *maurn*, which is a compoſition of earth and very ſmall ſhells of the periwinkle kind; this is alſo burnt to aſhes for manure, and the quantity of it in ſome places is ſo great, that the aſhes are of a whitiſh colour, while thoſe from the peat or mooriſh earth are reddiſh. The white are eſteemed to be as good manure as the red; and being a kind of ſhell-marl, would make good manure without being burnt; as indeed they rarely are thoroughly, though they ſeldom lay them upon land till they have paſſed the fire, or are mixed with the aſhes of the peat-earth. The aſhes of the peat ſold for fuel, and burnt in chimnies, are much ſtronger manure than the aſhes burnt in the field; and if care be taken to keep them dry, are ſold for nearly double the ſum of the field aſhes. Mr. Farey ſtates, in the Annals of Agriculture, that he has found field aſhes to improve the chalky ſoils about Dunſtable; but on the wet lands, or cold ſwards, and hot ſandy lands, they did little good. They may be employed on the ſame kinds of crops, and in the ſame way as coal aſhes, and alſo on the wheat crops about April. But Mr. Middleton ſays, that he has tried the Newbury peat-aſhes on wheat, tares, ſeeds, and meadows, in various quantities to the acre, without producing any ſenſible effect. In Norfolk, aſhes are not in eſtimation as manure; even thoſe of the hearth are in ſome degree neglected. But the meadows and fens abound with peat-bogs, which in ſome places would be conſidered as ineſtimable ſources of manure; and the peat-earth in ſuch meadows, when burnt, would no doubt afford an ample ſupply of aſhes. In many places, much advantage has been ſuppoſed to ariſe from the practice of mixing lime with peat-aſhes before they are applied to the ground.

The refuſe, or aſhes, remaining after the burning of different green vegetable matters from which the alkaline ſalt called pot-aſh has been extracted, is a kind of aſhes which has been found of great ſervice to moſt ſorts of land; but as they have been in a great meaſure deprived of their ſaline property, it is neceſſary to lay them on much thicker than any other ſort of aſhes. Mr. Bradley aſſerts that a buſhel and a half of theſe may be uſed in the room of a buſhel of freſh aſhes; and that they ſhould always be mixed with ſome other light ingredient which may be uſed in any quantity when laid on very ſtiff land; but if the land be not over ſtiff, they may be laid on it with leſs mixture. As in places far removed from the means of improvement, a ſubſtitute for common manures, that is of eaſy carriage, and can be had at a moderate expence, muſt be valuable, pot-aſh may be employed; for, from experiments that have been made, it appears that two hundred pounds of it are ſufficient for an acre of ſtrong land. For lighter ſoils much leſs is required, if laid on by itſelf; on theſe, however, a compoſt of this and train or refuſe oil incorporated with mould, will be the beſt way of employing it. Upon ſtrong clays and deep loams however, it ought always to be applied by itſelf. When the expence of carriage is conſidered, this will often be found a cheaper manure than lime; and in one reſpect it

is ſuperior, for the union of pot-aſh with all the different acids forms a neutral ſalt which is in ſome degree uſeful in vegetation; whereas when lime meets with vitriolic acid, it is almoſt entirely loſt to the purpoſes of agriculture. A conſiderable part of what is uſed in manufactures (glaſs excepted) may be uſeful as a manure, after the purpoſes of the different manufactures have been ſerved; particularly in bleaching, the alkali of which will be found improved in conſequence of the mucilage or oil which it has imbibed from the cloth or other matters.

The ſoapers' aſhes are a compoſition of wood aſhes and lime, remaining after the ſoap-makers have drawn off their lye. Theſe are in general a very valuable manure; but there is great difference in the quality and effects of them. Thoſe from wood aſhes are the weakeſt ſort, as, wood aſhes being very light and ſpongy, their ſalts are ſoon diſſolved and extracted by the lye; ſo that there remains but a very ſlight portion of ſalt in the aſhes. But when the ſoap-boilers make uſe of kelp inſtead of wood aſhes, the kelp, from its being of a harder nature than wood-aſhes, is not ſo eaſily ſeparated and diſſolved by the lye; conſequently, much more of the ſaline matter remains in the aſhes. The ſoap-boilers alſo make uſe of another kind of potaſh called barilla, which is imported from Spain and other places in large lumps, and which is much harder than common pot-aſh, and though they break this ſort very ſmall, and ſometimes ſcreen or ſift it, much more ſalt remains than when pot-aſh is employed; ſo that the aſhes from barilla are for the moſt part ſtronger than any other; and if the ſame quantity of them were laid upon land as is commonly the caſe with wood aſhes, they would burn and deſtroy the crop. Farmers ſhould therefore uſe ſoap-boilers' aſhes with caution, till they know their qualities and ſtrength. Wood aſhes and pot aſhes are uſed in various places for making ſoap; but in and near London, very little of any thing but barilla is employed. The aſhes from the barilla are a ſtrong rich manure, and ſold at five ſhillings per cart-load. They are not now however ſo good as they were formerly, the ſoap-makers having found means to extract more of their ſalt from them; as they alſo take the ſalt from the lye which was formerly rather ſuperior to the aſhes as a manure, and to be had for nothing, being all thrown away as uſeleſs. This excellent manure was firſt uſed by the Flemings with great ſucceſs. Two loads of theſe aſhes are ſufficient for an acre of arable land. They ſhould be laid on the ground when the weather is inclined to be moiſt, in order that the rain may more eaſily diſſolve and waſh them in. As ſoapers' aſhes principally conſiſt of lime, which is uſed by ſoap-makers to deprive the alkaline ſalts of their fixed air, the addition of lime to the aſhes is unneceſſary. They are uſed to moſt advantage when made into compoſts with earth and well-fermented dung in the proportion of two loads of dung to one of earth; the aſhes being then added in the quantity of one load to ten of this mixture, turning and incorporating the whole completely. The quantity neceſſary for ſtrong clays or deep loams is ten cart loads to an acre. If the dung has been well fermented, perhaps the moſt profitable way of uſing this compoſt may be as a top-dreſſing harrowed in with the grain, taking care, however, that the cauſtic quality of the aſhes be properly blunted by a ſufficient mixture of dung and earth, or rich earth only. Theſe aſhes, when beat ſmall, may be made into a rich compoſt with refuſe oil and earth, and uſed as a top-dreſſing for young crops. They will deſtroy ſlugs and vermin of every deſcription, and are therefore highly valuable on lands where the early wheat is injured by the worm. Laid upon graſs lands in the end of autumn, this manure, it is ſaid, produces a deep verdure during the winter, and an early vigorous vegetation in the ſpring; it is therefore particularly calculated for cold wet paſture lands.

In reſpect to turf aſhes, produced by burning turf or the paring of the ſurface of heathy, mooriſh, and other lands, their utility as a manure, perhaps, chiefly depends upon the proportion of alkaline ſaline matter which they contain, and which is produced by the burning of the freſh vegetable ſubſtances of turf, and the combination of vital air or oxygen, with the clayey part of the ſoil during the proceſs of combuſtion, as well as by the mechanical action of ſuch ſubſtances on the tenacious earthy matters of the ſoils. According to the Rev. Mr. Comber, the aſhes in the moors of Yorkſhire, are carried out daily, or once in two or three days to the dunghill; and the farmer takes the opportunity of his firſt leiſure towards the end of the year, to carry them out to his meadow lands on which he lays them thicker or thinner as he has more or leſs land which he apprehends to want them, and more or leſs of them. The firſt rains waſh them in, and the next ſummer never fails to ſhew their good effects. It would however be probably a much better practice to apply them to the land in the early ſpring when the weather is rather wet, and not to leave them to be waſhed away by the heavy rains and land-floods during the winter months. They would alſo be much more efficacious if kept in ſheds, or other ſuitable places, inſtead of being carried out to the dung-ſtead; where the rains muſt diſſolve and carry away their moſt nutrient properties; as theſe aſhes are much finer or more pulverized than thoſe of coal, they may inſinuate themſelves more into the ſoil, but they are probably not ſo laſting in their effects. Of the truth of this a remarkable inſtance is mentioned.—A field, whereof the ſoil was a poor gravel, that had a crop of the broad or red clover growing upon it, was dreſſed, one ſide of it with peat aſhes, and the other ſide with turf aſhes. The farmer laid upon this field all the aſhes he had of theſe two ſorts, and the middle of the field had no dreſſing. The clover in the middle part not dreſſed was a very poor crop, the plants being ſhort, yellow, and ſtunted; the ſide dreſſed with turf aſhes was much better than the middle; the plants being taller, of a better colour, and promiſed to be double the crop of the undreſſed part; but that ſide dreſſed with peat aſhes produced a crop that appeared to be as much ſuperior to the part dreſſed with the turf aſhes, as this laſt was ſuperior to the middle that had no dreſſing at all. The aſhes were ſown upon the clover by hand, and the improvement made upon the clover was ſo great, that the caſt of the ſower's hand was extremely plain next to the middle, and appeared like an indenture; and the vigour of the plants there was ſo much greater than the undreſſed plants, that the extent of the peat aſhes might be plainly diſtinguiſhed almoſt to an inch. This obſervation was however made in the beginning of ſummer, before the clover had arrived to its full growth. See PARING, and BURNING.

Aſhes produced from wood and moſt green vegetable products contain a conſiderable quantity of fixed alkaline ſalt blended with the earthy particles; but none or very little can be produced by the combuſtion of dead or decayed vegetable matters. It is from the aſhes of the former kinds of vegetable matter that the alkaline ſalts called potaſh and pearl-aſhes are commonly extracted. It ſeems alſo probable, from the obſervations of the earl of Dundonald, that the effects produced upon land by the application of the aſhes of freſh vegetable products, ariſe from the vegetable alkaline ſalt which they contain, which, by its action on what he terms the *oxygenated* or inert mould or earth of the ſoil, renders it ſoluble, and more ſuitable for the nutrition of plants.

plants. As the ſaline matters contained in theſe ſubſtances are liable to be lixiviated and carried away by moiſture, they ſhould always be kept dry and free from water, either by means of ſheds or other conveniences. It has been long ago obſerved by Mortimer, that one load of dry aſhes will go as far as two not kept ſo; but though rain-water diminiſhes their ſalts, ſo the moiſtening them with chamber-ley or ſoap-ſuds will add greatly to their ſtrength. Two loads of theſe aſhes will manure an acre of land, better than ſix loads of thoſe that are expoſed to the rain, and that are not ordered ſo, which is the common allowance for an acre, though ſome lands require more, and ſome leſs. That the aſhes of any ſort of vegetables are very advantageous to land, is what is experienced in moſt parts of England, by the improvement that is made by burning of furze, and ſtubble, ſtraw, heath, furze, ſedge, bean-ſtalks, &c. Mr. Young, in the firſt volume of the Annals of Agriculture, approves of charcoal-aſhes, in preference to powdered charcoal itſelf. And wood aſhes mixed with mud (he ſays) are ſuperior to aſhes alone, and four times better than mud alone, as a manure. In the ſecond volume of the ſame uſeful work, he adds, that wood aſhes appear to be a moſt powerful manure. In a neighbourhood abounding with vitriolic acid (he ſays), they more than neutralize that ſalt; they furniſh, beſides, the food of plants. In neutralizing it, the fixed vegetable alkali they contain forms with the acid a vitriolated tartar, which is beneficial to vegetation. From the alkaline ſaline matter contained in aſhes, and its known operation on earthy ſubſtances, they may probably be uſed to great advantage in combination with good mould or earthy materials, and dung, in the proportion of one load of aſhes to ten of the compoſt; and thus may be applied to tillage-lands as well as thoſe under graſs, in their ſimple ſtate; but in the former they would ſeem to be the moſt proper, when conjoined with other matters, ſuch as have been mentioned above. They may, when employed in the unmixed way, be ſown upon the ſurface, and harrowed in with the crop to which they are uſed. But in whatever way they are made uſe of, they ſhould be ſpread out as equally as poſſible on the land. Moſt graſs-lands are improved by their application, but more eſpecially thoſe that are wet, and given to the production of wild ſorrel, ruſhes, or other coarſe plants of the ſame kind. When uſed in the way of compoſt on tillage-lands, they are generally laid on at the rate of about ten or twelve loads to the acre, but on paſture or graſs-lands, the quantity applied varies very conſiderably, as from one hundred to one hundred and ſixty buſhels. Theſe ſubſtances have been found highly uſeful, when ſown on the green wheat and clover crops in the ſpring, and alſo when harrowed in with turnip ſeeds, or ſown over the young plants when they firſt appear, as by this practice the ravages of the fly are ſaid to be greatly leſſened in many caſes. See MANURE.

ASHES, *Volcanic*. See VOLCANO.

ASHFIELD, in *Geography*, a townſhip of America, in Hampſhire county, Maſſachuſets, about 15 miles north-weſt of Northampton, and 117 weſt from Boſton; containing 1459 inhabitants.

ASHFORD, a town of England, in the county of Kent, ſeated on the river Stour. It has a monthly market for cattle on the firſt Tueſday, and a weekly market on Saturday for corn &c. It is diſtant 45 miles E.S.E from London. N. lat. 51° 15′. E. long. 0° 45′.

ASHFORD, a townſhip of America, in Windham county, Connecticut, incorporated in 1710; diſtant about 38 miles north-eaſt from Hartford, and 76 ſouth-weſt from Boſton.

ASHFORD, *New*, a townſhip of America, in Berkſhire county, Maſſachuſets, 155 miles weſt from Boſton; containing 460 inhabitants.

ASHKENAZ, in *Ancient Geography* and *Hiſtory*, one of the ſons of Gomer, is ſuppoſed to have ſettled near Armenia, in the eaſtern part of Aſia Minor; or towards the north-weſt of that continent; for it is ſaid, that with reference to his name, there was in Bithynia the Aſcanian lake, a river called Aſcanius, and a bay of the ſame name; and in leſſer Phrygia there was a city called Aſcania, with iſles called the Aſcanian iſlands: and it is further obſerved, that beſides Aſcanius, the ſon of Æneas, Homer mentions a king of that period who was at the ſiege of Troy; and as a proof that the Aſhkenaz, mentioned by Jeremiah, were people of theſe parts, it is ſhewn from Xenophon, that Hyſtaſpes having conquered Phrygia, that lies on the Helleſpont, brought thence many of the horſes and ſoldiers which Cyrus carried with him to the ſiege of Babylon. Moreover, the Pontus Euxinus, or Axinus as the Greeks firſt called it, is ſuppoſed to be a corruption for the ſea of Aſhkenaz.

ASHKOKO, in *Zoology*, a very ſingular kind of quadruped, deſcribed by modern naturaliſts under the names of Syrian hyrax, hyrax ſyriacus, and briſtly cavy: for a full and accurate deſcription of this ſpecies we are however indebted to that indefatigable and learned traveller, Mr. Bruce; he obſerved it in ſeveral parts of Abyſſinia, and gives us the following account of it in the Appendix to his Travels.

"This curious animal," ſays Mr. Bruce, "is found in Ethiopia, in the caverns of the rocks, or under the great ſtones in the mountain of the ſun, behind the queen's palace at Koſcam. It is alſo frequent in the deep caverns in the rocks in many other parts of Abyſſinia. It does not burrow or make holes as the rat and rabbit; nature having interdicted him this practice by furniſhing him with feet, the toes of which are perfectly round, and of a ſoft, pulpy, tender ſubſtance; the fleſhy parts of the toes project beyond the nails, which are rather broad than ſharp, much ſimilar to a man's nail ill grown, and theſe appear rather given him for the defence of his ſoft toes than for any active uſe in digging, to which they are by no means adapted.

"His hind foot is long and narrow, divided with two deep wrinkles or clefts in the middle drawn acroſs the centre, on each ſide of which the fleſh riſes with conſiderable protuberancy, and it is terminated by three claws; the middle one is the longeſt. The fore-foot has four toes; three diſpoſed in the ſame proportion as the hind foot; the fourth, the largeſt of the whole, is placed lower on the ſide of the foot, ſo that the top of it arrives no farther than the bottom of the top of the toe next to it. The ſole of the foot is divided in the centre by deep clefts like the other, and this cleft reaches down to the heel, which it nearly divides. The whole of the fore-foot is very thick, fleſhy, and ſoft, and of a deep black colour, altogether void of hair, though the back or upper part of it is thick-covered, like the reſt of the body, down to where the toes divide, there the hair ends, ſo that theſe long toes very much reſemble the fingers of a man.

"In the place of holes, it ſeems to delight in leſs cloſe or more airy places, in the mouths of caves, or clefts in the rock, or where one projecting, and being open before, affords a long retreat under it, without fear that this can ever be removed by the ſtrength or operations of man. The aſhkoko are gregarious, and frequently ſeveral dozens of them ſit upon the great ſtones at the mouths of caves, and warm themſelves in the ſun, or even come out and enjoy the freſhneſs of the ſummer evening. They do not ſtand upright upon their feet, but ſeem to ſteal along as in

fear, their belly being nearly close to the ground, advancing a few steps at a time, and then pausing. They have something very mild, feeble, and timid in their deportment, are gentle, and easily tamed; though when roughly handled at the first, they bite very severely.

"This animal is found plentifully on mount Libanus: I have seen them also among the rocks at the Pharan promontorium, or cape Mahomet, which divides the Elanitic from the Heroopolitic gulf, or gulf of Suez. In all places they seem to be the same; if there is any difference, it is in favour of the size and fatness which those in the mountain of the sun seem to enjoy above the others. What is his food I cannot determine with any degree of certainty: when in my possession he ate bread and milk, and seemed to be rather a moderate than a voracious feeder. I suppose he lives on grain, fruit, and roots. He seemed too timid and backward in his own nature to feed upon living food, or catch it by hunting.

"The total length of this animal, as he sits, from the point of his nose to the extremity of his body, is seventeen inches and a quarter: the length of his snout, from the extremity of the nose to the occiput, is three inches and three eighths; his upper jaw is longer than his under; his nose stretches half an inch beyond his chin. The aperture of the mouth, when he keeps it close, in profile, is little more than an inch. The circumference of his snout around both his jaws is three inches and three eighths; and round his head just above his ears, eight inches and five eighths; the circumference of his neck is eight inches and a half, and its length one inch and a half. He seems more willing to turn his body altogether, than his neck alone. The circumference of his body, measured behind his fore-legs, is nine inches and three quarters; and that of his body, where greatest, eleven inches and three eighths; the length of his fore-leg and toe is three inches and a half; the length of his hind thigh is three inches and one eighth, and the length of his hind leg to the toe, taken together, is two feet two inches; the length of the fore-foot is one inch and three eighths; the length of the middle toe six lines, and its breadth six lines also. The distance between the point of the nose and the first corner of the eye is one inch and five eighths; and the length of his eye from one angle to the other four lines. The difference from the fore angle of his eye to the root of his ear is one inch and three lines; and the opening of his eye two lines and a half. His upper lip is covered with a pencil of strong hairs for mustachoes; the length of which is three inches and five eighths, and those of his eye-brows are two inches and two eighths. He has no tail, and gives at first sight the idea of a rat rather than of any other creature. His colour is a grey mixed with a reddish brown, perfectly like the wild or warren rabbit. His belly is white from the point of the lower jaw to where his tail would begin if he had one. All over his body he has scattered hairs, strong, and polished like his mustachoes; these are for the most part two inches and a quarter in length: his ears are round, not pointed: he makes no noise that ever I heard; but certainly chews the cud. [Dr. Shaw observes, that this particular of the ashkoko seems very doubtful, and may probably be owing to the peculiar motions of the mouth resembling those of the hare, which has also been supposed by some to ruminate. Gen. Zool.] To discover this was the principal reason of my keeping him alive: those with whom he is acquainted he follows with great assiduity. The arrival of any living creature, even of a bird, makes him seek for a hiding-place; and I shut him up in a cage with a small chicken, after omitting to feed him a whole day; the next morning the chicken was unhurt, though the ashkoko came to me with great signs of having suffered with hunger. I likewise made a second experiment, by inclosing two smaller birds with him for the space of several weeks; neither were these hurt, though both of them fed without impediment of the meat that was thrown into his cage; and the smallest of these, a titmouse, seemed to be advancing in a sort of familiarity with him, though I never saw it venture to perch upon him, yet it would eat frequently, and at the same time, of the food upon which the ashkoko was feeding; and in this consisted chiefly the familiarity I speak of, for the ashkoko himself never shewed any alteration of behaviour upon the presence of the bird, but treated it with a kind of absolute indifference. The cage indeed was large, and the birds having a perch to sit upon in the upper part of it, they did not annoy one another.

"In Amhara, this animal is called ashkoko, which, I apprehend, is derived from the singularity of those long herinaceous hairs, which, like small thorns, grow about his back, and which, in Amhara, are called ashok. In Arabia and Syria, he is called Israel's sheep, or Gannim Israel, for what reason I know not, unless it is chiefly from his frequenting the rocks of Horeb and Sinai, where the children of Israel made their forty years peregrination; perhaps this name obtains only among the Arabians. I apprehend he is known by that of Saphan in the Hebrew, and is the animal erroneously called by our translators cuniculus, the rabbit or coney." Bruce Append.

M. Schreber, who names this animal *hyrax syriacus*, gives it this specific character: H. plantis tridactylis, unguibus omnibus subæqualibus. (Feet tridactyle, with all the claws nearly equal.) To this Dr. Shaw, in his Zoology, adds, that it is rufous-grey, and white beneath. Gmelin also has *hyrax syriacus*, pedibus unguiculatis. See HYRAX *Syriacus*.

ASHLAR, a term used among *Builders*, by which they mean common or free stones, as they come out of the quarry, and of different lengths and thicknesses.

ASHLEP, in *Agriculture*, a term sometimes applied to soapers' ashes or wash. See *Soapers'* ASHES.

ASHLERING, among *Builders*, signifies quartering, to lath to, in garrets, about $2\frac{1}{2}$, or 3 feet high, perpendicular to the floor, up to the underside of the rafters.

ASHLEY, in *Geography*, a river of North America, which runs into the sea on the south-west side of Charlestown, in South Carolina.

ASHMOLE, ELIAS, in *Biography*, an eminent antiquarian of the 17th century, was born at Litchfield in 1617; and at the age of sixteen was received into the family of his kinsman James Paget, esq. a baron of the exchequer, where he studied the law and other branches of knowledge. Having married in 1638, he settled in London as an attorney; but on the commencement of the civil war, his wife being dead, he entered into the king's service, and was employed in the department of the Ordnance, first at Oxford, and afterwards at Worcester. At Oxford he became a student of Brazen-nose college, and directed his attention to mathematics, natural philosophy, and astronomy. From the study of the latter important and useful science he deviated to that of astrology, to which he seems to have been much addicted. In 1646, he was admitted into the society of free and accepted masons, and his election into this society was considered by him as a distinguishing æra of his life. His valuable collections very much contributed to the illustration of its history in this kingdom. Upon the surrender of Worcester to the parliament in this year, he withdrew first to Cheshire, and afterwards came to London, where he formed

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an intimate acquaintance with the aſtrologers of that period, Moore, Lilly, and Booker. In 1647, he retired to Engleſield in Berkſhire, and applied to the ſtudy of botany. Here he became acquainted with a rich widow, whom he married in 1649, and then removed with her to London, where his houſe was a place of reſort for all the proficients in the curious and occult ſciences. Having acquired from an adept in Berkſhire a taſte for alchemy, he publiſhed, under a feigned name, a treatiſe by the famous Dr. Dee, and another by an anonymous author, on this ſubject; and with great labour and expence he made a collection of the MS. works of Engliſh chemiſts, which he publiſhed in 1652, under the title of "Theatrum Chymicum Britannicum," in 4to. Having brought to a favourable termination ſome legal diſputes occaſioned by his wealthy marriage, he devoted himſelf with ſingular aſſiduity to the ſtudy of antiquity and the peruſal of records; and relinquiſhing hermetic philoſophy with a preface to a treatiſe on the philoſophers' ſtone, which he edited, he began to make collections for the work which conduced much more to his literary reputation than any of his aſtrological and alchemical purſuits, and this was his "Hiſtory of the Order of the Garter." As he was fond of the ſtudy of botany, he choſe for the place of his reſidence the houſe of John Tradeſcant, a ſcientific gardener of Lambeth; and became poſſeſſor of the collection of rarities that had been made by Tradeſcant and his father, and which was conveyed to Mr. Aſhmole by a deed of gift in 1659. On the reſtoration, Aſhmole was particularly noticed, on account both of his loyalty and learning, by the king, who appointed him Windſor herald, and committed to him the deſcription of the royal medals. He was alſo made a commiſſioner, and afterwards comptroller of the exciſe; he was called to the bar in the Middle Temple, admitted a fellow of the Royal Society that had been recently eſtabliſhed; preſented, by the univerſity of Oxford, with the degree of doctor of phyſic; and promoted to other offices, both honourable and lucrative. Upon the death of his ſecond wife, he married the daughter of his friend Sir W. Dugdale. In 1672, he preſented to the king his book "On the Order of the Garter," intitled "The Inſtitutions, Laws, and Ceremonies of the Moſt Noble Order of the Garter, collected and digeſted into one body;" and printed at London in folio, in 1672. In 1679, he reſigned his office of Windſor herald, and declined accepting that of garter king at Arms, on two vacancies which occurred. His valuable library, which he had been thirty-three years in collecting, and alſo his cabinet conſiſting of nine thouſand coins, and many curious antiquities, were deſtroyed by a fire, which happened in the chambers adjoining his own in the Middle Temple; but his MSS. and gold medals were preſerved at Lambeth. When the univerſity of Oxford had finiſhed an edifice for a muſeum, in 1683, Mr. Aſhmole ſent thither his Tradeſcantian collection of rarities, with the additions which he had made to it; and he afterwards added to this donation, his books and MSS. Thus commenced the "Muſeum Aſhmoleanum," now ſubſiſting at Oxford. Mr. Aſhmole, having attained the 76th year of his age, died in 1692, and was buried in the church of Great Lambeth. Some few of his numerous MSS. chiefly on antiquities, have been publiſhed ſince his death; and alſo "A Diary of his Life" written by himſelf. His rank in literature and philoſophy may be eſtimated by the brief account that has now been given of his reſearches and purſuits. Whilſt a ſober judgment will heſitate in admitting the extravagant panegyric of the "Biographia Britannica," which records him as "one of the greateſt men in the laſt century," he will be allowed to have poſſeſſed, in a high degree, induſtry, perſeverance, curioſity, and exactneſs; and "Anthony Wood," ſays one of his biographers (ſee Aikin's Gen. Biog.), "in his quaint language, has perhaps not ill characteriſed him, as—the greateſt virtuoſo or curioſo that was ever known or read of, in England, before his time." Biog. Brit.

ASHMOT, in *Geography*, the principal harbour in Iſle Madame, which is dependant on cape Breton.

ASHMOUNEIN, probably, ſays Bruce (Trav. vol. i. p. 91.), the ancient Latopolis, a large town of Egypt, which gives name to the province. See ACHMOUNAIN.

ASHMUN-TANAH, a town of Egypt, on a canal, between the Nile and the lake of Tennis, twelve miles eaſt of Manſora, and twenty ſouth of Damietta.

A-SHORE, in *Nautical Language*, a term ſignifying on the ſhore, as oppoſed to A-BOARD. It alſo means A-GROUND.

ASH-PIT, is the lower part of any air-furnace, which ſerves to receive the aſhes of the fuel as it is conſumed, and in general to ſupply the air neceſſary for the combuſtion. See FURNACE.

ASHUELOT, or ASHWILLET, in *Geography*, a ſmall river of America, having many branches, whoſe moſt remote ſource is at the north end of the Sunapee mountains, in New Hampſhire. It runs ſouth-weſterly through part of Cheſhire county; below Winchelter, its courſe is weſt by north, and it diſcharges itſelf into Connecticut river at Hinſdale.

ASHUR, in *Ancient Geography* and *Hiſtory*, the ſecond ſon of Shem, occupied at the diſperſion the country called after his name, and by the Greeks Aſſyria, at preſent Curdiſtan, or the country of the Curds. Pezron ſuppoſes that he was driven out of Shinaar by Nimrod, the grandſon of Ham; but however this be, it ſeems to have been Aſhur, (Gen. x. 11.), and not Nimrod, who went out of Shinaar into Aſſyria, and built Nineveh, and other cities; and thus Perizonius maintains, that the text ought to be underſtood. See ASSYRIA.

ASH WEDNESDAY, the firſt day of Lent, ſuppoſed to have been ſo called from a cuſtom in the church of ſprinkling aſhes that day on the heads of penitents then admitted to penance.

ASHWELL, GEORGE, in *Biography*, an epiſcopalian divine, was born in London in 1612, and educated at Wadham college, Oxford. He was rector of Hanwell in Oxfordſhire for thirty-five years, and diſtinguiſhed as a zealous advocate for the doctrine and worſhip of the church of England, in defence of which he wrote ſeveral treatiſes; "Fides Apoſtolica," or "A Diſcourſe on the authors and authority of the Apoſtles' Creed," with "A double Appendix on the Athanaſian and Nicene Creeds," printed at Oxford, in 8vo. in 1653; "Geſtus Euchariſticus," or "The Geſtures to be uſed at the receiving of the Sacrament," 8vo. Oxford, 1663; "De Socino et Socinianiſmo;" "De Eccleſia Romana;" 4to. Oxford, 1688; and an Engliſh tranſlation of Pococke's Latin tranſlation of an Arabic work, intitled, "Philoſophus Autodidactus," or "The ſelf-taught philoſopher, Hai Ebn Yokdan," by Tophail. Biog. Brit.

ASIA, in *Geography*, one of the four grand diviſions of the earth, and the ſecond in order, though the firſt inhabited. It is ſeparated from Europe by the Mediterranean, the Archipelago, the Euxine, the Palus Meotides or ſea of Azof, the Don, and the Dvina; from Africa by the Red ſea and the iſthmus of Suez. On the other ſides it is ſurrounded by the Great South ſea. It does not join to America. Its principal parts are, Arabia, Aſiatic Turkey, Perſia, India, Tartary, Aſiatic Ruſſia, China, Japan, the

kingdom of Ava, that of Siam, the iſland of Ceylon, and the Sunda iſlands, whereof the chief are Sumatra, Borneo, Java, Celebes, the Moluccas, the Philippines, the Maldives. Aſia, according to Mr. Pinkerton, extends, in length, from the Helleſpont to what is called the Eaſt cape; that is, from about the twenty-ſixth degree of longitude eaſt from London, into the other hemiſphere to near 190 degrees of eaſt longitude, or 170 degrees weſt from London; being no leſs than 164 degrees, or (taking the degree at a medial latitude) more than 6500 geographical miles. From the ſouthern cape of Malacca, to the Severovoſtotſhnoi-noſs the north-eaſtern cape, now called the cape of Taimura, which braves the ice of the arctic ocean, the breadth extends from about the ſecond degree of northern latitude, to about the ſeventy-ſeventh, or nearly 4500 geographical miles. If, for the ſake of a rude and merely comparative calculation, one-ſixth part be added for the difference between the ſtatute and geographical mile, the length of Aſia in Britiſh miles would be about 7583, and the breadth 5250.—Under their proper heads, will be found the names of the places it contains, and ſuch general accounts of them as the limits to which we are confined on this ſubject will allow.

For aſcertaining the real length of the continent of Aſia, there was no guide as to its ſouthern and eaſtern part, even beyond the Ganges, except from the accounts that were obtained from the time that the navigations began in the ſixteenth century, and their diſagreements with the arbitrary alterations that had been made. A long period elapſed before it was poſſible to ſettle the poſition of that portion of Aſia, ſtill ſuſceptible of much correction, notwithſtanding the obſervations of the Jeſuits at Pekin, the moſt accurate of any extant. We ſhall content ourſelves then with relating the reſult of the lateſt obſervations of the academy of ſciences at St. Peterſburg, of the latitude and longitude of the following places in the north of Aſia.

	Lat.	Long from Ferro,	from Greenwich
Bolcheretſk, - -	52° 55′	174° 13′	156° 38′
Harbour of St. Peter and Paul, -	35 1	176 10	158 36
Eaſtern extremity of Siberia, -	66 0	200 0	282 25

Unalaſhka, by the general map of Ruſſia, lies in 58° of latitude from Ferro, 223° of longitude; and from Greenwich, 205° 25′. The ſame place, according to the chart of Krenitzin and Levaſhef, is in 53° 30′ latitude, longitude from Ferro 205° 30′, from Greenwich 187° 55′; the longitude from Ferro to Greenwich being computed at 17° 34′ 45″.

If the ancients had ſo ſlight a knowledge of the ſouthern countries of Aſia on the other ſide the Ganges, we ought not to be ſurpriſed if what they have been able to hand down to us concerning the hyperborean regions, coaſts, and ſeas, or the northern extremities, ſhould be conſiderably more ſo; and it muſt have been merely by chance that Pliny obtained ſome ſlight knowledge of cape Tabin and of the iſland Tazzata; as we have learnt a few uncertain notices about thoſe vaſt lakes towards the weſt of America, from ſavages taken priſoners, and others, and from vague report, with which we are obliged to be ſatisfied for want of better information. It was impoſſible to acquire any more authentic, except by means of the Ruſſians, with whom, till the ſeventeenth century, we were ſcarcely any more acquainted than with the ſavage inmates of thoſe northern coaſts. Nay, had it not been for the Ruſſian, Anika Stroganof, who formed ſpeculations for profiting by the lucrative commerce which the Samoyedes carried on at Moſco, in peltries brought from countries beyond them, Siberia, properly ſo called, would have remained a great while longer unknown to the Ruſſians themſelves. Thus, as a thirſt for riches had been the chief motive that excited the Spaniards to the diſcovery of America, and attracted the attention of other maritime nations to that quarter, ſo the ſame greedineſs of gain occaſioned the diſcovery and conqueſt of northern Aſia, a country till then unknown to the Europeans. The firſt foundation of this conqueſt was laid by the celebrated Yermak Timoſeiyef, at the head of a band of adventurers, leſs civiliſed, though not ſo inhuman, as the conquerors of America. By the acceſſion of this vaſt territory, now known by the name of Siberia, the Ruſſians have acquired an extent of empire, never before attained by any other people. (Tooke's View of the Ruſſian empire, vol. i. p. 303.) It was however owing to Anika Stroganof and his comrades, that this conqueſt was undertaken, who alſo ſhewed the way to ſubjugate, by degrees, farther diſtant nations. The Ruſſians themſelves became known to the Europeans, through the voyages undertaken by the latter. The Engliſh and Dutch obtained ſome intimation of them while in queſt of a north-eaſt paſſage; they learnt of the Samoyedes that the little ſea froze over in winter, but the great ſea was never frozen; that they went thither to fiſh between the mouths of the Piaſida and the Yeniſey; that oppoſite to the eaſt and north point of Nova Zemla, was another, making a great ſaliant angle, from which the coaſt afterwards declined towards the eaſt and ſouth-eaſt, nearly to the hot countries. Here we ſee to what a ſmall matter was confined the knowledge at that time obtained of the ſouthern part of Aſia, and the only materials from which they could lay down their charts. They were puzzled how to reconcile theſe ſtatements, and the more, as the coaſt between the Piaſida and the eaſternmoſt point of its cape was unknown to them. Some knowledge of it by land had indeed been obtained; and even the coaſts of the ſea to the weſtward of it, as far as its mouth, are filled with ſimovies, or winter-huts, conſequently peopled; but thoſe ſituate beyond that little river were ſo indiſtinctly known to them, that they thought it beſt to mark them down in an indeterminate manner.

They reaſoned thus: cape Tabin muſt form a finis terræ, the extremity of Aſia towards the north. There is a ſea that waſhes all thoſe ſhores; and we are aſſured there is another that divides Aſia from America; theſe two ſeas therefore muſt join, and at that place form an angle, which will prove to be this Tabin; having an iſland to the weſtward which they laid down as lying at the mouth of a river. This notion, notwithſtanding the numerous diſcoveries that might have deſtroyed it, has always ſubſiſted, under one form or another, to the very times in which we live. Some, building on the report of the Samoyedes, marked the coaſt from the cape to the Taimura, as declining gradually towards the ſouth-eaſt. Others, willing to reconcile one with the other, laid down this declenſion only to the Lena, at its mouth, having got intelligence of ſome iſlands there; accordingly they carried the coaſt north-eaſtwards, for the ſake of preſerving this Tabin. On learning that the Ruſſians and others regarded Svetoi-noſs as the moſt advanced promontory, they gave its name, or Promontorium Sacrum, to the pretended Tabin. Afterwards, being informed that this Svetoi-noſs lay to the eaſt of the Lena, they marked it accordingly, and hence were more firmly perſuaded, that the iſles at the mouth of that river were thoſe of Tazzata; while, on the other hand, they perſiſted in the idea of a cape finis terræ, which they left ſubſiſting under the names of Tabin (which we ſhall continue

to uſe while ſpeaking of it in this ſenſe), Svetoi-noſs, Caput Sacrum, Tſhukchi-noſs, Tſhalakſkoi-noſs, &c.

Strahlemberg notices this cape in a ſtriking manner; and the navigators of the ſeventeenth century, likewiſe, even ſo early as Linſchotten and his contemporaries, were perſuaded that it was no other than that prominent angle towards the Taimura: indeed it is the moſt advanced cape of all that coaſt, lying beyond the 77½° or in 78°, and therefore the finis terræ towards the north. But Strahlemberg at the ſame time points out the iſle of Tazzata, which he proves to be Novaya Zemla, ſince the ancient Scythians and their ſucceſſors began with the northern nations of Europe, by the river Taas, whence they denominate the great gulf to which we give the name of Oby, the gulf of Taas, and from which Novaya Zemla, ſituate over againſt it, was called Tazzata. This is ſo natural, and can be the leſs doubted of, as that iſland has always been reputed as lying to the weſt of cape Tabin, near the mouth of a river. Whence Strahlemberg concludes, that thoſe geographers who mark it more to the eaſt are greatly miſtaken, "huc uſpiam Tazzata inſula a Plinio ponitur."

After the conqueſt of Siberia, ſome Ruſſians fell upon the ſame reflections as Anika Stroganof and his companions had done concerning the wealth that might be drawn from theſe oriental parts by the articles of peltry, on going direct to obtain them, either by the chace or by commerce; ſeveral companies were accordingly formed of people who were then, and are ſtill known by the name of Promuiſchlenniye.

They conſidered that the method of making the greateſt profit poſſible would be by going to ſea coaſtwiſe, and trafficking with theſe unknown tribes, who being ignorant of the value of their peltries, would give them for a low price. In this they were not deceived: and, notwithſtanding the great riſk they ran, as their veſſels were ſmall and crazy; as they were no leſs unſkilful in the art of conſtructing than in managing them; as in not venturing far from ſhore, they were in jeopardy every moment of foundering among the ice; yet the thirſt of lucre was too ſtrong to prevent them from being deterred from their projects; and the government was well ſatisfied with them, as they furniſhed it with the means of rendering all theſe people tributary.

They began their courſes from Yakutſk about the year 1636: proceeding in this manner ſtep by ſtep, they every year almoſt diſcovered ſome new river, ſome new cape, the Yena, the Indigirka, the Alaſea, the Kovyma. No ſooner were they come to the laſt of theſe rivers, than their curioſity was excited to know what other ſtreams might be beyond it, in the two-fold view of rendering the nations bordering on them tributary to the empire, and of proſecuting the expected capture of ſables for their own emolument. The firſt voyage from the river Kovyma was undertaken in 1646, by a free company of theſe Promyſchleni, under the conduct of a certain Iſaac Ignatief, a native of Meſen. They found the ſea full of ice: between the ice, however, and the main land was an open paſſage, along which they proceeded twice 24 hours; when, coming to an inlet between the rocks and the ſhore, they ran into it. Theſe 48 hours make ſeven degrees and a half, and the bay they entered lies in 72 deg. Here they met with people of the Tſhuktſhi nation, with whom they began to trade in the manner cuſtomary with uncivilized people; ſpreading their commodities on the ſhore, of which the Tſhuktſhi took what they pleaſed, and depoſited in their place walruſs-teeth, and articles made of that ſpecies of ivory. None of the mariners would venture on ſhore to the Tſhuktſhi, particularly as they had nobody on board who could ſerve as interpreter. Contenting themſelves therefore with having made this firſt diſcovery, they returned to the river Kovyma.

The accounts brought home by theſe people of the walruſs-teeth, induced ſome other Promyſchleni ſome years afterwards to undertake a ſecond voyage. To this end Fedot Alexeyef, a native of Kolmogor, aſſociated himſelf with a Moſco merchant of the Goſtinna ſotna, a vaſſal of Alexey Uſſof, and was immediately conſidered as the chief of the enterpriſe. He thought it, however, expedient to aſk of the commandant at Kovyma, one of his kozaks to look after the concerns of the crown during the voyage, who appointed one Simeon Ivanof ſin Deſchnef, to attend him, with proper inſtructions Four kotſches, a ſpecies of barks, ſailed at the ſame time in June 1647, from the river Kovyma. Some looſe informations having been obtained of a river Anadir, or as it was then pronounced, Anandir, the borders of which were inhabited by numerous tribes of ſtrange people, it was calculated that this river muſt fall into the Frozen ocean; one of the objects therefore of the preſent voyage was to diſcover its mouth. However, in this, as well as all the reſt, they completely failed; the ſea, even in ſummer, being too full of ice to permit them a free navigation.

Nevertheleſs, the paſſion for diſcoveries for augmenting the revenues of the crown and the wealth of private individuals was ſo great, that no thoughts were entertained of giving them up. Indeed the number of adventurers ſeemed rather to increaſe, both among the Kozaks and the Promyſchleni, ſo that the following year ſeven kotſches were fitted out in the ſame deſign; what became of four of theſe veſſels the accounts received make no mention. Of the three others, Simeon Deſhnef and Geraſin Ankudinof were commanders on the part of the Kozaks, and Fedor Alexeief the principal of the Promyſchleni. Previous to their departure a quarrel broke out between the two former, ariſing from the jealouſy of Deſhnef, that Ankudinof ſhould ſhare in the honour as well as in the profits to accrue from the future diſcoveries. The crew of each veſſel might conſiſt of about thirty perſons; at leaſt that was the number of Ankudinof's people.

It is to be lamented that the accounts of Deſhnef, the original whereof Mr. Müller was lucky enough to find among the archives of Yakutſk, ſhould ſay ſo little, and even nothing at all concerning the fate of four of thoſe kotſches; nothing of what happened to him and his companions on board the other three till they came to the Great Cape; nothing about the ice, becauſe, doubtleſs, ſays Mr. Müller, there was none; and as Deſhnef remarks in another place, the ſea is not every year navigable.

The relation begins at this cape. His words are: "This cape is entirely different from that which projects near the river Tſhukotſha, weſtward from the Kovyma. It is ſituate between the north and north-eaſt, forming a ſemicircle towards the Anadyr. On the Ruſſian or weſtern ſide, the Tſhuktſhy have raiſed by the ſide of a river a number of whalebones in the form of a tower (according to other reports they are the tuſhes of the walruſs). Oppoſite to the promontory (it is not mentioned on which ſide) are two iſlands, whereon were ſeen people of the nation of Tſhuktſhy, diſtinguiſhed by wearing pieces of the teeth of the walruſs inſerted in their upper lip. It is poſſible, with a very good wind, to ſtretch from the promontory as far as the river Anadyr in three times 24 hours; and it would require no longer time to do it by land, as the Anadyr diſcharges itſelf into a bay." On this promontory it was

that

that Ankudinof's kotſch perished; the people however were ſaved, and put on ſhore in the ſame bay. Shortly afterwards theſe were ſeparated, and never again got ſight of each other. Deſhnef, after being driven about by wind and weather till October, ſuffered ſhipwreck, as far as can be collected from circumſtances, conſiderably to the ſouth of the river Anadyr, ſome where about the river Olutora. What became of Fedot Alexeief and his ſhip's company we ſhall mention preſently.

Deſhnef, with his followers, five and twenty in number, now ſet out in ſearch of the Anadyr, which they could not diſcover till after they had wandered about, for want of a guide, the ſpace of ſix weeks. The region where they came up to the Anadyr was not far from its mouth, a country entirely void of inhabitants, and deſtitute of forests; circumſtances that naturally threw them into the extremity of diſtreſs, as preventing the means of obtaining ſubſiſtence. Game animals were not to be expected, as they uſually haunt the woods; and they had no implements for fiſhing. In this perplexity, twelve of the company went up the courſe of the river; but after a devious journey of twenty days, ſtill finding no traces of mankind, they turned about to regain the ſtation where Deſhnef and the reſt were waiting for them; which, however, on account of hunger and fatigue, only a few of them reached.

After undergoing incredible hardſhips, Deſhnef, in the ſummer of 1649, with the ſmall remains of his people, went up the Anadyr by water, till he came to a people called Anauli; and there he founded the Anadyrſkoi oſtrog, which was followed by other buildings. Deſhnef obſerved a great ſand-bank lying at the mouth of the Anadyr, advancing on the northern ſide far into the ſea, the reſort of a vaſt number of morſhes and other amphibious animals. This circumſtance was too flattering to be neglected. Accordingly, he began to fell timber, in 1653, for the conſtruction of a kotſche to be employed in conveying the tribute to Yakutſk by ſea; but was obliged to deſiſt from his purpoſe from the want of other materials, and becauſe he learnt that the ſea about Tſhukotſkoi-noſs was not every year equally free from ice.

In 1654, he made another expedition to the korga, or ſand-bank, for the purpoſe of collecting morſhe-teeth. He now aſſociated with him a Kozac named Yuſko Seliverſtof, who had accompanied Mikhaila Stadikin on his voyage of diſcovery in the Frozen Ocean, and was ſent from Yakutſk to collect theſe teeth for the benefit of the crown. In his inſtructions mention is made of a river Shendon, falling into the bay at Penſhinſk, as well as of the Anadyr; and he was ordered to levy a tribute on the inhabitants dwelling about both theſe rivers; as what Deſhnef had been doing was not as yet known at Yakutſk. On this occaſion new diſcontents aroſe. Seliverſtof arrogated to himſelf the diſcovery of the korga, as having failed to that place with Stadukin, in 1649. Deſhnef however proved that he had not even reached the great Tſhuktſhi-noſs, which he affirmed to be formed of nothing but bare rocks, as was but too well known to him, ſince Ankudinof's veſſel had been wrecked upon them. He farther alleged, that this was by no means the firſt promontory that appeared under the appellation of Svætoi-noſs. The two iſlands lying oppoſite the Tſhuktſhi-noſs, belonging to the tooth-lipped people before mentioned, being the peculiar marks of it. That Deſhnef alone, and neither Stadukin nor Seliverſtof, had ſeen theſe people: and concluded by inſiſting that the korga at the mouth of the Anadyr was at a great diſtance from them.

Deſhnef, while ſurveying the ſea-coaſt, learnt of the Koriacs the fate of the two Ankudinofs, Fedot and Geraſim, as well as of Fedot Alexeief.

In 1659, other expeditions were again undertaken; but, from the foregoing impediments, though they ſet ſail in July, they ſuffered ſo much damage from the floating ice between the eaſtern mouths of the Lena and Svæton-noſs, that they were deterred from ſuch voyages for a long time; and it was not till the reign of Peter the Great that theſe enterpriſes were reſumed. It is well known that his comprehenſive mind conceived only vaſt ideas and grand projects; that being principally deſirous to eſtabliſh an extenſive commerce by means of navigation, he began by opening to himſelf the navigation of the Baltic by the foundation of St. Peterſburg; Archangel already exiſted on the there of the White Sea; he thought himſelf ſecure in the navigation of the Euxine by the poſſeſſion of Azof, and that of the Caſpian by Aſtrakhan, which he ſucceeded in bringing to effect. He now conceived that it might not be impoſſible for him to participate in the lucrative commerce of the Indies, of Japan, of China, and of America, by eſtabliſhing factories at the extremity of Aſia, in the proximity of thoſe countries. The Dutch Eaſt India company declining to attempt the diſcovery of the north-eaſt paſſage, the tzar adopted the project, as well as that of ſubjecting the countries adjacent to the objects of his commerce, beginning by Kamtſhatka, of which ſome obſcure information had been obtained.

Thither, in 1696, he ſent Vladimir Atlaſſof, ſtationed as commandant of the Kozaks at Anadyrſkoi-oſtrog, a ſettlement that had been retained ever ſince its firſt erection by Deſhnef, as before related, who was naturally ſuppoſed to have acquired an extenſive knowledge of all the neighbouring countries. He accordingly diſpatched ſixteen Kozaks of Yakutſk, to render the Koriaks on the river Opuka tributary; Moroſko, their chief, acquitted himſelf well of his commiſſion, and even took a Kamtſhadale oſtrog. Atlaſſof, profiting by this advantage, put himſelf at the head of ſixty Kozaks, and as many Yukagirs, and led them to the river Kamtſhatka, and the ſurrounding diſtricts. In his juridical declaration, he relates, among other things, before he continues the recital of his progreſs to Kamtſhatka; that, between the Kovyma and Anadyr is a *double cape*, which ſome have called Shalatſkoi cape and Anadyrſkoi cape. Of the latter he affirms, that it can never be doubled in veſſels of the ordinary conſtruction, becauſe on the weſtern or northern ſide are always vaſt pieces of floating ice (ſtationary and ſolid in winter); and that the other ſide of the ſea of the Anadyrſkoi cape is at all times free from ice. That, though he himſelf was not perſonally at the height of theſe capes, yet he learnt from the Tſhuktſhi, who dwelt about the mouth of the Anadyr, that over againſt this cape is a large iſland, inhabited by people who come to them in winter over the ice, and bring them bad ſables.

To avoid prolixity, we omit the remainder of his account, only obſerving, that Mr. Müller ſeems rather to depart from his uſual candour in regard to this narrative, which he acknowledges to be really Atlaſſof's, but ſuggeſts that it does not exactly tally with a letter of his in 1700, nor with his juridical depoſition in 1701. In order to have given validity to his doubts, he ſhould have communicated theſe pieces among the great number with which he has enriched his valuable collection. This he has not done. And ſince the tzar, who was an excellent judge of mankind, was ſo well ſatisfied with him, that he made him colonel of the Kozaks at Yakutſk, this circumſtance ought to have its proper weight with us.

Parties were repeatedly ſent againſt the Tſhuktſhi, without

out being able to ſubdue them. In 1711, the Yakutſk-Kozak Peter Ilin ſin Popof, the promyſhlenik Yegor Waſſilief ſin Toldin, and the newly baptized Ivan Waſſilief ſin Pereſhkin, made a vigorous attempt to compel thoſe who dwell on the other ſide of the bay, and of the cape or noſs, to pay the tribute; which they as ſtrenuouſly refuſed. They, however, obtained from them a great number of particulars concerning the ſituation of the ſurrounding countries; and, among others, that oppoſite, whether to the Kovyma or to the Anadyr they could not ſufficiently comprehend, is ſituate a ſpacious iſland, to which the Tſhuktſhi give the name of *the great land*, the inhabitants whereof pierce their cheeks, and paſs large pieces of teeth through the orifice; not having the ſame language with the Tſhuktſhi, who have been at war with them from time immemorial. Popof ſaw ten of them, who were priſoners to the Tſhuktſhi; and he remarked that theſe pieces were thoſe of the walruſs. He learnt that in ſummer they paſs over to this iſland in baidars in one day, and in winter likewiſe in one day in ſledges on the ice.

On the promontory or land of this cape no other animals than wolves and foxes are ſeen, ſince there are no foreſts; whereas on the other land are all ſorts of animals that furniſh the finer ſorts of furs. The inhabitants keep numerous herds of rein-deer. The country produces cedars, firs, pines, larches, and other trees. Popof ſuppoſed that the number of the Tſhuktſhi at the cape might amount to two thouſand men, and that of the iſlanders to triple that ſum; that, from the Anadyrſkoi-oſtrog they go by land to the noſs, along the rock Matkol, which runs out from a great gulf.

At the time of which we are ſpeaking, there being yet no implements for navigation at Okhotſk, and the uſe of the compaſs not being known there till the year 1714, by the expreſs command of the great tzar Peter I., the governor prince Gagarin ſupplied both theſe defects. Probably the governor at firſt imagined that the purpoſes of diſcovery might be effected without theſe helps; for the firſt order relating to the diſcovery of a paſſage by ſea to Kamtſhatka, dated the 17th of February 1713, directed to the voivode Yeltſhin, contains not a word about the conſtruction of veſſels, nor of people expert in the art of navigation: accordingly, nothing farther appears than that the dvoranin Ivan Sorokaumof, who was charged with the buſineſs at Yakutſk, after arriving with twelve kozaks at Okhotſk in the autumn of that year, committed a great many blunders, and was brought back to Yakutſk in cuſtody. It was now found neceſſary, that the governor ſhould immediately ſend ſome able ſeamen and ſhip-carpenters. By theſe, who arrived at Yakutſk the 23d of May 1714, and were ſent off to Okhotſk the 3d of July, under the command of a Kozak named Koſmas Sokolof, with about twenty Kozaks, the long-wiſhed-for diſcovery was made.

One of the ſailors, by birth a Dutchman, a native of Hoorn, (Strahlemberg calls him a Swediſh corporal, who had formerly been a ſhip-carpenter. But Buſch himſelf ſays, that he had ſerved in various places many years as a ſailor, and at laſt in the Swediſh cavalry, and ſo came to be taken priſoner at Vyborg, in the year 1706,) named Henry Buſch, was ſtill living at Yakutſk in 1736, when Mr. Müller made ſome ſtay there; and, in anſwer to his inquiries, learnt of him the following particulars. After they were come to Okhotſk, the carpenters built a veſſel of the ſame kind with the Ruſſian lodjes, in which they uſed formerly to go from Archangel to Meſen, Puſtozero and Nova Zemlia. Theſe labours occupied the whole of the year 1715. The veſſel was very ſtout and ſubſtantial. It was eight fathom and a half in length, and in breadth three fathom. When loaded, it drew three feet and a half of water. All things neceſſary for the voyage being ready, the firſt expedition was undertaken in June 1716. They coaſted north-eaſtwards, as far as the region of the river Oka. It was intended to purſue the ſame courſe farther; but a contrary wind drove the veſſel, as it were againſt the will of the navigators, acroſs the ſea to Kamtſhatka. What they firſt deſcried, as they afterwards were informed, was a promontory, ſtarting northwards from the mouth of the river Tigil. The coaſt ſeemed ſteep and rocky, therefore they would not venture on ſhore, deſtitute as they were of any pilot or guide. Proceeding, however, to keep the ſea, a contrary wind aroſe, which drove the veſſel back upon the Okhotſkian ſhore. The wind afterwards coming favourable, the navigators tacked about, and came exactly back to the Tigil, where they now caſt anchor. Some of the people went on ſhore in ſearch of human beings, but found only empty huts. The Kamtſhadales had perceived the veſſel approaching, and had fled for fear into the foreſts and mountains. Our mariners therefore again ſet ſail, paſſed the Tigil, and in the ſpace of a day reached the ſtream Chariuſofca, having two ſmall iſlands lying in its vicinity. The former, being the largeſt, is at the diſtance of five verſts from the main land; the other, conſiſting only of barren rocks, a little farther. Leaving the Chariuſofca, they ſtood out to ſea the whole night, and the next morning found themſelves in with the land at the river Itſha. Here they ſent ſome of the crew on ſhore; who, finding however neither people nor habitations, preſently returned. Continuing to ſail along the coaſt, they came up with the river Krutogorova, into which they would have run, but miſſed the inlet; luckily, however, a bay opening to the ſouth of the river being found convenient, in it they dropped their anchor. A detachment of them, while exploring the country, met with a Kamtſhadale girl picking up edible roots in the fields. She directed them to ſome huts, where juſt at that time a party of Kozaks had put up for the purpoſe of collecting the tribute. Theſe, on being ſent to, came and ſerved them as guides and interpreters. The veſſel was brought to the mouth of the river Kompakova, which they found a good birth to moor in for the winter. Here they had not been many days when a whale was thrown aſhore by the ſea: in the body of the fiſh was ſticking a harpoon of European manufacture, marked with Roman letters. If I could have ſurmiſed, continues Mr. Müller, that the ſailor who related to me this fact, had known of the like accident that happened to the ſhipwrecked Dutchmen on the coaſt of Korea, in 1653, (Witſen, ed. 2. p. 45. Voyage au Nord, tom. ix. p. 308.) I might have been led to ſuſpect, that he perhaps was amuſing me with a tale that had no other foundation than what he borrowed from the former. This, however, was not the caſe. For he was a completely illiterate man, could neither read nor write, and ſcarcely knew that there was ſuch a place as Korea in the world; conſequently the fact is only the more confirmed by two examples. The commander Sokolof, during the winter, made a journey to Niſhnei Kamtſhatkoi oſtrog, whence he returned to the ſhip in ſpring, and at the beginning of May 1717, put again to ſea. The ſea, however, was ſo full of ice, that on the fourth day from their departure they were completely jammed in between ſome fields of it, where they were obliged to remain fixed upwards of ſix weeks, before they could proceed on the voyage. In the mean time they were in great want of proviſions. Happily they regained the Okhotſkian ſhore, between the river Ola and Taniſkoi oſtrog, where they remained at anchor a few days; and about the middle of July returned to Okhotſk. From

this time a navigation has been uninterruptedly kept up between Okhotsk and Kamtschatka.

While all this was transacting, governor prince Gagarin, in the year 1716, dispatched colonel Jacob Agofi fin Veitflun, formerly voyode at Yakutsk, with a considerable party of officers and people, to the same regions, with orders to make diligent inquiries concerning Kamtschatka, and chiefly such as related to the object in question. Kosirefsky mentions, that ships from Japan came to the sixth of the Kurilli islands, Shokoki, for ores or minerals, which they carried back to their island. This, however, seems to be not quite correct, as differing widely from all the other accounts, which say, that the Japanese (probably when driven about by adverse winds and storms) used never to proceed farther than Matmai. Nor had any subsequent information confirmed what he advances. This therefore was one of the principal matters into which the colonel was instructed by the governor to inquire; he was likewise to proceed from Tschukotskoi-nos to the opposite islands, and thence to the main land. By his instructions also he was to gain accurate information about the islands of Shantari; to attempt to settle a regular traffic with the Japanese, and whatever else he could effect in consequence of his own observations: nothing, however, of importance ensued from it. The governor had given the colonel, a Swedish lieutenant named Abraham Molyn, who was to construct the vessels proper for the several enterprises at Okhotsk. This man pretended that there was no timber to be found at that place fit for the purpose. (See also Strahlenberg, p. 17.) Disputes arose now between the colonel and the voivode of Yakutsk, Ivan Vasiliefsin Rakitin, which likewise probably threw great impediments in the way of this expedition; and the disgrace of prince Gagarin happening soon after, the whole business came to nothing. The only benefit accruing from it was a voyage set on foot by Yeltschin, in the year 1718, to the Shantary islands, and performed by the sin boyarskoi Prokofey Philkeief. This person was still living when Mr. Müller was at Yakutsk, and from whom he learnt the following particulars of his voyage.

Philkeief was provided with able seamen, the better to ensure success: when they were out at sea, these men declared to him that they were resolved to visit not only the Shantary, but all the other islands lying in those seas, as far as the Kurilly; which done, they would winter on the largest of the Shantary islands, which by way of eminence is denominated Shantar. This not being agreeable to Philkeief, he caused himself, with a couple of Kozaks, to be put on shore at the mouth of the river Tugur. The rest accomplished their design, passed the winter on the isle of Shantar, and had a rich capture of sables. Having negligently, however, left a fire they had been using, the flames caught the trees, so that the whole forest of the island was in a blaze, by which they also lost their sables. The next summer they returned to the continent, where, intending to fish along the coast between the Tugur and the Amoor, the greater part of them were slain by the Giliaks. They computed the isle of Shantar to be from south to north about twenty versts, and three or four versts in breadth, without any mountain upon it. How then were these islands to be seen from the mouth of the river Ud? This therefore seems to confirm Philteief's assertion, that they are situate in the proximity of the Tugur, and that it requires eight days to pass from the Ud to the Tugur, in lodkas or small craft. If we admit the situation of the coasts to be as they appear upon the maps, namely, as stretching directly south from Okhotsk to the Amoor, then the difficulty is much increased; because in that case there must be several promontories projecting so far as to conceal these islands from the view. But various reasons may be found for believing that the coast from Okhotsk to the river Ud runs south-westwards, and from the Ud to the Amoor south-eastwards. If so, as it is highly probable it will hereafter be found, then the Shentarian islands may lie in such a manner as to follow one another in succession northwards from the river Tugur. There may be more of them than we imagine, since the number of them is by no means ascertained. In that case, the nearest may unquestionably be discerned from the river Ud.

In 1718, a tribe of Tschuktschis came voluntarily to surrender themselves at the Anadirskoi ostrog, declaring that they inhabited the promontory between the Anadyr and the Kovyma; that they were in number about 3500 men; that this promontory was covered with rocks and mountains, but that the flat country consisted of turf-land; that opposite to the cape was seen an isle of moderate dimensions, the inhabitants whereof bore a resemblance to the Tschuktschis, but spoke a different language; that from the point they could go over to the isle in half a day; that beyond it was a large continent which might be seen from the island in fair weather; that its inhabitants likewise resembled the Tschuktschis, had a different dialect, numerous forests, &c. (giving an exact description of the great island mentioned above); that with their baidars, or boats, by coasting the promontory, they could make the voyage from the bottom of the bay of Anadyr, to the extreme point of the promontory, in three weeks, and often in less time.

Peter the Great, desirous of obtaining a more accurate knowledge of these parts and passages; and unable to induce the Dutch East India Company to take up the matter, resolved himself to prosecute the design with vigour. Accordingly, in 1727, he sent two geodesists, or geometers, to Kamtschatka. Of what they executed or discovered nothing ever came to the ears of the public. It is only known, that on their return, the tzar gave them a very gracious reception; whence it may be presumed, that they acquitted themselves of their trust to his satisfaction.

In short, the tzar being resolved to satisfy his curiosity by causing these latitudes to be explored, and above all to be certified whether Asia was contiguous to America on the north-eastern side, towards Tschuktschi-nos, since on the north side it undoubtedly was not; he made choice of Vitus Beering, an expert Danish mariner, for that purpose, to whom he joined lieutenants Spangberg and Tschirikof. Peter had this business so much at heart, that though confined to his bed by the disease that put an end to his life, he conversed with Beering, and even drew up with his own hand a set of instructions for his guidance, which paper was delivered to him five days after the demise of that great monarch.

He set sail the 14th of July 1728, from the river of Kamtschatka, and steered north-eastwards, following the land so as seldom to lose sight of it. Of this he drew a chart so accurate as to be still the best extant.

The 8th of August, being in lat. 64° 30′. a baidar having eight men on board, came up to his vessel. These proved to be Tschuktschi, who told him that the coast was covered with the dwellings of their people, and gave him to understand that not far off the land trended towards the west; they also pointed out an isle at no great distance, which Beering came up with on the 10th of August, and gave it the name of Saint Lawrence.

On the 15th of the same month, in 67° 18′. lat. perceiving that as the Tschuktschi had said, the coast bent towards the west, and no longer to the north, it is said that he drew

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this falſe conſequence, that he had reached the extremity of the north-eaſt of Aſia; that the coaſt thenceforward taking a weſtern direction, it was impoſſible there could be a junction of Aſia with America; and that he had fulfilled his commiſſion. Mr. Müller adds, that he was miſtaken, ſince he was only then at Serdzekamen, whence the coaſt indeed turns to the weſt, forming a large gulf; but that it afterwards returns to the north and north-eaſt as far as the great Tſhuktſhi-noſs. On his paſſage back, the 20th of Auguſt, forty Tſhuktſhi approached his ſhip in four baidars, and informed him that their countrymen frequently went to the Kovyma by land, with merchandiſes, but never by water.

Afanaſy Sheſtakof, colonel of the Yakutſkoi Kozaks, having made ſeveral propoſals to the ſenate to render the obſtinate Tſhuktſhi tributary, it will be neceſſary to ſay ſomething of his expedition as being of ſome conſequence to the hiſtory of navigation. Sheſtakof was reſolved to reduce not only the Tſhuktſhi, but likewiſe the Koriaks who dwell on the Siberian coaſt of the Penſhinſkian ſea, and likewiſe inhabit both ſhores of the northern part of Kamtſhatka, and were frequently in a ſtate of rebellion, to obedience. He purpoſed to viſit the country lying oppoſite to Tſhukotſkoi-noſs, and ſubject the inhabitants to the Ruſſian authority. It was part of his plan likewiſe to make an attempt to diſcover the pretended land in the Frozen ocean; and, laſtly, before his return, to explore the Shantarian and Kurilly iſlands. The eloquence, with which he accompanied the delivery of his project, gained him univerſal approbation, and high and low became intereſted in the ſucceſs of his enterpriſe, all conceiving it extremely probable that great public benefit might accrue from it. Accordingly he was appointed commander of a particular expedition. The admiralty of St. Peterſburg gave him a pilot named Jacob Hens, with an aſſiſtant Ivan Fedorof, a geodeſiſt Michael Gvoſdef, a mineralogiſt named Herdehol, and ten ſailors. At Ekatarinenburg, he was ſupplied with field-pieces and mortars, with all proper appurtenances. At Tobolſk, a captain of the Siberian regiment of dragoons, Dmitri Pavluzki, was ordered to join him, with four hundred Kozaks, under their united command; and they were farther empowered to increaſe their ſtrength from all the garriſons, oſtrogs, and ſimovies, in the territory of Yakutſk, wherever they ſhould come, at their diſcretion.

Theſe preparatives being made, Sheſtakof ſet out from St. Peterſburg for Siberia in the month of June 1727. At Tobolſk he tarried till the 28th of November, paſſed the winter in the upper regions of the Lena, and reached Yakutſk in the ſummer of 1728. Here a violent quarrel aroſe between Sheſtakof and Pavluzki, which probably occaſioned them to part, though they proſecuted their ſeveral purpoſes to the ſame end. Sheſtakof, in 1729, repaired to Okhotſk, and there took to his uſe the veſſels with which captain Beering had lately returned from Kamtſhatka. Having diſpatched his kinſman the ſin boyarſkoi Ivan Sheſtakof, on the firſt of September, in one of them, the Gabriel, to go to the river Ud and thence to Kamtſhatka, for the purpoſe of examining and deſcribing all the iſlands he might meet with on that voyage; he ſailed in the other veſſel, the Fortuna, for Taviſkoi oſtrog, but had the misfortune to ſuffer ſhipwreck, and to ſee the greater part of his people periſh in the billows, with great difficulty ſaving himſelf and four other perſons from ſharing their fate. The 30th of September, he ſent from Taviſkoi oſtrog a kozak, Ivan Oſtaſief, in company with an elder of the Koriaks, forwards along the coaſt, with orders to proceed to the river Penſhina, and by kind words and fair promiſes to perſuade the refractory Koriaks dwelling in that tract, to ſubmit to the Ruſſian government. He himſelf followed, at the commencement of December, with the reſt of his men, took up Oſtaſief by the way, and arrived within two days journey from the Penſhina, where he fell in with a prodigious hoſt of Tſhuktſhi on their march to make war upon the Koriaks. Though the number of Sheſtakof's followers, Ruſſians, Okhotſkian Tunguſes, Lamutes, and Koriaks, all together conſiſted of not more than 150 men, yet he did not heſitate to riſk a battle with the Thutkſhi. This, however, had an unfortunate iſſue: Sheſtakof was ſtruck by an arrow from the enemy, which deprived him of life, and thoſe who eſcaped falling with him, were entirely put to flight. This happened the 14th of March 1730, near the ſtream Yegatſh, which falls into the Penſhinſkian gulf between the rivers Paren and Penſhina.

Three days prior to this diſaſtrous event, Sheſtakof had ſent an order to Taviſkoi oſtrog, directing the Kozak Trypho Krupiſhef to proceed in one of the veſſels to Bolſheretzkoi oſtrog, from thence doubling the ſouthern point of Kamtſhatka, to ſail on towards Niſhnei Kamtſhatſkoi oſtrog, to continue his voyage in the ſame ſhip to the river Anadyr, and invite the inhabitants of the vaſt tract of country lying oppoſite to pay tribute to Ruſſia. In this diſpatch he recommended Krupiſhef to take with him the geodeſiſt Gvoſdef, in caſe he were inclined to go, and to treat him with all poſſible kindneſs. Concerning what came of it no accounts are extant. Only thus much is known, obſerves Mr. Müller, that the geodeſiſt Gvoſdef was actually, in the year 1730, between the 65th and 66th degrees of latitude, at a ſhort diſtance from the country of the Tſhuktſhy, on an unknown ſhore ſituate over againſt the ſaid country; that he even found people there, with whom, however, he was unable to converſe for want of an interpreter.

During theſe tranſactions, the ſin boyarſkoi Ivan Sheſtakof was ſailing on board the Gabriel to Kamtſhatka, and on the 19th of September 1729, arrived at Bolſheretzkoi. For though his inſtructions were to proceed firſt to the river Ud, he was prevented from doing ſo by violent adverſe ſtorms. The following ſummer, however, he made the voyage to the Ud, touched at Udſkoi oſtrog, where he found people who had been ſent thither by colonel Sheſtakof, and had built a veſſel; but that not being fit for his purpoſe, he returned to Kamtſhatka, having ſeen both on his paſſage outwards, and on his way back, ſeveral iſlands, and at laſt made again the port of Okhotſk.

While Sheſtakof was on his paſſage back to Okhotſk, Jacob Hens the pilot, received a diſpatch from captain Pavluzki, who had come directly from Yakutſk, by the common inland road, to Niſhney Kovymſkoi Simovie, or oſtrog, informing him that he had heard, by way of Anadyrſkoi oſtrog, of the death of the Kozak colonel Sheſtakof; but that this would cauſe no impediment to the progreſs of the expedition: at the ſame time ordering the pilot Hens to go, with one of the veſſels which captain Beering had left at Okhotſk, round by Kamtſhatka to Anadirſk, whither likewiſe captain Pavluzki would preceed without delay. In purſuance of this order, Hens went on board the Gabriel, and ſailed for Kamtſhatka. On the 20th of July 1731, he arrived at the mouth of the river Kamtſhatka, intending to purſue his voyage to the Anadyr, when a report was brought to him, that the ſame day a rebellious crew of Kamtſhadales were come to Niſhney Kamtſhatkoi oſtrog, where after murdering moſt of the Ruſſians, they had ſet fire to the dwellings of the inhabitants. The few remaining Ruſſians took refuge on board the veſſel, and Hens ſent a party of his people on ſhore to reduce the Kamtſhadales to

to obedience; in which they ſucceeded; but the event effectually ſtopped the navigation of the river Anadyr.

In the mean time, captain Pavluzky had arrived, the 3d of September 1730, at Anadyrſkoi oſtrog. From that place in the enſuing ſummer he marched on an expedition againſt the refractory Tſhuktſhi. Pavluzky opened his campaign the twelfth of March 1731, his force conſiſting of 215 Ruſſians, 160 Koriaks, and 60 Yukagirs. He took the road acroſs the ſources of the rivers Uboina, Belu, and Tſhetuine, which fall into the Anadyr, advancing directly north towards the Frozen ocean, and leaving the head of the Anadyr to the left. Of the other rivers which he croſſed nothing is known, as there was nobody to inform him of them, or tell their names. After a courſe of two months, in which they could not proceed above ten verſts a day, and that only by reſting at times, Pavluzky came to the Frozen ocean, at a place where a conſiderable river diſembogues into it, but the name of which he could not learn. He now proceeded fourteen days eaſtward along the coaſt, moſtly over the ice, without obſerving any mouths of rivers, as they were oftentimes obliged to keep out on the ice at a diſtance from land. At length they perceived a great troop of Tſhuktſhi advancing towards them, apparently intending to come to an engagement with them. Pavluzki, by an interpreter, ſummoned them to ſurrender to Ruſſia; which, on their peremptorily refuſing to obey, he immediately attacked them, and had the good fortune to give them a total defeat. This happened on the 7th of June.

After reſting one week, Pavluzky continued his march, and at the latter end of June came to two rivers that diſcharge themſelves into the Frozen ocean, at the diſtance of a day's journey aſunder. On the bank of the latter of theſe rivers, on the 30th of June, a ſecond battle was fought, which terminated as happily as the former.

They now lay ſtill for three days, then proceeded to Tſhukotſkoi-noſs, reſolving to go right acroſs it to the Anadyrſkian ſea, when a third time they ſaw advancing towards them a numerous army of Tſhuktſhi, collected together from both coaſts. Here on the fourteenth of July was fought the third battle, in which the ſlaughter on the enemy's ſide, was greater than the advantage on that of the Ruſſians; as, notwithſtanding their defeat, the Tſhuktſhi would hearken to no terms of ſubmiſſion or tribute. Among the ſpoil were found many articles that had belonged to the Kozak colonel Sheſtakof, and were loſt in the engagement that happened near the ſtream Yegatſh. That affair therefore was thus amply revenged; eſpecially as in all the three battles, not more than three Ruſſians, one Yukagir, and five Koriaks, were left on the field. It was affirmed, that among the killed of the enemy in the laſt encounter, one was found who had a hole in the upper lip on each ſide of the mouth, in which pieces of the walruſs tooth were inſerted.

Pavluzky now marched triumphantly acroſs Tſhukotſkoi-noſs, in which he had to climb over the ſummits of huge mountains, and at the end of ten days happily reached the other coaſt. Here he ſent off ſome of his people by water in baidars; but remained himſelf, with the greater part of his followers on ſhore, and kept along the coaſt, which there ſtretches ſouth-eaſtward, ſo that every evening he received reports from the baidars. On the ſeventh day they came up to the mouth of a river, and twelve days after, to that of another, from which, at the diſtance of about ten verſts, a point of land runs far out into the ſea, which at firſt is mountainous, but terminates in a plain extending as far as the eye can ſee. This point is probably the ſame that obliged captain Beering to put back. One of the mountains is by the inhabitants of Anadyrſkoi oſtrog called Serdzekamen. Pavluzki hence turned in land, and returned to Anadirſk the twenty-firſt of October, by the ſame way that he went out.

Mr. Müller ſpeaks of the ardent zeal which M. Kerilof, at that time ſecretary of the ſenate, manifeſted for the ſucceſs of theſe diſcoveries in 1732.

Having related what information has been obtained from the Ruſſians, and particularly from the indefatigable Mr. Müller, we ſhall now proceed to deliver, as briefly as poſſible, what we gather from other authors, more ancient.

Pere Avril was informed by a vaivode, that the people dwelling about the Kovyma frequently went to the ſhores of the Frozen ocean to purſue the morſes, for the ſake of their teeth. M. Witſen, juſtly celebrated for his perſevering diligence, from about 1692 to 1695, in the diſcovery of theſe unknown countries, ſays, that "the great projecting point, which he calls cape Tabin, extends near to America; that about fifty or threeſcore men, coming from the Lena, a little before 1692, put out to ſea in the Frozen ocean; and, having turned to the right, came to the point againſt which the fields of ice driving from the north ſtrike with their whole force, &c. It was therefore not poſſible for them to double this cape, nor to perceive its extremity from the mountains of the north-eaſt of that point of Aſia, which is not extremely wide in that place; they remarked that the ſea was free from ice on the other ſide, that is, the ſouthern; whence it may be inferred that the land of that point extends ſo far to the north-eaſt, that the floating ice, coming down from the north, cannot paſs on the ſouthern ſide."

M. Buache, from whom this paſſage is taken (Conſider. Geograph. p. 105, 106.) corroborates and illuſtrates the account thus: "The firſt pieces of ice (he ſays) coming from the north, ſtop at the iſland between the cape and America, and on the ſhallows which connect it to the two continents; theſe large flakes, accumulating on one another, form a ſort of bridge; and it is only then, that the others which afterwards come down from the north, are unable to paſs to the ſouth, &c. On this point (continues M. Witſen) are found men who wear little ſtones and pieces of bone inſerted in their cheeks, and ſeem to have a ſtrong affinity with the North Americans."

Kæmpfer, in 1683, ſparing no pains that might any way lead to the knowledge of the northern regions, was informed by ſeveral perſons, that the Greater Tartary was joined by an iſthmus, compoſed of lofty mountains, to a neighbouring continent, which they ſuppoſed to be America. He was ſhewn the firſt maps of the Ruſſian empire, laid down ſome years before, without degrees of longitude. On them appeared ſeveral conſiderable capes on the eaſtern ſhores of Siberia; one of them, too large for being compriſed within the border of the map, which was cut in wood, was abruptly ſhortened by it. This is the point ſpoken of by M. Witſen; but at that time, it is ſaid to have been thought more near to Ruſſia than it really is.

Iſbrandt Ides, from informations carefully taken in 1693 and 1694, ſpeaks of Kamtſhatka, as of a town, which, with the ſurrounding country, was inhabited by the Xuxi and Kœliki (Tſhuktſhi and Koriaks); ſays, that the cape of ice is a tongue of land projecting into the ſea, where it is interſected by ſeveral arms of water, which form gulfs and iſles above Kamtſhatka; the ſea has an entrance frequented by the fiſhermen; here are the towns Anadyrſkoi and Sabatſka (on the map, and according to others Sabatſia), inhabited by the two nations above-mentioned. The inhabitants of Yakutſk go to cape St. Sabatſia, Anadyr, Kamtſhatka, &c. in queſt of the narval.

The Swediſh officer, who was a priſoner in Siberia from

1709

1709 to 1721, contending againſt the opinion of thoſe who imagined that Aſia was contiguous to America, poſitively aſſerts that the Ruſſian veſſels, coaſting along the main land, ordinarily paſs the Svætoi-noſs, in order to trade with the Kamtſhadales on the ſhore of the Eaſtern ocean, about the fiftieth degree of latitude: but for this purpoſe they are obliged to paſs between the main land, and a great iſland lying to the north-eaſt of Svætoi noſs, and that this iſle is the north-weſt of America. Strahlemberg mentions nothing farther in his work than the facts already related, excepting that the Yukagirs are a people ſettled near the Frozen ocean, between the mouth of the Lena and cape Tabin. It has been found, that in the part of the continent of America of which ſome knowledge has been obtained, oppoſite the cape, there is a large river, wafting down its current numbers of great trees, &c.

From all theſe, and various other documents and data, M. Engel endeavours to eſtabliſh ſome important facts; ſuch as, that the poſition of this pretended cape Tabin owes its origin to the deſire of fixing that of Pliny ſpoken of above; and this motive having ſubſiſted till within a few years paſt, or at leaſt the idea of a finis terræ towards the north-eaſt, it has been preſerved, and ſome cape or other was to be found for that purpoſe. That the largeſt of all, that which extends fartheſt into the ſea; and the moſt formidable, according to all accounts, is the double cape, called Serdzekamen, or heart of ſtone, north of the Anadyr, which may in ſome years, at leaſt, without difficulty be doubled; ſince it is not owing to its proximity to the pole, but to the occaſional conjunction of vaſt bodies of ice, that renders it at ſuch times impracticable.

M. Gmelin ſays: "There are even traces of a man, who in a ſmall boat, not much bigger than a fiſherman's canoe, doubled the Shalaginſkoy cape, and made the voyage from the Kovyma to Kamtſhatka." It may be aſked, adds M. Engel, whether I am ſo credulous as to believe it? No: if I ſhould grant what he means by that cape; ſince this man muſt have ſailed, according to the arbitrary diſtances laid down in the charts, five or ſix hundred leagues. But if according to my ſyſtem, we baniſh cape Tabin into its proper nonentity, diminiſh the extent of the coaſts, approximate the rivers, eſpecially the Kovyma (for the ſuppoſed declenſion of the coaſt, and the greater proximity of the Indigirka and the Kovyma, are confirmed by various arguments); by doubling the Serdzekamen, as the ſole and real cape Shalaginſkoy, then it would be by no means impoſſible, in one of thoſe years, when, as M. Müller allows, there are no maſſes of ice in its environs.

The authorities whereon M Müller and the Ruſſian geographers fix the longitude of the eaſtern extremity of Aſia beyond the two hundredth degree from the firſt meridian of Ferro, or 180° 6′ 15″ from Paris, are derived from the obſervations of Jupiter's ſatellites, taken by Kraſſilnikof, at Kamtſhatka and in ſeveral parts of Siberia; as alſo from the expeditions, both by land and ſea, of the Ruſſians towards Tſhukotſkoi-noſs.

M. Engel diſputes the accuracy of theſe obſervations, and deducts no leſs than twenty-nine degrees from the longitude of Kamtſhatka as ſtated by the Ruſſians. M. de Vaugondy, however, ſees no ſufficient reaſons for ſo extraordinary a ſubſtraction; and contents himſelf with curtailing the continent of Aſia of no more than eleven degrees of longitude. M. Buache diſſents from the opinions both of Engel and Vaugondy; defending the ſyſtem of the Ruſſian geographers on the authority of tables drawn up by M. Maraldi.

It is certain that Kraſſilnikof compared his ſtatements with correſpondent obſervations made at Peterſburg, and the reſults were; on comparing an obſervation of an eclipſe of the firſt ſatellite of Jupiter, taken at Okhotſk, Jan. 17, 1743, with an obſervation of an eclipſe of the ſame ſatellite taken at Peterſburg, Jan. 15, of the ſame year, the difference of longitude between Peterſburg and Okhotſk appeared to be 7 hours, 31 minutes, 29 ſeconds; from a compariſon of two ſubſequent ſimilar obſervations, the difference of longitude was found to be 7 hours, 31 minutes, 34 ſeconds; the proportional mean whereof, rejecting the half ſecond, is 7 hours, 31 minutes, 31 ſeconds, the true difference between the meridians of Peterſburg and Okhotſk according to theſe obſervations. Adding the longitudinal difference between Peterſburg and Paris, which is 1 hour, 52 minutes, 25 ſeconds, we get the longitude of Okhotſk from Paris, 7 hours, 23 minutes, 56 ſeconds, differing only 26 ſeconds from the reſult of M. Maraldi. (See Nov. Comm. Petropol. tom. iii. p. 470.) So likewiſe the longitude of Bolſheretſk, from correſpondent obſervations taken there and at St. Peterſburg, appears to be 10 hours, 20 minutes, 22 ſeconds, differing from Maraldi about 2 minutes, 5 ſeconds. (Id. ib. p. 469.) But the longitude of the haven of Peterpavlovſky, calculated in like manner by correſpondent obſervations, diſagrees with the longitude as computed by Maraldi no more than 20 ſeconds. (Ibid.) Beſides, the reſults deduced from correſpondent obſervations of the eclipſes of Jupiter's ſatellites taken at Bolſheretſk, and at the haven of Peter and Paul, by Kraſſilnikof, and at Pekin by the jeſuit miſſionaries, evince by their near agreement the care and attention with which the obſervations muſt have been conducted; whence there is great reaſon to ſuppoſe, that the ſuſpicions of inaccuracy imputed to Kraſſilnikof are deſtitute of any juſt foundation. (Obſerv. Aſtron. eccl. Sat. Jovis, &c. Nov. Comm. Petropol. tom. iii. p. 452, & ſeq. Obſerv. Aſtron. Pekini factæ. Ant. Hallerſtein. Curante Max. Hell. Vindibonæ, 1768.)

For ſupporting, however, in ſome ſort, theſe ſuſpicions, M. Vaugondy pretends, that the time-pieces and other inſtruments uſed by Kraſſilnikof at Kamtſhatka, were greatly damaged by the length of the journey; and that the perſon who was ſent to repair them was not expert in his buſineſs. But this opinion ſeems to have been too haſtily adopted; for, though Kraſſilnikof does indeed allow that his time-piece ſometimes ſtopt, and that too when he wanted to aſcertain the true time of the obſervation; and farther admits, that conſequently the obſervations taken by him under theſe diſadvantages, when he was unable to correct them by former or ſubſequent obſervations of the ſun or ſtars, are not to be relied on, and which he has therefore diſtinguiſhed by an aſteriſm; there are nevertheleſs many others not liable to any objections of this nature; and the obſervations alluded to above fall under this deſcription. (See Nov. Comment. Petrop. tom. iii. p. 444.) However, the teſtimony of the late profeſſor Müller, who was in thoſe parts with Kraſſilnikof, as to the ſufficiency of the inſtruments entirely removes that objection.

The beſt way of trying the accuracy of the Ruſſian geographers in ſettling the longitude of Kamtſhatka, will be by comparing it with that of Yakutſk, which has been clearly eſtabliſhed by a variety of obſervations taken at different times and by different perſons. If therefore any error be in placing Kamtſhatka ſo far to the eaſt, it is in the longitude between Yakutſk and Bolſheretſk.

Now, Kraſſilnikof, on his return from Kamtſhatka, obſerved at Yakutſk ſeveral eclipſes of Jupiter's ſatellites, from which it appears, on comparing them with calculations of the ſame eclipſes made by M. Wargentin for the meridian of Paris, that the mean of the reſult is 8 hours, 29 minutes, 5 ſeconds. The obſervations of M. Iſlenief, taken at Ya-

kutſk in 1769, whither he had been ſent to obſerve the tranſit of Venus, received the ſanction of the imperial academy of ſciences. (Nov. Comment. Acad. Petrop. tom. xiv. pars iii. p. 268—321.) The longitude given by him to Yakutſk is 8 hours, 29 minutes, 34 ſeconds, a ſufficiently accurate agreement with the longitude reſulting from the obſervations of Kraſilnikof.

The longitude therefore of Yakutſk from Paris being 8 hours, 29 minutes, 5 ſeconds, or 127° 16′ 0″; and of Bolſheretſk 12 hours, 17 minutes, 17 ſeconds, or 184° 19′ 15″, the longitudinal difference of theſe two places, from aſtronomical obſervations, is 1 hour, 48 minutes, 8 ſeconds, or 27° 3′ 0″. The latitude of Bolſheretſk is 52° 55′ 3″, and that of Yakutſk 62° 1′ 52″; then the difference of their longitude being from the foregoing ſtatement 27° 3′ 0″, the direct diſtance between the places meaſured on a great circle of the earth will appear by trigonometry to be 16° 57′, or about 1773 verſts, reckoning 104½ verſts to a degree. This diſtance conſiſts partly of ſea and partly of land; and a conſtant intercourſe is kept up between the two places, by means of Okhotſk, which ſtands in the intermediate ſpace. The diſtance by ſea from Bolſheretſk to Okhotſk is eſtimated by nautical reckonings to be 1254 verſts, and the diſtance by land from Okhotſk to Yakutſk is 927, making together 2181 verſts. The direct diſtance deduced by trigonometry, ſuppoſing the difference of longitude between Bolſheretſk and Yakutſk to be 27° 3′. is 1773, falling ſhort of 2181 by 408; a difference naturally to be expected, on conſidering that neither journies by land, nor voyages by ſea, are ever performed preciſely on a great circle of the globe, which is the ſhorteſt line between any two places.

Such being the agreement between the diſtance thus eſtimated, and that deduced by calculation, admitting the difference of longitude between Yakutſk and Bolſheretſk to be 27° 3′, it ſeems highly improbable that there ſhould be an error of many degrees in the aſtronomical determination.

Since then the longitude between Ferro and St. Peterſburg is confeſſedly 48°; that between St. Peterſburg and Yakutſk 99° 21′; and, as the diſtance in longitude between Yakutſk and Bolſheretſk cannot be materially leſs than 27° 3′: it follows, that the longitude of Bolſheretſk from Ferro cannot be much ſhort of 174° 24′. How then are we to find room for ſo conſiderable an error as 29 degrees, which, according to M. Engel, or even of 11°, which, according to M. Vaugondy, is chargeable on the Ruſſian geographers in determining the longitude of Kamtſhatka?

From the iſle of Ferro the longitude of

Yakutſk is	- -	147° 0′	0″
Okhotſk	- -	160 7	0
Bolſheretſk	- -	174 13	0
Peter and Paul	-	176 10	0

As no aſtronomical obſervations have been made farther to the eaſt than the haven of Peter and Paul, it is impoſſible to aſcertain with preciſion the longitude of the north-eaſtern promontory of Aſia. It is nevertheleſs apparent, from Beering's and Synd's coaſting voyages towards Tſhukotſkoi-noſs, as well as from other expeditions to thoſe parts by land and ſea, that the coaſt of Aſia, in lat. 64°, ſtretches at leaſt 23° 2′ 30″ from port Peter and Paul, or to about 200° longitude from the iſle of Ferro. But the accuracy of Kraſilnikof's obſervations at the harbour of Peter and Paul has ſince been confirmed by captain Cook, who places that harbour in lat. 53° 1′. longit. 158° 36′. eaſt from Greenwich; Kraſilnikof ſtating it to lie in lat. 53° 0′ 38″. long. 176° 10′. from Ferro, or 158° 35′. from Greenwich. The difference therefore is only twenty-two ſeconds in the latitude, and one minute in the longitude. Conſequently, the aſſertion of Vaugondy, that the Ruſſians had advanced the peninſula of Kamtſhatka eleven degrees too much to the eaſt; and of Engel, who ſuppoſes that error to be no leſs than twenty-nine degrees, is manifeſtly refuted; and the accuracy of the aſtronomical obſervations made by the Ruſſian geographers is now inconteſtably aſcertained.

The next point of land obſerved by our Engliſh navigators, was that promontory, by Beering called Tſhukotſkoi-noſs, a name adopted by captain Cook, but which is ſometimes denominated Anadyrſkoi-noſs, from its ſituation on the bay of the river Anadyr. The application of the term Tſhukotſkoi-noſs to this promontory, may perhaps occaſion ſome confuſion to future navigators and geographers, as that denomination has been uſually given, and ought therefore to be appropriated to the eaſtern extremity of Aſia, the eaſt cape of Cook.

From Anadyrſkoi-noſs, laid down by the Engliſh in lat. 64° 13′, under the appellative of Tſhukotſkoi-noſs, to cape Serdzekamen, in lat. 67°, the utmoſt extent of Beering's navigation to the north, captain Cook does juſtice to the memory of Beering, by obſerving, that "he has here delineated the coaſt very well, and fixed the latitude and longitude of the places better than could be expected from the methods he had to go by." (Cook's Voyage, vol. ii. p. 474.)

Within this track our great navigator has corrected the errors of the Ruſſian charts, and aſcertained the poſition of the real Tſhukotſkoi-noſs, which Müller had erroneouſly conjectured to lie above the 70th degree of latitude. He gives the name of Eaſt-cape to this great promontory of the Tſhuktſhi, proves it to be the moſt eaſtern extremity of Aſia, and fixes its latitude in 66° 6′, and longit. 190° 22′; inconteſtably ſhewing, that the Ruſſians were not wrong in aſſerting that the north-eaſtern extremity of Aſia ſtretched beyond he 200th degree of longitude from the iſle of Ferro, or 182° from Greenwich.

That remarkable expedition of Deſhnef, in which, according to profeſſor Müller, he ſailed from the mouth of the Kovyma, weathered Tſhukotſkoi-noſs, or Eaſt-cape, and was ſhipwrecked in the ſea of Kamtſhatka, was not only the earlieſt, but the moſt important of the Ruſſian enterpriſes in theſe latitudes; as it firſt aſcertained the ſeparation of the two continents.

Deſhnef's deſcription of the north-eaſtern cape agrees in ſeveral material circumſtances with that of the ſame promontory given by captain Cook. According to Deſhnef, it "conſiſts entirely of rocks." Cook ſays, that "it ſhews a ſteep rocky cliff next the ſea; and at the very point are ſome rocks like ſpires. The land about this promontory is compoſed of hills and vallies; the former terminate at the ſea in ſteep rocky points, and the latter in low ſhores. The hills ſeemed to be naked rock." (Voyage, vol. ii. p. 472.)

Deſhnef adds, that, on the coaſt near the promontory, the natives had reared a "pile reſembling a tower, with the bones of whales." Cook likewiſe noticed theſe piles as very common on the coaſt of the Tſhuktſhi. "Over the dwelling ſtands a kind of ſentry-box, compoſed of the large bones of large fiſh;" and again, "near the dwellings were erected ſtages of bones, ſuch as before deſcribed." (Ib. p. 451. 472.) Cook alſo coincides with Deſhnef in placing two iſlands directly oppoſite to the promontory; and capt. King confirms another aſſertion of the Ruſſian navigator, that the paſſage from the ſame promontory to the mouth of the Anadyr, may with a fair wind be performed in ſeventy-two hours. (Id. vol. iii. p. 264.)

It

It has been objected to Deſhnef's narrative, that Cook and Clerke were in two ſucceſſive years prevented by the ice from puſhing forward into the Frozen ocean; but in reply to this it ſhould be obſerved, that Deſhnef ſailed in a ſmall veſſel, more eaſily worked than the Engliſh ſhips; and that the year in which he paſſed round is repreſented as more than uſually free from ice. The ſeaſon alſo in which Deſhnef doubled the great Siberian promontory, probably was more favourable to navigation in the Frozen ſea, than the time of year adopted by the Engliſh. For, though he ſailed on the firſt of July, or June 20, O. S. yet he appears not to have arrived in the eaſtern ocean till towards the end of September. Shortly after Ankudinof's ſhipwreck on Tſhukotſkoi noſs, Deſhnef mentions that he landed on the firſt of October, or September 20, O. S., and ſkirmiſhed with the Tſhuktſhi. Conſequently, from the length of the interval between the day of his departure from the mouth of the Kovyma to his entrance on the Eaſtern ocean, it may reaſonably be inferred that he was waiting for an opportunity of getting through the ice, which he at length effected. Whereas Cook quitted that dreary region on the 29th of Auguſt; and Clerke ſo early as the month of July. The middle and the latter end of September are generally eſteemed the moſt proper periods for navigating the Frozen ocean.

The ſole aim of Deſhnef being to ſail from the Kovyma to the Anadyr, it was not incompatible with his plan to continue on the coaſt, and to perſevere in expecting a favourable occaſion for effectuating his purpoſe, without expoſing himſelf to thoſe difficulties and dangers which ſeamen from more diſtant quarters muſt neceſſarily experience. Whereas the grand deſign of the Engliſh navigators being to aſcertain the practicability of a north-eaſtern paſſage, and having incontrovertibly determined that important queſtion in the negative, they accompliſhed the primary object of their expedition. They could not therefore, conſiſtently with their views and inſtructions, by delaying their departure from thoſe frozen regions, expoſe themſelves to the hazard of being hemmed in by the ice, merely for the ſake of evincing the poſſibility of getting round to the Kovyma.

Theſe circumſtances ſeem to prove that Deſhnef actually performed this voyage; yet as he neither made any aſtronomical obſervations, nor traced a chart of the coaſt, his expedition, though it decided the long controverſy concerning the ſeparation of the two continents, contributed, however, nothing towards an accurate knowledge of the north-eaſtern extremity of Aſia, for which we are indebted to capt. Cook alone. (See Coxe's Ruſſian Diſcoveries.)

In the year 1785, capt. Billings, an Engliſhman in the Ruſſian ſervice, was ſent by Catharine II. on a voyage of diſcovery into theſe parts; and the reſults of his obſervations are found to agree with thoſe of captain Cook, placing the eaſternmoſt extremity of Aſia in lat. 66° 6′. and aſcertaining its longitude at 190° 22′. from Greenwich.

The population of Aſia, ſays Mr. Pinkerton, is by all authors allowed to be wholly primitive and original; if we except that of the Tſhuktſhi, who by the Ruſſian travellers and Mr. Tooke are ſuppoſed to have paſſed from the oppoſite coaſt of America. A few colonies have migrated from Ruſſia to the northern parts, as far as the ſea of Kamtſhatka; and well-known European ſettlements are in Hindoſtan and the iſles to the ſouth-eaſt; but the firſt ſerious attempt to colonize what is deemed a part of Aſia, was the recent ſettlement at Port Jackſon. With theſe and other trifling exceptions, Aſia preſents a prodigious original population, as may be judged from the following table, which will be found more clear than any prolix diſquiſition on the ſubject.

LINNÆAN TABLE OF THE NATIONS AND LANGUAGES IN ASIA.

Of the three ſeveral appellatives, the firſt denotes *ordo*, the ſecond *genus*, the third *ſpecies*.

1. Aſſyrians.—Aſſyrians, Arabians, Egyptians.—Chaldee, Hebrew, &c.

2. Scythians.—Perſians, Scythias intra and extra Imaum, &c. Armenians.—(The Parſi and Zend are cognate with the Gothic, Greek, Latin, according to ſir William Jones. Indian Diſſert. vol. i. p. 206. The Pehlavi is Aſſyrian or Chaldaic. Id. 187, 188. 206.).

3. Sarmats.—Medes and Parthians.—Georgians and Circaſſians.

4. Seres and Indi.—Hindoos, northern and ſouthern, &c.

5. Sinæ.—Chineſe and Japaneſe.—Theſe have a Tataric form and face; they are probably highly-civilized Tatars, Mongoles or Mandſhurs.

Barbaric Nations from north to ſouth, and according to the degrees of barbariſm.

6. Sämoyedes, Oſtiaks, Yurals, &c.

7. Yakutes.—Yukagirs. (Expelled Tatars, according to Tooke and Leſſeps.)

8. Koriaks.—Tſhuktſhi. (From the oppoſite coaſt of America. Tooke's Ruſſia. The Yukagirs are a tribe of the Yakutes, around Yakutſk, and both are expelled Tatars. Tooke's View, ii. 80. Leſſeps, ii. 312.)

9. Kamtſhatdales.—Kurillans.—(Theſe reſemble the Japaneſe.)

10. Mandſhures or Tunguſes.—Lamutes.—(Ruling people in China.)

11. Mongoles.—Kalmuks.—Soongares, Tungutes, Buræts, &c.

12. Tatars or Huns.—Turks, Khaſares, Uzes, and Siberians.—Nogays, Baſhkirs, Kirghiſikaizaki or Kirghiſe Kaizaks, Teleutes.

After the deſtruction of Attila's ſwarms, and the effects of unfortunate inroads, the Huns became ſubject to the Mongoles, who under Zingis or Chingis khan, Timur, &c. conſtituted the ſupreme nation in Aſia.—The great ſhare of population which Europe has received from Aſia will appear from the following brief ſtatement.

Primitive Inhabitants.

1. Celts.—Iriſh, Welch, Armorican.—Erſe, Manks, Corniſh.

2. Fins (chief god *Yummala*).—Finlanders, Eſthonians, Laplanders, Hungarians, Permians or Biarmians, Livonians, Votiaks and Cheremiſſes, Vogules and Oſtiaks.

Colonies from Aſia.

3. Scythians or Goths (*Odin*).—Icelanders, Norwegians, Swedes, Danes, Germans, Engliſh.—Swiſs, Friſic, Flemiſh, Dutch.

4. Sarmats or Slavons (*Perune*).—Poles, Ruſſians, Kaizaks.—Heruli, Vendi, Lettes.

The inhabitants of France, Italy, and Spain, are alſo of Aſiatic origin; and ſpeak corrupted Roman, which, like the Greek, is a poliſhed dialect of the Gothic, according to ſir William Jones, and other able antiquaries. The Heruli, Vendes, and Lettes, uſed mixed and imperfect dialects of the Sclavonic.

Beſides theſe numerous original nations, the Malays and Aſiatic iſlanders conſtitute another large and diſtinct claſs of mankind, with a peculiar ſpeech, in the ſouth of the extenſive continent of Aſia.

It appears that not above one quarter of Aſia was known to the ancients; and the knowledge was little increaſed till Marco Polo, whoſe travels became well known in Europe in the fourteenth century, eſtabliſhed a memorable epoch in geography, by paſſing to China, and diſcloſing the extent of that country, the iſlands of Japan, and a faint intelligence of other regions, illuſtrated and confirmed by recent accounts. The wide conquests of the famous Tshinghiskhan and his immediate successors, in the beginning of the thirteenth century, firſt opened the diſcovery of the diſtant parts of Aſia; the Mongoles, whoſe ſovereign he was, being ſituated to the eaſt of the Huns, who had before diffuſed terror over Europe. The primitive ſeat of the Mongoles was in the mountains which give ſource to the river Onon; and at a ſhort diſtance to the ſouth-weſt was Kara-kum, the firſt capital of the Mongole empire. The victories of Zingis extended from Cathay, or the northern part of China, to the river Indus; and his ſucceſſors proſecuted them over Ruſſia, while they made incurſions as far as Hungary and Germany. The power of the Mongoles, thus widely diffuſed, naturally excited an attention, never ſtimulated by a number of petty barbaric tribes; and at the ſame time facilitated the progreſs of the traveller, who, as in Africa at preſent, had been formerly impeded by the enmities of diminutive potentates. By force of arms the Mongoles alſo firſt opened the obſcure receſſes of Siberia. Sheibani khan, in the year 1242, led a horde of fifteen thouſand families into thoſe northern regions; and his deſcendants reigned in the Tobolſkoy above three centuries, till the Ruſſian conqueſt. (Gibbon, xi. 424.) Two European travellers, Carpini and Rubruquis, being commiſſioned to inſpect the power and reſources of the new empire of the Mongoles, the latter found at Kara-kum a Pariſian goldſmith employed in the ſervice of the khan: and by Carpini's relation it appears, that from their brethren in Siberia, the Mongoles had received ſome intelligence concerning the Samoyedes.

Thus the diſcovery of Aſia, which had lain nearly dormant ſince the time of Ptolemy, began to revive in the thirteenth century. Yet after the publication of Marco Polo's travels, little was done for two centuries; and the authenticity of his accounts even began to be queſtioned. From the map of the world by Andrea Bianco, the Venetian, 1440, it ſufficiently appears that the diſcoveries of Polo had, even in his native country, been rather diminiſhed than increaſed. (See Formalconi, ſaggia ſulla nautica antica de Veneziani, Ven. 1783, 8vo.) See alſo the deſcription of Aſia by pope Pius II. who appears not even to have ſeen the travels of Polo. One man indeed of great mental powers, was impreſſed with their veracity, and in conſequence accompliſhed a memorable enterpriſe. This was Chriſtoval Colon, or as we call him, Chriſtopher Columbus; who, led by the relation of Polo, conceived, that as Aſia extended ſo far to the eaſt, its ſhores might be reached by a ſhort navigation from the weſtern extremity of Europe. In this erroneous idea, when that great man diſcovered the iſlands now called the Weſt Indies, he thought that he had arrived at the Zipango of Polo, or Japan; and thus the name of India was abſurdly beſtowed on thoſe new regions.

After the diſcovery of America and the cape of Good Hope, the maritime parts and iſlands of Aſia were ſucceſſively diſcloſed. Yet the recent voyages of the Ruſſian navigators, of our immortal Cook, and of the unfortunate La Peyrouſe, evince that much remained to be done. Concerning the interior of Siberia, ſcarcely any ſolid information was had till Peter the Great, after the battle of Pultawa, ſent many Swediſh priſoners into that region; and Strahlemberg, one of the officers, publiſhed an account of Siberia; which though extremely inaccurate and defective, opened the way to farther intelligence. The knowledge thus obtained was greatly improved and augmented by the well-known journies of Pallas and the other academicians. Our acquaintance with Aſia is ſtill however far from being perfect, eſpecially in regard to Daouria and other regions near the confines of the Ruſſian and Chineſe empires; not to mention central Aſia in general, Thibet and ſome more ſouthern tracts; nor had even the geography of Hindoſtan been treated with tolerable accuracy, till major Rennell publiſhed his excellent map and memoir.

The religions of Aſia are various; and the climate admits of every variety, from the equator to the Arctic ſea.

Though Aſia cannot vie with Europe in the advantages of inland ſeas, yet, in addition to a ſhare of the Mediterranean, it poſſeſſes the Red ſea (the Arabian ſea), and the gulf of Perſia, the bays of Bengal and Nankin, with other gulfs, which diverſify the coaſts much more than thoſe of Africa or America, and have doubtleſs contributed greatly to the civilization of this celebrated quarter of the globe.

The Red ſea, or the Arabian gulf of antiquity, conſtitutes the grand natural diviſion between Aſia and Africa; but its advantages have been chiefly felt by the latter, which is entirely deſtitute of other inland ſeas; Egypt and Abyſſinia, two of the moſt civilized countries in that diviſion, having derived great benefits from that famous gulf, which, from the ſtraits of Babelmandel to Suez, extends about 21° or 1470 Britiſh miles; terminating, not in two equal branches, as delineated in old maps, but in an extenſive weſtern branch, while the eaſtern aſcends little beyond the parallel of mount Sinai.

The Perſian gulf is another noted inland ſea, about half the length of the former, being the grand receptacle of thoſe celebrated rivers the Euphrates and the Tigris.

The other gulfs do not afford ſuch ſtrong features of what are properly termed inland ſeas. But the vaſt extent of Aſia contains ſeas totally detached, and of a different deſcription from any that occur in Europe or other quarters of the world. Such is the Euxine, and likewiſe the Caſpian, which extends about ten degrees, or 700 miles in length, and from 100 to 200 in breadth. Strabo and Pliny idly ſuppoſed this ſea to be a gulf, extending from the northern ocean: though Herodotus, many centuries before, had delivered juſter notions of it. The Caſpian, however, ſeems, at ſome remote period, to have ſpread farther to the north, where the deſerts are ſtill ſandy and ſaline, and preſent the ſame ſhells that are found in the Caſpian; yet that chain of mountains which branches from the weſt of the Urals to the north of Orenburg, and reaches to the Volga, muſt in all ages have reſtricted the northern bounds of the Caſpian. To the eaſt, this remarkable ſea, in the opinion of moſt geographers, extended, in times not very diſtant, to the Aral. This ſea, or lake Aral, a hundred miles eaſtward of the Caſpian, is about 200 miles in length, and about 70 miles in breadth; receiving the river anciently called Iaxartes, more recently the Sirr or Sihon, and the river Gihon, the Oxus of antiquity; both ſtreams of conſiderable courſe, flowing from the mountains Belur Tag or Imaus. The Aral ſea being ſurrounded with ſandy deſerts, has been little explored; but it is ſalt like the Caſpian, having many ſmall ſaline lakes in its vicinity.

Another remarkable detached ſea is the Baikal in Siberia, or Aſiatic Ruſſia, extending from about the fifty-firſt to the fifty-fifth degree of north latitude, being about 350 Britiſh miles in length, though its greateſt breadth is not above 35. The water is freſh and pellucid, yet of a green or ſea tinge, commonly

commonly frozen in the latter end of December, and clear of ice in May.

Paſſing by the other Aſiatic ſeas of inferior note, a few obſervations may be offered on the remarkable ſtrait that divides Aſia from America. This ſtrait, which, as we have already ſeen, was diſcovered by Bering, and afterwards by Cook, is about thirteen leagues or near forty miles in breadth. Bering actually paſſed this ſtrait in 1728, probably in the uſual fogs of the climate, without diſcovering land to the eaſt; but our great navigator gave the name of that Daniſh adventurer to theſe ſtraits, when he afterwards explored them with his uſual accuracy. On the Aſiatic ſhore is the Eaſt-cape; and on the American that called Prince of Wales. The depth of water in the ſtrait is from twelve to thirty fathoms. To the north of theſe ſtraits the Aſiatic ſhore tends rapidly to the weſt, while the American proceeds nearly in a northern direction, till, at the diſtance of about four or five degrees, the continents are joined by ſolid and impenetrable bonds of ice.

In the Aſiatic ſeas are numerous ſhoals or ſand-banks; but few of them have been deſcribed as conducive to human induſtry.

The chief rivers of Aſia are the Kianku and Hoang Ho, the Lena, the Yeniſey, and the Oby, ſtreams which rival in the length of their courſe any others on the globe. Next in conſequence are the Amoor, and the Makaung of Laos, if the courſe be rightly delineated, the Sampoo or Burrampooter, and the Ganges; compared with all which the Euphrates and Indus are but moderate ſtreams.

The Aſiatic mountains are reputed not to equal the European in height. The Uralian chain forms one of the boundaries of Europe; and the Altaian ridge may be claſſed among the moſt extenſive of the globe, reaching from about the ſeventieth to the hundred and fortieth degree of longitude eaſt from London, or about 5000 miles, thus rivalling in length the Andes of South America. But, as chains of mountains rarely receive uniform appellations, except from nations highly civilized, the Altaian chain, beyond the ſources of the Yeniſey, is called the mountains of Sayanſk; and from the ſouth of the ſea Baikal, the Yablonnoy mountains, branches whereof extend even to the country of the Tſhuktſhi, or extreme boundaries of Aſia. The chain of Alak may perhaps be regarded as a part of the Altaian, branching to the ſouth; while the Taurus, now known by various names in different countries, was by the ancients conſidered as a range of great length, reaching from cape Kelidoni, on the weſt of the gulf of Satalia, through Armenia, even to India: this laſt chain, however, has not impreſſed modern travellers with the ſame idea of its extent. To the ſouth of the Altaian range extends the elevated deſert Goby or Shamo, running in a parallel direction from eaſt to weſt; and the high region of Thibet may be included in this central prominence of Aſia. Other conſiderable ranges of mountains are Bogdo, Khangay, Belur, thoſe of Thibet, the eaſtern and weſtern Gauts of Hindoſtan, and the Caucaſian chain between the Euxine and the Caſpian.

The Aſiatic governments are almoſt univerſally deſpotic; and the very idea of a commonwealth ſeems utterly unknown to that quarter of the world. The mildeſt ſyſtems are perhaps thoſe found in Arabia. (See Pinkerton's Modern Geography, vol. ii.)

Asia, *Proper*, in *Ancient Geography*. Much perplexity has ariſen among authors by the diverſe acceptations of the term Aſia; ſo as to render it extremely difficult for their readers to know what region was diſtinctly underſtood by that appellation; nor is it eaſy to reconcile the apparent inconſiſtency between the ſacred and profane writers as to the provinces comprised under this denomination. The ancient geographers divided the vaſt continent that was known to the Greeks and Romans under the word Aſia, firſt into the Greater and Leſſer Aſia. The Leſſer, commonly termed Aſia Minor, comprehended a great number of provinces; but that which included Phrygia, Myſia, Caria, and Lydia, was denominated Aſia Proper, or Aſia properly ſo called. Cicero (Orat. pro Flacco.), enumerating the regions contained in Aſia Proper, makes no mention of Ionia or Lydia, though undoubtedly a diſtrict of it, as being comprehended partly in Lydia and partly in Myſia. Lydia, beſide the inland country commonly known by that name, contained alſo Ionia, lying on the ſea ſide, between the rivers Hermus and Mæander; and Æolis, extending from Hermus to the river Caicus (Ptol. lib. v. cap. 2.), or to the promontory Lectum (Strabo, lib. xii. p. 393.), the ancient boundary between Troas and the ſea-coaſt of the greater Myſia. Accordingly, Aſia Proper comprehended Phrygia, Myſia, Lydia, Caria, Æolia, and Ionia. This tract was bounded, according to Ptolemy, on the north by Bithynia and Pontus, extending from Galatia to Propontis; on the eaſt by Galatia, Pamphilia, and Lycia; on the ſouth by part of Lycia and the Rhodian ſea; on the weſt by the Helleſpont, by the Ægean, Scarian, and Myrtoan ſeas. It lies between the thirty-fifth and forty-firſt degree of north latitude, and extends in longitude from 55° to 62°.

As Aſia Proper is but a part of Aſia Minor, ſo the Lydian Aſia is only a part of Aſia Proper. Aſia, in this acceptation, comprehends Lydia, Æolia, and Ionia; and is that Aſia whereof mention is made in the Acts, and the Apocalypſe. Ariſtotle tells us that Smyrna was at firſt poſſeſſed by the Lydians (Ariſtot. lib. de poetica apud Plutarch in lib. de vita & poeſi Homeri); and Scylax Coryandenſis reckons it among the cities of Lydia, as alſo Epheſus, Sardis, Philadelphia, and Thyatira, are reckoned by Ptolemy among the cities of Lydia, as is Laodicea by Stephanus. (Steph. de Urbib.)

That in ancient times Lydia was called Mæonia, and the Lydians Mæonians, is manifeſt from Herodotus, Diodorus Siculus, Dionyſius Afer, Strabo, Pliny, Stephanus, and others; and that Mæonia was called Aſia, is no leſs plain from Callinius, who flouriſhed before Archilochus, from Demetrius Scepſius, contemporary with Crates, and Ariſtarchus the grammarian, from Euripides, Suidas, the great etymologiſt, &c.; nay, that Lydia was formerly called Aſia is expreſsly affirmed by the ancient ſcholiaſt of Apollonius Rhodius. From whence Lydia borrowed the name of Aſia is altogether uncertain; ſome deriving it from a city of Lydia, ſeated on mount Tmolus; others from one Aſias, king of Lydia, who according to the Lydians, communicated his name to the whole continent. But, be that as it may, it is certain that Lydia has a better claim to the name of Aſia than any other part of that continent.

Asia, in *Modern Geography*, falls into the following diviſions: Tartary, China, India, Perſia, Turkey in Aſia. Tartary is divided into Chineſe, Independent, and Ruſſian; Chineſe Tartary contains the country of the Mandſhu, and that of the Mongole Tartars; Independent Tartary contains the dominions of the khan of the Œlœts or Kalmuks, Turkeſtan, the country of the Uſbec Tartars, the Dagheſtan, Circaſſia, and the tribes inhabiting mount Caucaſus; Ruſſian Tartary contains the governments of Aſtrakhan and Kazan, and Siberia. China is divided into the northern provinces of Pecheli or Pekin, Changſi, Xenſi, Honan, Canton, from eaſt to weſt, and the ſouthern provinces of Nankin, Chekian, Kiangſi, Fokien, Huquang, Quanton, Quangſi, Queicheu, Yunnan, Suchuen, from eaſt to weſt. India is divided

divided into the ſtates of the Great Mogul, comprizing the kingdoms of Delli, Agra, Guzarate, Bengal; the peninſula of India beyond the Ganges, comprizing the kingdoms of Viſapoor, Golconda, to the north; Biſnagar, Malabar, in the middle towards the ſouth; the peninſula of India within the Ganges, comprizing the kingdoms of Pegu, Tonkeen, Cochin-china; Siam, containing Martaban, Siam, Malacca, from north to ſouth. Perſia is divided into the northern provinces of Shirvan, Kilan, Khorazan, from weſt to eaſt; the middle provinces of Erac Agemi, Adirbeitzan, Segeſtan, from weſt to eaſt; the ſouthern provinces of Khuſiſtan, Fars, Kirman, Makran, from weſt to eaſt. Turkey in Aſia is divided into Natolia or Anatolia, comprizing the provinces of Natolia Proper, Amaſia, from north-weſt to eaſt; Karamania, Aladuly, from ſouth-weſt to eaſt. Syria, comprehending the provinces of Syria Proper, Phœnicia, Paleſtine, from north to ſouth. Arabia, containing the provinces of Berdara or Arabia Deſerta, Barraab or Arabia Petræa, Hyaman or Arabia Felix, comprizing Hegia, Theama, Hadramut, Secer, Oman, Bahraïm, Yuhama, from north to ſouth; the provinces of the Euphrates, viz. Diarbek, containing Diarbek Proper, Erzerum, Verrack, from north to ſouth; Turcomania, containing Turcomania Proper, the Kurdiſtan, from weſt to eaſt; Georgia, containing Mingrelia, Gurgiſtan, from weſt to eaſt. The iſles of Japan; Japan, the iſle of Xicoco or Tocoeſi, Bongo, &c., the iſle of Niphon, &c., from north-eaſt to ſouth-weſt. The Philippine iſlands; Luçon or Luconia, among which is Manilla, Tandare, Mindanas, &c., from north to ſouth. The Molucca iſlands; Ternate, the iſle of Gilolo, Celebes, iſle of Geram, Amboyna, &c., from weſt to eaſt. The Ladrones; Guan, Tinian, Pagon, &c., from ſouth to north. The Sonda iſles; Borneo, Sumatra, under the equator, Java, &c. ſouth of the two former. The Maldive iſlands, the principal whereof is Male. The number of theſe is very conſiderable, but all of them are ſmall. The iſland of Ceylon, in which are ſeven kingdoms, the moſt conſiderable being that of Candi.

Asia, in *Ancient Geography*, the name of an iſland of Ethiopia. Steph. Byz.—A port of the Jews and Phœnicians, on the Red ſea. Euſebius.—A lake of Aſia, near the Caiſter. Virgil. Æn. l. vii. v. 700.—A town of Aſia Minor, in Lydia, ſituate near mount Tmolus. Suidas.—A burgh or town of Aſia, in Suſiana. Ptolemy.—A mountain of Peloponneſus, in Laconia. Pauſanias.

Asia, *Proconſular*, ſo called becauſe it was governed by a proconſul, comprehended, according to Auguſtus's diſtribution of the provinces of the Roman empire, Lydia, Ionia, Caria, Myſia, Phrygia, and the proconſular Helleſpont. In the time of Conſtantine the Great, the proconſular Aſia was much abridged, and a diſtinction was introduced between this and the Aſiatic dioceſe; the former being governed by the proconſul of Aſia, and the latter by the vicarius or lieutenant of Aſia. The proconſular Aſia ſeems, by the deſcription given of it by Eunapius (in Vit. Maximi.), to have been much the ſame with the Lydian Aſia, which comprehended Lydia, Æolis, and Ionia, and which is the Aſia mentioned in Acts, ch. xvi., and including the ſeven churches of the book of Revelations, ch. ii. and iii. This Lydian Aſia was only a part of Aſia Proper, or Aſia properly ſo called, which according to Cicero (in Orat. pro Flacco) conſiſted of four regions, viz. Phrygia, Myſia, Caria, and Lydia. In the reign of Theodoſius the elder, who ſucceeded Valens, the conſular Helleſpont was taken from the vicarius of Aſia, and added to the proconſular Aſia; but under Arcadius, the proconſular Aſia was abridged of all the inland part of Lydia. However, the ſouthern part of Lydia, lying between the Mæander, and Caiſter, and the maritime provinces from Epheſus to Aſſos, and the promontory Lectum, were left to the proconſular Aſia.

Asia, in *Geography*, an iſland on the coaſt of Peru, ſituate at the diſtance of ſeven leagues from Canette on the ſouth-eaſt, and Chilca on the north-weſt. It is a white iſland under the ſhore, about half a league in circuit. S. lat. 13° 6′.

Asia, in *Mythology*, was one of the nymphs called Oceanides; and according to Diodorus, the wife of Japetus.

ASIARCHA, in *Antiquity*, the ſuperintendant of the ſacred games in Aſia. Montfaucon. Pal. Græc. lib. ii. c. 6. p. 161.

The aſiarcha differed from the *Galatarcha*, *Syriarcha*, &c. Some will have the aſiarchs to have been perſons of rank, choſen in the way of honour, to procure the celebration of the ſolemn games at their own expence.

As the aſiarchs united the magiſtracy and prieſthood, they were entruſted with the care of the temples and ſacred edifices; and the expence of the office being conſiderable, they were ſelected from perſons of great wealth and reputation. In the election of theſe officers, aſſemblies were convened in all the towns of Aſia at the commencement of the Aſiatic year, or about the autumnal equinox. From each of theſe a deputy was ſent to the general aſſembly of the nation; and of ten perſons who were returned to the proconſul, he appointed one to the office of aſiarch. The attributes of the aſiarch were a crown of gold, with a toga ornamented with gold and purple. This officer exiſted for ſome time under the Chriſtian emperors, although they had aboliſhed the ſacred games and temples. To theſe officers there is a reference in Acts, xix. 31. And as they were perſons of opulence and dignity, they acted with civility and kindneſs towards the apoſtle Paul, in ſending a meſſage from the theatre to appriſe him of the temper of the people, and to diſſuade him from coming thither.

ASIANO, in *Geography*, a town of Italy, in the principality of Piedmont and lordſhip of Vercelli, four miles ſouth of Vercelli.

ASIANTE, a country of Africa, eaſtward of the Gold Coaſt, ſituated about N. lat. 5° 35′. and the ſame longitude with London.

ASIATIC, in a general ſenſe, denotes any perſon or thing that bears relation to Aſia.

Asiatic, in *Biography*, is a ſurname given to L. Scipio, the brother of Scipio Africanus, after his defeat of Antiochus king of Syria.

Asiatic *dioceſe*, in *Geography*, a part of Aſia, which comprehended eight provinces that were governed by the vicarius, or lieutenant of Aſia, viz. Lydia, Caria, Phrygia Salutaris, Phrygia Pacatiana, Pamphylia, Lycia, Lycaonia, and Piſidia. Sometimes it is taken in a more ſtrict ſenſe, as diſtinct from the proconſular Aſia, and the provinces under the juriſdiction of the proconſul; and ſometimes in a more extenſive ſenſe, as comprehending alſo the proconſular Aſia.

Asiatic *Society*, in the *Hiſtory of Literary Eſtabliſhments*. See Society.

Asiatic *Style*, in *Rhetoric*. See Style.

ASIATICA, in *Entomology*, a ſpecies of Chrysomela, found in Siberia. The form is oval; colour braſſy-green, very gloſſy; wing-caſes blue. Fabr. Spec. Inſ. Gmel. &c.

Asiatica, an Aſiatic ſpecies of Blatta, deſcribed by Profeſſor Pallas, It. 3. p. 263. It is of a grey colour, and oblong form; the wings and wing-caſes are longer than the body, and narrow or pointed at the end. Gmel. &c.

Asiatica, a ſpecies of Sphex, found in the iſland of

Antigua. The abdomen is black, with a yellow lunar mark on the firſt ſegment. Fabricius, &c.

Asiatica, in *Ornithology*, a bird of the Myoteria genus, or Jabiru. This is of a large ſize, white colour, with a black band through the eyes; lower part of the back, quill, and tail feathers black. Ind. Orn. The bill of this bird is duſky, and the legs pale red. It is a native of the Eaſt Indies, and feeds on ſnails.

Asiatica, a ſpecies of Emberiza, found in the Eaſt Indies, where it is called Gaur. We know very little of this bird; it is of a ſmall ſize, being about four inches and a half in length. Bill pale roſe colour: head, neck, back, breaſt, and belly cinereous, paleſt beneath; wings and tail brown with paler edges; legs pale blue. Lath. In the Ind. Orn. it is deſcribed ſpecifically as being of a cinereous colour; wings and tail brown.

Asiatica, a ſpecies of Columba, that inhabits India. The colour is greeniſh aſh; head aſh; under ſide of the body white, and a ſpot of the ſame on the wings; quill feathers black with a white exterior margin. The length of this bird is eleven inches; bill blueiſh at the baſe, and white towards the tip; tail greeniſh aſh, duſky at the end; legs blueiſh; claws black. It is called the Indian pigeon. Lath. Ind. Orn.

Asiatica, a ſpecies of Certhia, or creeper, that inhabits India. It is about four inches in length, and briefly deſcribed as being of a deep blue, with brown wings; black bill, and legs of the ſame colour. Lath. Ind. Orn.

ASIATICUS, a new ſpecies of Falco, deſcribed by Dr. Latham in the Supplement to his Synopſis of Birds. The length is twenty-one inches; and though ſmaller, it reſembles the common buzzard. The bill is blueiſh black; breaſt cream colour, daſhed down the ſhafts with duſky black; belly, thighs, and vent white; quills grey, barred with black; on the ſecondaries a bar of the ſame. In his Ind. Orn. this bird is thus ſpecifically deſcribed: legs half-downy and yellow; body brown above, beneath white; breaſt ſtreaked, tail-feathers ſilvery grey, with five obſolete bands on the exterior ones. Inhabits China, and is called in England the Aſiatic falcon.

Asiaticus, a ſpecies of Caprimulgus, deſcribed by Dr. Latham, Sup. Gen. Syn. under the name of *Bombay Goat-ſucker*. It is pale aſh colour clouded with black, and ferruginous breaſt faſciated with aſh-colour; a blackiſh ſtreak on the crown of the head, a pale one on each ſide of the jaw, and a pale ſpot on the throat; length eight inches and a half. Inhabits India. In addition to the foregoing ſpecific character, it may be obſerved that the plumage of this bird is an elegant intermixture of aſh colour and brown; and that between the legs it is of a pale rufous; quills duſky, barred with rufous; four of the greater quills have a ſpot of white on the inner web; tail marked in the ſame manner as the quills, except the two middle ones, which are mottled like the back, and the two outer ones have the ends white for about an inch; the middle toe is greatly pectinated.

Asiaticus, a ſpecies of Trogon, in Latham's Ind. Orn. unnoticed by Gmelin. It is green; forehead, crown, and back of the neck red; throat blue, with a red ſpot; quill and tail feathers black. The length of this bird is nine inches; the red on the forehead is bounded by a white line, and on the crown and neck is bounded below by a white line, and on the ſides by a black one; legs green. Inhabits India.

ASIDÆANS. See Chasidæans.

ASIGRAMMA, in *Ancient Geography*, a town of India, ſeated on the Ganges. Ptolemy.

ASIGRUM, in *Botany*. See Hypericum.

ASII, in *Ancient Geography*, a tribe or horde of Scythian Nomades, who came from the country beyond the Jaxartes, and deprived the Greeks of Bactria. Strabo, l. xi. p. 770.

ASILIFORMIS, in *Entomology*, a ſpecies of Sphinx, the wings of which are deeply ſcalloped and dentated; anterior ones cinereous, with a dark band and black dot upon it; poſterior pair red, with a black margin. Inhabits India. Fabricius.

Asiliformis, a ſpecies of Musca (*Syrphus* Fabr.) that inhabits Germany. The thorax is hairy and yellowiſh; abdomen black; firſt and ſecond ſegment whitiſh. Fabricius, Gmelin, &c.

ASILUS, a genus of dipterous inſects in the Linnæan ſyſtem, the character of which is that the mouth is furniſhed with a horny, projecting, ſtraight, bivalve, ſucking trunk that is gibbous at the baſe; and the antennæ filiform. Theſe are the waſp flies of ſome writers; they prey chiefly on inſects, but are very troubleſome to cattle.

The ſpecies deſcribed by Gmelin are numerous; viz. groſſus, maurus, algirus, barbarus, crabroniformis, ephippium, æſtuans, faſciatus, barbatus, gibboſus, ater, diadema, calidus, flavus, violaceus, gilvus, punctatus, marginatus, plumbeus, cayenſis, teutomus, germanicus, rufipes, maculatus, marginellus, annulatus, ſtylatus, cingulatus, nigripes, brunneus, forcipatus, tipuloides, cinctus, lineatus, cyaneus, oelandicus, morio, luſitanicus, conopſoides, linearis, culiciformis, villoſus, pubeſcens, ſtriatus, albifrons, æſtivus, nigerrimus, and podagricus; which ſee reſpectively. *Algirus* has the body entirely brown, and inhabits Africa. Fab. & Gmel. *Æſtuans* is a native of North America, is cinereous, and has the three laſt ſegments of the abdomen white. Linn. Gmel. *Æſtivus* inhabits Europe; the colour is cinereous, with three black lines on the thorax; legs black; ſhanks teſtaceous. Schrank. Scopoli deſcribes a variety in which the legs are entirely black.

Asilus, a ſpecies of Oniscus, that inhabits the European ocean. The abdomen is covered with two ſcales; and the tail is ſemioval. Linn. Fn. Suec. Fabr. &c. This is *pediculus marinus* of Rondel.

ASINARA, in *Geography*, a ſmall iſland in the Mediterranean near the north-weſt coaſt of Sardinia, about ten leagues in circumference, is fertile and populous. The mountains abound with wild boars, deer, buffaloes, and falcons. N. lat. 41° 5′. E. long. 8° 30′.

ASINARIA, in *Antiquity*, feaſts of the Syracuſans, inſtituted in commemoration of the victory gained by them over Nicias and Demoſthenes, the Athenian generals, near the river Aſinarius, now *Falunera*, from which they took their name.

ASINARII, in *Eccleſiaſtical Hiſtory*, an appellation given by way of reproach to the Chriſtians, as well as Jews, from a miſtaken opinion, among heathens, that they worſhipped an aſs. The appellation was originally given to the Jews, and only became applied to the Chriſtians: the Jews were charged with keeping a golden aſs's head in the ſanctuary of the temple, to which on certain occaſions they paid adoration; in memory of a herd of aſſes, which, in their paſſing through the wilderneſs, ſhewed Moſes the way, under a diſtreſſing want of water, to a ſpring. Tacit. Hiſt. lib. v.

Some had even the impiety to repreſent Chriſt with an aſs's ears, and one foot hoofed, holding a book, with the inſcription *Deus Chriſtianorum* ονοχοηλος. Crinit. de Honeſt. Diſcipl. lib. i. c. 9. See Asinus.

ASINATA, in *Entomology*, a ſpecies of Phalæna (*Geometra*),

(*Geometra*), about the ſize of PHALÆNA *clavipalpulata*, or chimney-ſweeper moth of the Engliſh Aurelians. It inhabits Auſtria. The wings are greyiſh, aſh colour, and without ſpots. Fabricius, Gmelin. *Obſ.* This is PHALÆNA *griſeata* of Wien. Schmetterl.

ASINDA, in *Ancient Geography*, a town of India, on this ſide of the Ganges. Ptolemy.

ASINDO, or ASINDO, a town of Spain, in Betica, ſeated on a mountain, nearly eaſt of Gades.

ASINDUM, a town of Spain, in the country of the Turdetani.

ASINE, a town of Greece, in the Argolide, ſituate upon the Argolic gulf, north-eaſt of Hermione, and ſouth-weſt of Epidaurus.—A town of Meſſenia, ſouth-weſt of Meſſene, founded by the Athenians after they had been driven from their former city in the Argolide by the Argives.—A town of the iſland of Cyprus.—A town of Aſia, in Cilicia. Steph. Byz.

ASINELLA, in *Geography*, a river of Italy, in the kingdom of Naples, which runs into the Adriatic near Penne, in the Abruzzo citra.

ASINI, in *Entomology*, a ſpecies of PEDICULUS that infeſts the aſs. The head is pointed and obtuſe; abdomen ovate and ſtriated with brown. Fabricius, Redi, &c.

ASINIUS LAPIS, a name given by ſome writers of the middle ages to a ſtone ſaid to be found in thoſe places frequented by the wild aſs. See BEZOAR.

ASINIUS *Pollio*, in *Biography*. See POLLIO.

ASINUS, or ASS, in *Zoology*, a quadruped of the HORSE kind, or genus EQUUS in the Linnæan ſyſtem of animals; a native originally of the mountainous deſerts of Tartary, of Arabia, Perſia, and ſome other ſouthern parts of the Aſiatic continent, and Africa; and at preſent very generally domeſticated thoughout moſt civilized countries.

In point of ſize, of ſtrength, and beauty, the varieties of this ſpecies, like other domeſtic animals, have undergone many changes, and differ conſiderably from each other. Thoſe of the eaſtern parts of the world, who continue to enjoy the advantages of a climate entirely congenial with their nature, are ſtill obſerved to poſſeſs nearly all that activity, that energetic ſpirit and beauty of appearance which characteriſe this animal in a ſtate of independent wildneſs; they preſent a race of beings in almoſt every reſpect the very reverſe of thoſe abject creatures, their degenerate offſpring, which we are daily accuſtomed to ſee employed in the meaneſt acts of ſervitude in the northern parts of Europe. But although the ſhades of degradation are ſo much more ſtrongly marked in the latter kinds, than in the reſt, all may be definitively traced to a few diſtinct varieties, and theſe again to the ſingle ſpecies, the primeval ſtock from which they were at firſt derived.

The character of the aſs, as Linnæus defines it, conſiſts in having the tail briſtly at the extremity, and a black croſs over the ſhoulders. To this his editor Gmelin adds, that the ears are long; and that the black lines on the ſhoulders are peculiar to the male. According to Pallas's Quæd. it is an *Equus* with long ſhocking ears, and ſhort mane.

Gmelin divides the ſpecies *Aſinus* into four varieties, viz. *feralis*, *aſinus ſilveſtris*, *domeſticus* ß, *mulus* γ, and *hinnus* δ. The firſt is the wild aſs, onager of Pliny and other ancient writers; onagrus, onager, five aſinus ſilveſtris of Geſner: equus [illegible] auritus longis [illegible] pilis tuberculis parvis ſcabra of Briſſon: l'aſne ſauvage of Marmol. Aſs, wild aſs of Pallas. The *domeſticus*, or ſecond variety, varying much in different countries, is notwithſtanding well known in Europe by the ſeveral names of [illegible], Eng. *l'ane* and *l'aneſſe*, Fren. *Aſino miccio*, *f. miccia*, Ital. *Aſno borrico*, *f. borrica*, Span. *Aſno burrico*, *f. aſna burra*, Port. *Eſel*, Germ. *Ezel*, Dut. *Aſna*, Swed. *Aſen*, *eſel*, Daniſh.—*Mules*, or *mule*, the third variety, it is almoſt unneceſſary to remark is the hybrid offſpring of the male aſs with a mare; and *hinnus*, the hinny, a ſimilar hybrid product of the male horſe with the female aſs, and ſtrictly ſpeaking ought not to be deemed varieties of the ſpecies *aſinus*, but rather monſters, as being out of the courſe of nature.

Wild aſſes were perfectly well known to the ancients; they are faithfully deſcribed by Pliny and Oppian; and among the ſacred writings are frequent alluſions to them. They uniformly attracted the notice of travellers in Aſia and Africa; and profeſſor Pallas in particular has treated on them with his accuſtomed accuracy. The appearance both of the wild and tame aſſes in thoſe parts of the world is altogether ſtriking. "It was with difficulty," ſays Adanſon, when ſpeaking of the aſſes of Senegal, "that I could recognize this animal, ſo different did it appear from thoſe of Europe; the hair was fine, and of a bright mouſe colour; and the black liſt that croſſes the back and ſhoulders had a good effect. Theſe were the aſſes brought by the Moors from the interior of the country." From the beſt authorities it appears, that in a natural ſtate, the aſs has a ſoft woolly mane; a forehead greatly arched; and ears long, erect, and pointed, particulars in which it differs moſt obviouſly from the domeſticated kind, which has the ears ſlouching, and the forehead flattiſh. The former ſtands alſo higher on its limbs, and the legs are more ſlender in proportion. The colour of the hair is white or ſilvery grey; the upper part of the face, the ſides of the neck, and body, inclining to a ſtraw colour; and the hind part of the thighs the ſame; the fore-part divided from the flank by a white line, which extends quite round from the rump to the tail: the belly and legs are alſo white; along the very top of the back, from the mane quite to the tail, runs a ſtripe of buſhy waved hairs of a coffee-colour, broadeſt above the hind part, and growing narrower towards the tail; another of the ſame colour croſſes it at the ſhoulders, and forming a ſimilar mark to that by which the tame aſs is diſtinguiſhed. This is peculiar to the male, and is bounded on each ſide by a line of white. Its winter coat is very fine, ſoft, and ſilky, much undulated, and not unlike that of the camel; greaſy to the touch, and the ſtanch colour more vivid than in the ſummer. In its ſummer dreſs there are certain ſhaded rays that mark the ſides of the neck, pointing downwards. Theſe animals inhabit the dry and mountainous parts of the deſerts of Great Tartary, but not higher than lat. 48°. They are migratory, and arrive in vaſt troops to feed during the ſummer, in the tracts to the eaſt and north of lake Aral. About autumn they collect in herds of hundreds, and even thouſands, and direct their courſe towards the north of India to enjoy a warm retreat during winter. But they more uſually retire to Perſia, where they are found in the mountains of Caſbin, and where part of them remain during the whole year. According to Barbago, they penetrate even into the ſouthern parts of India to the mountains of Malabar and Golconda. The Kirgiſees and Arabs hunt them, or take them in ſnares for the ſake of their fleſh. At firſt when the animal is killed, the meat is hot and unſavoury; but if kept two days after it is boiled, it becomes excellent. The fleſh of wild aſſes, it is well known, was eſteemed an article of food among the ancient Romans.

The wild aſs feeds chiefly on the moſt ſaline or bitter plants of the deſert, as the kalis, atriplex, chenopodium, &c. and alſo prefers the ſalteſt and moſt brackiſh water to that which is freſh. Of this the hunters are aware, and uſually

ſtation

ſtation themſelves near the ponds to which they reſort to drink. Their manners greatly reſemble thoſe of the wild horſe. They aſſemble in troops under the conduct of a leader, or centinel; and are extremely ſhy and vigilant. They will however ſtop in the midſt of their courſe, and even ſuffer the approach of man at that inſtant, and then dart off with the utmoſt rapidity. They have been at all times celebrated for their ſwiftneſs. Their voice reſembles that of the common aſs, but is ſhriller.

The Perſians catch theſe animals alive for the ſake of domeſticating them, or improving the breed of tame aſſes: they ſink, for this purpoſe, pits of a convenient ſize and depth, which they half fill with plants, both as a temptation to the creature, and to break its fall. The breed of aſſes in ſuch high eſteem in the eaſt, is produced by croſſing the tame kind with the aſs reclaimed from a ſtate of wildneſs. Theſe animals were anciently found in the Holy Land, Syria, Arabia Deſerta, Meſopotamia, Phrygia, and Lycaonia; but they rarely occur in thoſe parts at this time; and ſeem to be almoſt entirely confined to Tartary, ſome parts of India, and Africa.

It is ſaid that neither aſſes nor horſes were found in America, although the climate of South America is perfectly adapted for them. Thoſe which the Spaniards tranſported from Europe, and left in various parts of the New Continent have greatly multiplied, and are found in troops in a ſtate of nature at this period.

The excellencies and defects of the common or domeſtic aſs, have amply engaged the lively pens of ſeveral deſcriptive writers on the hiſtory of animals; and of none with more happy effect than thoſe of the eloquent Buffon, and the ingenious abbé la Pluche: of the latter we ſhall ſpeak hereafter: the former after entering minutely into a compariſon between the horſe and the aſs, and endeavouring to prove that the two ſpecies are diſtinct (a fact which cannot well be doubted), concludes in a ſtyle of language ſo beautiful, ſo animated, and well calculated to enforce the tenor of his preceding arguments, that we cannot refrain inſerting ſome few extracts from it.

"The aſs is then an aſs," ſays Buffon, "and not a horſe degenerated, a horſe with a naked tail. The aſs is neither a ſtranger, an intruder, nor a baſtard; he has, like other animals, his family, his ſpecies, and his rank; his blood is pure and untainted, and although his race is leſs noble, yet it is equally good, equally ancient, with that of the horſe. Why then is there ſo much contempt for an animal ſo good, ſo patient, ſo ſteady, and ſo uſeful? do men deſpiſe, even among animals, thoſe which ſerve them beſt, and at the ſmalleſt expence? We educate the horſe, take care of, inſtruct, and exerciſe him, whilſt the aſs is abandoned to the power of the loweſt ſervant, or the tricks of children; ſo that inſtead of improving, he muſt loſe by his education, and if he had not a fund of good qualities, he would certainly loſe them by the manner in which he is treated. He is the ſport of the ruſtics, who beat him with ſtaves, abuſe him, overload him, and work him beyond his ſtrength. We do not conſider that the aſs would be in himſelf, and, with reſpect to us, the moſt beautiful, beſt formed, and moſt diſtinguiſhed of animals, if there were no horſes in the world; he, however, holds the ſecond, inſtead of the firſt rank, and it is from that only that he appears to be of no value. It is compariſon alone degrades him; we look at, and give our opinions, not of himſelf, but comparatively with the horſe. We forget that he is an aſs, that he has all the qualities of his nature, all the gifts attached to his ſpecies, and only think of the figure and qualities of the horſe, which are wanting in him, and which he ought not to have.

"He is naturally as humble, patient, and quiet, as the horſe is proud, ardent, and impetuous; he ſuffers with conſtancy, and perhaps with courage, chaſtiſement and blows; he is moderate both as to the quantity and quality of his food; he is contented with the hardeſt and moſt diſagreeable herbs, which the horſe, or other animals, will leave with diſdain; he is very delicate with reſpect to his water, for he will drink none but the cleareſt, and from rivulets which he is acquainted with; he drinks as moderately as he eats, and does not put his noſe in the water through fear, as ſome ſay, of the ſhadow of his ears: as care is not taken to comb him, he frequently rolls on the graſs, thiſtles, and in the duſt; without regarding his road, he lies down and rolls as often as he can, and ſeemingly to reproach his maſter for the little care he takes of him, for he never wallows in the mud or in the water; he even fears to wet his feet, and will turn out of his road to avoid it; his legs are alſo drier and cleaner than thoſe of the horſe; he is ſuſceptible of education, and ſome have been ſeen ſufficiently diſciplined for a public ſhow."

"When young, they are ſprightly, handſome, light, and even graceful; but they ſoon loſe thoſe qualities, either from age or bad treatment, and become ſlow, ſtubborn, and headſtrong. The aſs is ardent in nothing but love; or rather when under the influence of that paſſion, he is ſo furious that nothing can reſtrain him: he has been known to exhauſt himſelf by exceſſive indulgence, and die ſome moments afterwards. As he loves with a kind of madneſs, he has alſo the ſtrongeſt attachment to his progeny. Pliny aſſures us, that when they ſeparate the mother from her young, ſhe will go through fire to recover it. The aſs is alſo ſtrongly attached to his maſter, notwithſtanding he is uſually ill-treated; he will ſcent him at a diſtance, and diſtinguiſh him from all other men. He alſo knows the places where he has lived, and the ways which he has frequented. His eyes are good, and his ſmell acute, eſpecially with regard to females; his ears are alſo excellent, which has contributed to his being numbered among timid animals, who it is pretended have all long ears, and the hearing extremely delicate. When he is overloaded, he ſhews it by lowering his head, and bending down his ears: when greatly abuſed, he opens his mouth, and draws back his lips in a moſt diſagreeable manner, which gives him an air of deriſion and ſcorn. If his eyes are covered, he remains motionleſs; and when he is laid down, and his head ſo fixed, that one eye reſts on the ground, and the other being covered with a piece of wood, he will remain in that ſituation without endeavouring to get up. He walks, trots, and gallops like the horſe, but all his motions are ſmaller and much ſlower. He can however run with tolerable ſwiftneſs, but he can hold it only for a ſmall ſpace, and whatever pace he uſes, if hard preſſed, he is ſoon fatigued."

"The horſe neighs, but the aſs brays; which he does by a long, diſagreeable, and diſcordant cry, by alternative diſcords of ſharps and flats. He ſeldom cries but when he is preſſed by love or appetite. The ſhe-aſs has her voice clearer and more ſhrill." Buff.

"I confeſs" ſays the abbe la Pluche "that the aſs is not maſter of very ſhining qualities; but then he enjoys thoſe which are very ſolid. If we reſort to other animals for diſtinguiſhed ſervices, this at leaſt furniſhes us with ſuch as are moſt neceſſary. His voice is not altogether melodious, nor his air majeſtic, nor his manners very lively; but then a fine voice has very little merit with people of ſolidity. With him the want of a noble air hath its compenſation in a mild and modeſt countenance; and inſtead of the boiſterous and irregular qualities of the horſe,

which are frequently more incommodius than agreeable, the behaviour of the aſs is entirely ſimple and unaffected; no ſupercilious and ſelf-ſufficient air. He marches with an uniform pace, and though he is not extraordinarily ſwift, he purſues his journey for a long time, and without intermiſſion. He finiſhes his work in ſilence, ſerves you with a ſteady perſeverance, and diſcovers no oſtentation in his proceedings, which is certainly a conſiderable accompliſhment in a domeſtic. His meats require no preparation, for he is perfectly well contented with the firſt thiſtle that preſents itſelf in his way. He does not pretend that any thing is due to him, and never appears ſqueamiſh or diſſatisfied: he thankfully accepts whatever is offered him: he hath an elegant reliſh for the beſt things, and very civilly contents himſelf with the moſt indifferent. If he happens to be forgotten, or is faſtened a little too far from his fodder, he intreats his maſter, in the moſt pathetic language he can utter, to be ſo good as to ſupply his neceſſities. It is very juſt that he ſhould live, and he employs all his rhetoric with that view. When he has finiſhed his expoſtulations, he patiently waits the arrival of a little bran, or a few withered leaves; and the moment he diſpatches his meal, he returns to his buſineſs, and marches on, without a murmur or reply. His occupations have a tinge of the meanneſs of thoſe who ſet him to work; but the judgments that are formed, both of the aſs and his maſter, are equally partial. The employments of a judge, a man of conſequence, and an officer of the revenue, have an important air, and their habit impoſes on the ſpectators: on the contrary, the labour of the peaſant has a mean and contemptible appearance, becauſe his dreſs is poor, and his condition deſpiſed. But we really make a falſe eſtimate of theſe particulars. It is the labour of the peaſant which is moſt valuable, and alone truly neceſſary. Of what importance is it to us when a manager of the revenue glitters from head to foot with gold; we have no advantage from his labours. I confeſs, judges and advocates are, in ſome meaſure, neceſſary; but they are made ſo by our folly and miſbehaviour; for they would be no longer wanted, could we conduct ourſelves in a rational manner. But, on the other hand, we could on no account, and in no ſeaſon or condition of life, be without the peaſant and the artizan. Theſe people may be conſidered as the ſouls and ſinews of the community, and the ſupport of our life. It is from them we are conſtantly deriving ſome accommodations for our wants. Our houſes, our habits, our furniture, and our ſuſtenance, riſe out of their labours. Now what would become of your vine-dreſſers, gardeners, maſons, and the generality of country people, that is to ſay of two thirds of all mankind, if they were deſtitute of either men or horſes to convey the commodities and materials they employ and manufacture? The aſs is perpetually at their ſervice: he carries fruit, herbs, coal, wood, bricks, tiles, plaiſter, lime, and ſtraw. The moſt abject offices are his ordinary lot, and it is a ſingular advantage to this multitude of workmen, as well as ourſelves, to find a gentle, ſtrong, and indefatigable animal, who, without either expence or pride, repleniſhes our cities and villages with all ſorts of commodities. A ſhort compariſon will complete the illuſtration of his ſervices, and in ſome meaſure raiſe them out of their obſcurity. The horſe very much reſembles thoſe nations who are fond of glitter and hurry; who are perpetually ſinging and dancing, and extremely ſtudious to ſet off their exterior, and mix gaiety in all their actions. They are admirable on ſome diſtinguiſhed and deciſive occaſions; but their fire frequently degenerates into romantic enthuſiaſm; they fall into wild tranſports; they exhauſt themſelves, and loſe the moſt favourable conjunctures for want of management and moderation. The aſs, on the contrary, reſembles thoſe people who are naturally heavy and pacific, whoſe underſtandings and capacity are limited to huſbandry or commerce, and who proceed in the ſame track without diſcompoſure, and complete, with a poſitive air, whatever they have once undertaken."

Of all animals that are covered with hair, it is believed the aſs is the leaſt ſubject to vermin; and the authors of the Encyclopædia Britannica have even ventured to ſay, that it is never troubled with lice. This opinion is altogether erroneous, and the more unaccountable, ſince a ſlight acquaintance with the entomological writings of Redi, of Linnæus, Fabricius, and ſeveral others, might have convinced them that it is not only infeſted with lice, but even with a ſpecies peculiar to itſelf, and for that very reaſon named aſini, or louſe of the aſs. Pediculus aſini, Red. Exp. 21. Pediculus aſini, Linn. Pediculus aſini, capite porrecto obtuſo abdomine ovato fuſco ſtriato, Fabr. &c. The ſkin of the aſs is extremely hard and very elaſtic, and is uſed for various purpoſes; ſuch as to cover drums, make ſhoes, or parchment. It is of the ſkin of this animal that the orientals make the ſagri, or, as we call it, ſhagreen.

At two years and a half old, the firſt middle inciſive teeth fall out, and the others on each ſide ſoon follow; they are renewed at the ſame time, and in the ſame order as thoſe of the horſe. The age of the aſs is alſo known by his teeth in the ſame manner. From the age of two years and a half the aſs is capable of procreating its kind, and the female ſtill earlier. The females are in heat in May and June, which, when pregnant, ſoon goes off. In the tenth month, milk is found in her dugs, and ſhe brings forth in the twelfth, and very rarely has more than one foal. Seven days after ſhe is capable of again receiving the male. At the end of five or ſix months the foal may be weaned; and it is even neceſſary, if the mother be again pregnant. The ſtallion aſs ſhould be choſen from the largeſt and ſtrongeſt of his ſpecies; he muſt at leaſt be three years old, but ſhould not exceed ten; his legs ſhould be long, his body plump, head long and light, eyes briſk, noſtrils and cheſt large, neck long, loins fleſhy, ribs broad, rump flat, tail ſhort, hair ſhining, ſoft to the touch, and of a deep grey.

The aſs, like the horſe, is three or four years in growing, and lives alſo like him twenty-five or thirty years; it is ſaid the female lives longer than the male; but perhaps this happens from their being often pregnant, and at thoſe times having ſome care taken of them, inſtead of which the males are conſtantly worn out with fatigue and blows. They ſleep leſs than the horſe, and do not lie down to ſleep, except when they are exceedingly tired. The male aſs alſo laſts much longer than the ſtallion; the older he is, the more ardent he appears; and, in general, the health of this animal is much better than that of the horſe; he is leſs delicate, and not nearly ſo ſubject to maladies.

There are among aſſes, as among horſes, different races, though they are much leſs known, becauſe they have not been taken the ſame care of, or followed with the ſame attention. Travellers inform us, that there are two ſorts of aſſes in Perſia, one of which, being ſlow and heavy, are uſed for burdens; and the other is kept like horſes for the ſaddle. The latter have ſmooth hair, carry their head well, and are much quicker in their motion; but when they ride them they ſit nearer the buttocks than when on horſeback. They are dreſſed like horſes, and like them are taught to amble; and they cleave their noſtrils to give them more room for breathing. According to Dr. Ruſſel, there are two ſorts in Syria, one of which are like ours, and the other very

very large, with remarkable long ears; but both kinds are employed for the purpose of carrying burdens.

The wild mule, the *hemonius* of Pallas, has no claim to consideration in this place. It constitutes a distinct species of *equus* from the species *asinus*, in Gmelin's arrangement, under the name assigned to it by Pallas; and will be noticed hereafter in the article Hemonius. The common mule, engendered between the male ass and mare, is much cultivated in Spain, and is little inferior in size to its female parent.

The ass was one of the unclean animals under the Jewish law, as it did not chew the cud; and it prohibited coupling an ass with an ox for draught: Lev. xi. 26. The Jews were accused by the Pagans of worshipping the head of an ass. See Asinarii. The author of this calumny seems to have been Appion the grammarian; for he affirmed (Josephus, contra Appion l. ii.) that the Jews kept the head of an ass in the sanctuary; and that it was discovered there when Antiochus Epiphanes took the temple, and entered into the most holy place. Suidas also says (in *Democrito* and in *Juda*) that Damocritus, or Democritus, the historian, averred, that the Jews adored the head of an ass, made of gold, and sacrificed a man to it every three or every seven years, after having first cut him in pieces. Plutarch (Sympos. l. iv. c. 5.) and Tacitus (Hist. l. v.) seem to have been imposed upon by this slander. They believed that the Hebrews adored an ass, from gratitude for the discovery of a fountain by one of these animals, at a time when they were exceedingly fatigued and parched with thirst in the wilderness. The same absurd idolatrous worship was imputed by the heathens to the Christians. Thus Cæcilius (apud Minut.) says, "Audio Christianos turpissimæ pecudis asini caput consecratum inepta nescio quam persuasione venerari." To the same purpose Tertullian tells us (Apolog. c. 16.), that some enemies to the Christians exposed to public view a picture, representing a person with a book in his hand, dressed in a long robe, with ass's ears, and one foot like that of an ass, upon which was inscribed, "The God of the Christians has an ass's hoof." Learned Christians have attempted to investigate the origin of this calumny. The report of the Jews worshipping an ass might originally have been derived from Egypt; to this country it is traced by Tanaquil Faber, who deduces it from the temple in Egypt called Onion, derived, as it is supposed, from Ονος, an ass. To this purpose it may be added, that the Alexandrians hated the Jews, and were much addicted to raillery and defamation. And they might have been informed, that the temple Onion, at Heliopolis, was named from Onias, the high-priest of the Jews, who built it in the reign of Ptolemy Philometor and Cleopatra, A. M. 3854., ante Christ. 150. Joseph. l. xiii. c. 6. Bochart is of opinion (De Animal. Sacr. l. ii. c. 18.), that the error took its rise from a passage of scripture, "The mouth of the Lord hath spoken it," in the Hebrew פי-יהוה, *pi-Jehovah*, or *pi-Jeo*. Hence, as *pieo*, in the Egyptian language, signifies an ass, the Alexandrian Egyptians, hearing the Jews often pronouncing the word *pieo*, might believe that they called on their god, and thence infer that they adored an ass. Omitting other conjectures, we shall add, that M. Le Moine supposes, that the golden urn containing the manna, which was preserved in the sanctuary, was taken for the head of an ass, and that the omer, or assarion, of manna, might have been confounded with the Hebrew *hamor*, which signifies an ass. Calmet.

Asinus *Piscis*, in *Ichthyology*, a name given by some old writers, to the common haddock. It was also called onos. Willughby, &c.

ASIO, in *Ornithology*, a species of Strix or owl, described by Linnæus, the body of which is brown above, and white beneath; and the wings marked with five white dots. This is *le petit duc de la caroline* of Brisson, *little owl* of Catesby, *red owl* of Pen. Arct. Zool. and *red-eared owl* of Latham. Its native place is North America.

Catesby says it is about the size of a jackdaw. The bill and iris are of a saffron colour; tail brown; edge of the bastard wing whitish; on the quills a few white spots; legs covered to the toes with light brown feathers; toes brown; claws black. Buffon seemed to imagine this bird might be only a variety of the long-eared and American owls, both of which he deemed the same species.

Asio, is also a name given by Aldrovandus to the Italian eared-owl, and synonymous with otus: asio five otus. Aldr. Ray applied the same name to the long-eared owl or horn-owl of Willughby and Albin, and *strix otus* of Linnæus.

ASIONGABER. See Ezion-gaber.

ASIOTÆ, in *Ancient Geography*, a people of Asia, in Scythia, on this side of Imaüs. Ptolemy.

ASIREF, in *Geography*, a town of Persia, on the south of the Caspian sea, in the province of Taberistan, eleven leagues east of Ferabad.

ASISARATH, in *Ancient Geography*, a town of Africa, in Mauritania Cæsariensis, between the rivers Gulus and Ampsagus. Ptolemy.

ASISIA, a town of Liburnia, the Assesia or Asseria of Pliny, now in ruins. The traces of ancient magnificence discernible at Podgraje, the seat of Asisia, are numerous. Among the Liburnian cities which attended the congress or diet of Scardona, Pliny mentions the free Asserians, who created their own magistrates, and were governed by their own municipal laws, and who were of course more opulent and powerful than their neighbours. The walls of this city appear to have measured in circumference 3600 Roman feet, and to have been constructed with Dalmatian marble, some pieces of which are of large dimensions, and brought from a considerable distance.

ASISIUM, or Asisium, now *Assisi*, a town of Italy, in Umbria, was a Roman municipium, and situated to the east of Arna. Pliny mentions the Asisinates. See Assisi.

ASITCHOU Achashish, in *Ornithology*, the name by which a species of grosbeak is known in Hudson's Bay; and which Dr. Latham supposes to be the white-winged crossbill of his General Synopsis.

ASITIA, in *Medicine*, a loss of appetite, from α, privative, and σῖτος, food. A symptom which occurs in numerous diseases.

ASIUS, in *Entomology*, a species of Papilio (*Ly. Tr.*) that inhabits South America. The wings are tailed, black, with a common white band; base and tip of the posterior pair beneath spotted with red. Fabricius.

ASKA, in *Geography*, a river of Japan.

ASKER, in *Zoology*, a name used in some parts of England for the water-newt or *eft*.

Asker-Mokrem, in *Geography*, a town of Asia, on the eastern bank of the Tigris, in the Arabic Irac; called also Sermenrai.

ASKERSUND, a town of Sweden, in the province of Nericia, on the Wetter sea, five miles from Orebro.

ASKEYTON, a market, and, till the union, borough town of the county of Limerick, in Ireland, seated on the small river Deel, near its junction with the Shannon; famous for its castle built by the earl of Desmond, and for one of the most beautiful and perfect abbeys in Ireland. Distance from Dublin 110½ miles. Long. 8° 54′ W. Lat. 52° 34′ 30″ N.

ASKRIG, a town of England, in the north riding of Yorkſhire, beautifully ſituated on the banks of the river Ure, at the upper extremity of Wenſley dale. It has a weekly market on Thurſday: diſtant 247 miles north from London.

ASLA, a river of Spain on the northern coaſt, which falls into a bay in the bay of Biſcay, where it forms a good harbour, to the eaſt of cape Pinas.

ASLANI, in *Commerce*, a name given to the Dutch dollar, current in moſt parts of the Levant. The word is alſo written corruptly, *aſſlani*. It is originally Turkiſh, and ſignifies a lion, which is the figure ſtamped on it. The Arabs taking the figure of a lion for a dog, called it *aſeghi*. The aſlani is ſilver, but of a baſe alloy, and oftentimes counterfeit. It is current for 115 or 120 aſpers. See ASPER.

ASLAPATH, in *Geography*, a town and diſtrict of Aſia, in Armenia, near Nackſhivan, on the banks of the Aras. It is inhabited by Armenians; and the women are ſaid to be ſo beautiful, that the king of Perſia ſupplies his ſeraglio from this place.

ASLING, or JESSENIZE, a town of Germany, in Carniola, ſixteen miles S. S. W. of Clagenfurt. In this town, which is not far from the river Save, is dug a fine marble; and near it are lead furnaces, and other works, in which conſiderable quantities of iron and ſteel are ſmelted.

ASMER, a ſmall town of Hindoſtan, in the ſtates of the Mogul, ſouth-weſt of Agra, and in the extremity of the province of Bando, called alſo Aſmer.

ASMEROEA, a mountain of Aſia, in the country of the Seres, inhabited by a people called Aſmiræans, who are diſperſed through the province of Cataja, a part of Tartary.—Alſo a town of Aſia, in the ſame country, according to Ptolemy.

ASMODAI, in *Mythology*, the name given by the Jews to the prince of demons; and, according to R. Elias, the ſame with Sammael.

ASMONEANS, in *Ancient Hiſtory*, the name given to the MACCABEES, the deſcendants of Mattathias, who, according to Joſephus, was the grandſon of Aſmonæus; though others derive the appellation from mount Aſamar, placed by Joſephus in the midſt of Galilee, near Sephoris; and others again conſider it merely as a title of honour given to Mattathias and his deſcendants, alleging that *chaſchmanim* ſignifies in Hebrew, *princes*. However this be, the family of the Aſmoneans became very illuſtrious in the latter period of the Hebrew commonwealth, and poſſeſſed the ſupreme authority and the high-prieſthood from the commencement of the government of Judas Maccabeus to Herod the Great, during a period of 129 years, or 126 years according to Joſephus, who reckons from the time in which Judas was eſtabliſhed in the government by his peace with Antiochus Eupator, three years after he firſt aſſumed it. It was the practice of the Aſmonean princes to impoſe their religion upon all the countries which they conquered, leaving to the vanquiſhed no other choice but either to become Jews, or elſe to have their dwellings demoliſhed, and to ſeek new habitations.

ASMURA, or ASMURNA, in *Ancient Geography*, a town of Aſia, in the interior of Hyrcania. N. lat. 39° 30'. Ptolemy.

ASNAH, in *Geography*. See ESNÉ.

ASNAUS, in *Ancient Geography*, a mountain of Europe, in Macedonia, between which and Oeropus was a valley, in which flowed the river Oéas.

ASNEN, in *Geography*, a lake of Sweden, in the province of Smaland, about North lat. 56° 36'. Eaſt longitude 14° 4'.

ASNID, a town of Aſia, in the kingdom of Candahar, 23 leagues north of Sabi.

ASNIERES, a town of France, in the department of the Upper Vienne, and chief place of a canton in the diſtrict of Bellac, 10 miles north-weſt of Bellac.

ASO, a town of Japan, in the province of Simoodſuke.

ASODES, in *Medicine*, a term applied to fevers accompanied with anxiety and oppreſſion about the ſtomach and præcordia. It is derived from ἀσω, which, in its primary ſenſe, means a loathing of food; but which is uſed by Hippocrates, and other ancient phyſicians, to denote great uneaſineſs and reſtleſſneſs, whether with or without nauſea. It is ſometimes written aſſodes.

ASOLA, in *Geography*, a town of Italy, in the territory of Breſcia, on the river Chieſe; which was formerly a fortified place, belonging to the republic of Venice.

ASOLO, a town of Italy, in the diſtrict of Treviſo, ſituate on a mountain at the ſource of the river Muſona; ſmall, but well-peopled. N. lat. 45° 49'. E. long. 12° 2'.

ASONA, a river of Italy, in the marquiſate of Ancona; which riſes in the Apennines, on the frontiers of Umbria, and runs into the Adriatic ſea, ten miles ſouth-eaſt of Fermo.

ASOPH. See AZOF.

ASOPIA, in *Ancient Geography*, a country of Peloponneſus, in Sicyonia. Strabo.

ASOPUS, a town of Laconia, in which was a temple of Minerva Cypariſſenſis, ſouth-eaſt of Cypariſſa. At the diſtance of twelve ſtadia was a temple of Æſculapius, ſurnamed *Philolaus*, the friend of the people. The citadel is now ſtanding, and called by the ſailors *Caſtel Rampano*.—Alſo, a river of Bœotia, which had its ſource in mount Citheron, north-weſt of Platæa; and paſſing eaſt by north of this city, diſcharged itſelf into that part of the ſea which ſeparated the iſle of Eubœa from the continent over againſt Eretria, now called *Aſope*.—Alſo, a river of Sicyonia which roſe to the ſouth-weſt, on the frontiers of Arcadia, near mount Cyllene, ran eaſt of Sicyone, and diſcharged itſelf into the gulf of Corinth.—Alſo, a river of Greece, in Theſſaly, which had two ſources in that part of mount Oeta that was contiguous to mount Pindus, and running eaſtward, emptied itſelf into the Maliac gulf, north of Thermopylæ.—Alſo, a river of Aſia Minor, which watered the town of Laodicea upon the Lycus. Pliny.

ASOTUS, in *Ichthyology*, a ſpecies of SILURUS found in Aſia. It has a ſingle dorſal fin, and four cirri at the mouth, two on the upper and two on the lower jaw. The teeth of this kind are numerous; the dorſal fin is deſtitute of ſpinous rays; firſt ray of the pectoral fin is ſerrated; and the anal fin is long, and connected with the tail.

ASOUPAS, in *Geography*, a town of Perſia, in the province of Farſiſtan, twenty-three leagues north of Schiras.

ASP, or ASPIS, in *Zoology*, a ſpecies of COLUBER, deſcribed by Linnæus, as having 146 plates on the belly, and 46 ſcales on the tail. Dr. Shaw has ſome doubt concerning the Linnæan aſpis, but concludes it is the ſerpent deſcribed under the name of aſpic by the count de Cepede, who informs us that it is a native of France, and particularly of the northern provinces of that country. The length is about three feet; the head rather large, and covered with ſmall carinated ſcales; the ſcales of the body ſmaller, but of a ſimilar ſtructure. In the ſtructure of its fangs it reſembles the viper, and is ſaid to be equally poiſonous. M. Latreille

is not willing to allow this to be the real Coluber aſpis of Linnæus.

In addition to the ſpecific character of the coluber aſpis (taken from the number of abdominal plates, and ſcales of the tail), Gmelin obſerves, that the noſe is terminated by an erect wart; the body rufous, with figured ſtreaks, which are alternately confluent, and the under ſide ſteel-blue dotted with yellow. Dr. Shaw calls his coluber aſpis, the rufeſcent viper, with roundiſh, alternate, dunky, dorſal ſpots, ſubconfluent towards the tail; and ſtates the number of abdominal ſcuta to be 155, ſubcaudal ſcales 37.

The true aſp of the ancients ſeems to be entirely unknown. It is very frequently mentioned by ancient writers, but in ſuch a careleſs and indefinite manner that it is impoſſible to aſcertain the ſpecies with preciſion. With the aſp it is ſaid the high-ſpirited princeſs Cleopatra effected her death, rather than ſubmit herſelf as a captive to grace the triumphal entry of her conqueror Auguſtus into Rome. This trait of heroiſm in that diſtinguiſhed character is conteſted. The indications of Cleopatra's having occaſioned her death by means of an aſp, were only two almoſt inſenſible punctures obſerved in her arm; and it is aſſerted by Plutarch, that it is unknown of what death ſhe died.

Brown places the popular report of her death in this manner among his vulgar errors. Others are of a different opinion. Some have imagined it was the Egyptian viper, deſcribed by Haſſelquiſt, which Cleopatra made uſe of on that occaſion. Mr. Bruce is led to conclude, from various circumſtances, that it might be the ceraſtes, *coluber ceraſtes* of Linnæus.

"I apprehend," ſays Mr. Bruce, in ſpeaking of the ceraſtes, "this to be the aſpic which Cleopatra employed to procure her death. Alexandria plentifully ſupplied by water, muſt then have had fruits of all kinds in its gardens: the baſket of figs muſt have come from thence, and the aſpic or ceraſtes that was hid in them, from the adjoining deſert, where they are plenty to this day; for to the weſtward in Egypt, where the Nile overflows, there is no ſort of ſerpents whatever that ever I ſaw, nor, as I have before ſaid, is there any other of the mortal kind that I know in thoſe parts of Africa adjoining to Egypt, except the ceraſtes. It ſhould ſeem very natural for any one, who, from motives of diſtreſs, has reſolved to put a period to his exiſtence, eſpecially women and weak perſons, unaccuſtomed to handle arms, to ſeek the gentleſt method to free themſelves from the load of life now become inſupportable."—"It is not to be doubted," adds Mr. Bruce ſtill further, "but that a woman, high-ſpirited like Cleopatra, was alſo above the momentary differences in feeling; and had the way in which ſhe died not been ordinary and uſual, ſhe certainly would not have applied herſelf to the invention of a new one. We are therefore to look upon her dying by the bite of the ceraſtes, as only following the manner of death which ſhe had ſeen adopted by thoſe who intended to die without torment. Galen, ſpeaking of the aſpic in the great city of Alexandria, ſays, I have ſeen how ſpeedily they (the aſpics) occaſioned death. Whenever any perſon is condemned to die, whom they wiſh to end quickly and without torment, they put the viper to his breaſt, and ſuffering him there to creep a little, the man is preſently killed."

Lord Bacon makes the aſp the leaſt painful of all the inſtruments of death; he ſuppoſes its poiſon to have an affinity to opium, but to be leſs diſagreeable in its operation; which does not ſo well agree with the deſcription of the ſymptoms given by Dioſcorides and others. Immediately after the bite, the ſight becomes dim, a ſenſible tumour ariſes, and a moderate pain is felt in the ſtomach. Matthiolus adds, that the bite is followed by a ſtupor of the whole body, paleneſs, coldneſs of the forehead, continual yawning, nictitation of the eyelids, inclination of the neck, heavineſs of the head, ſinking into a profound ſleep, and laſtly convulſions. The bite of the aſp is ſaid by Ariſtotle to admit of no remedy. Pliny and Ægineta allow of no other cure, but to cut off the wounded part. Others recommend burning the part, with the internal uſe of hot alexipharmic medicines. The ancients had a plaſter called ἀσπιστὸν, made of this terrible animal, of great efficacy as a diſcutient of *ſtrumæ* and other indurations, and uſed likewiſe againſt pains of the gout. The fleſh and ſkin, or exuvia of the creature, had alſo their ſhare in the ancient *Materia Medica*.

Asp, or *Aſpen-Tree*, in *Botany*. See Populus.

ASPA, in *Ancient Geography*, a town of Aſia, in Parthia, ſuppoſed to be *Iſpahan*. Ptolemy.

ASPAPOTA, a town of the Scythians, on this ſide of Imaus. Ptolemy.

ASPACARÆ, a people of Aſia, in Serica. Ptolemy.

ASPAGORA or Aspacora, a country of Aſia, in Serica.

ASPAH, in *Geography*, a town of Germany, in the archduchy of Auſtria, twelve miles eaſt of Steyr.

ASPALATH, Aspalathum, in *Pharmacy*, the wood or root of a foreign tree, heavy, oleaginous, ſomewhat ſharp and bitter to the taſte, and of a ſtrong ſmell, and purple colour.

It is brought from the Canary iſlands, in long crooked pieces full of knots, externally of a whitiſh colour, internally of deep yellow, with a reddiſh caſt. Digeſted in rectified ſpirit, it gives out pretty readily the whole of its active matter, and tinges the menſtruum of a reddiſh colour; infuſed in water, it gives out likewiſe great part of its ſmell and taſte, together with a bright yellow colour; and diſtilled with water, it gives over ſlowly and with difficulty, a highly odoriferous eſſential oil, at firſt of a reddiſh colour, becoming reddiſh with age, and amounting, if the rhodium be good, to about an ounce from 50: the diſtilled water is likewiſe impregnated agreeably with the fragrance of the rhodium, and reſembles that of damaſk roſes. This oil is uſed as a perfume for ſcenting pomatums, &c. in this light only it is now generally regarded. Dr. Lewis, (Mat. Med.) obſerves that it promiſes to be applicable to more important purpoſes, and bids fair to prove a valuable cordial and corroborant.

The aſpalath is otherwiſe called *lignum Rhodium*, or roſe-wood, and by ſome *Cyprus-wood*; the former on account of its ſweet ſmell, or growth in the iſland of Rhodes; the latter from its being alſo found in the iſland of Cyprus. Though ſome will have aſpalathum a different wood from the *lignum Rhodium*.

Aſpalath was anciently in much repute, as an aſtringent, ſtrengthener, and drier; but it is now much diſuſed in internal practice.

ASPALATHIS, in *Ancient Geography*, an iſland of Aſia Minor, on the coaſt of Lycia. Steph. Byz.

ASPALATHUS, in *Botany*, the name of a thorny ſhrub in Dioſcorides, (from α and σπάω, becauſe the thorns were not eaſily drawn out of the wounds they made.) Lin. gen. 860. Reich. 931. Schreb. 1168. Gærtn. t. 144. Juſſ. 353. Claſs, *decadelphia decandria*. Nat. Ord. *Papilionaceæ* or *leguminoſæ*. Gen. Char. *Cal.* perianth one-leafed, five-cleft, diviſions acuminate, equal, except that the upper is larger; *Cor.* papilionaceous, banner compreſſed, aſcending, obovate, generally hirſute on the outſide, obtuſe, with a point; wings lunate, obtuſe, ſpreading, ſhorter than the banner,

ner, keel bifid, confounded with the wings; *Stam.* filaments ten, united into a sheath, gaping longitudinally at the top, ascending, anthers oblong; *Pist.* germen ovate, style simple, ascending, stigma sharp; *Per.* legume ovate, awnless; *Seeds*, generally two, kidney-shaped.

Ess. Gen. Char. *Cal.* two-cleft, upper divisions largest; *Legume* ovate, awnless, with about two seeds.

Obs. The genus is singular in having several leaves from the same bud, in a shrubby plant.

Species, 1. A. *spinosa*, thorny aspalathus. Genistella, &c. Breyn. Cent. t. 20. Pluk. Phyt. t. 297. f. 6. "Leaves fascicled, linear, naked, surrounding a gummaceous spine." Flowers lateral, scarcely longer than the leaves; legume small, ovate at the base, triangular, upwards drawn to a point, compressed like a bean, containing two seeds, one compressed kidney-shaped, the other globular. 2. A. *verrucosa*, warted A. "Leaves fascicled, filiform; buds warted, naked, tomentose." A shrub two feet high, with large buds or warts; leaves fleshy, smooth, sharpish, an inch long; flowers lateral, shorter than the leaves, subsessile; calyx pubescent; banner villose. 3. A. *capitata*, headed A. Pluk. Phyt. 307. f. 6. Seba Mus. 1. t. 23. f. 6. "Leaves fascicled, linear, sharp, flowers headed, bractes naked." Leaves pubescent; flowers covered with ferruginous down; segments of the calyx subulate; keel of the flower arched and the length of the banner. 4. A. *glomerata*, glomerate A. "Leaves fascicled, linear, sharp, villose bent inwards, flowers headed, divisions of the calyx ovate, corollas smooth." This differs from the third, in having its leaves bent inwards, the calyxes ovate, and the corollas smooth. 5. A. *astroites*, starry A. Pluk. Mant. 88. t. 413. f. 3. Seba Mus. 1. t. 24. f. 6. "Leaves fascicled, subulate, mucronate, smooth, stem villose, flowers scattered." This has the appearance of juniper; it branches very much, and the twigs are covered with hoary down, and loaded with a profusion of flowers. 6. A. *chenopodia*, genista africana lutea, &c. Herm. Afr. 11. Chamælarix. Breyn. cent. 23. t. 11. Seba Mus. 1. t. 23. f. 4. "Leaves fascicled, subulate, mucronate, rough with hairs, flowers headed, very hirsute." A shrub about three feet high, with slender branches terminated by the flowers, which are yellow, collected in woolly heads; the leaves are prickly like those of juniper. Cultivated in 1759, by Miller. 7. A. *albens*, white A. "Leaves fascicled, subulate, silky, spreading at top, bunches of flowers scattered." Shrubby, upright, and covered with brown bark, which is full of chinks; leaves in fives, sharp, spreading at the tip, of a silky whiteness; flowers terminating in bunches, tomentose, small of a silky white; calyx pubescent. Introduced here in 1774, by Mr. Masson. It flowers in July. 8. A. *thymifolia*, thyme-leaved A. Gen. minima, &c. Pluk. Mant. 88. t. 413. f. 1. "Leaves fascicled, subulate, unarmed, smooth, very short, flowers alternate." This is a very small shrub; the leaves are crowded together and shining, resembling those of thyme. 9. A. *ericifolia*, heath-leaved A. Gen. aeth. non spinosa, &c. Pluk. Mant. 88. t. 413. f. 6. "Leaves fascicled, linear, unarmed, hirsute, flowers alternate, calyxes linear." A small shrub very much branched, pubescent, or extremely hirsute; leaves minute; flowers lateral, scarcely longer than the leaves; banner villose. 10. A. *nigra*, black A. "Leaves fascicled, linear, rather obtuse, flowers headed-spiked, pubescent." A branching shrub, three feet high; buds and twigs pubescent; leaves minute, and become black on drying; flowers terminating, pubescent, bractes in pairs, narrow. 11. A. *carnosa*, fleshy A. "Leaves fascicled, almost columnar obtuse, calyxes subpubescent, sharp, corollas smooth." About the height of the tenth species; branches naked, determinate; leaves subcylindric, fleshy, bent in, smooth, four or seven together; flowers yellow, terminal, umbelled; calyx bell-shaped; bractes three, ovate, lanceolate. 12. A. *ciliaris*, "leaves fascicled, filiform, scabrous, flowers terminal sessile, banners pubescent." Stem shrubby, two feet high, branching determinately, somewhat hairy, with naked warts; leaves roundish, sharp, erect, rough beneath, and when young, ciliate; flowers three or five, with a yellow corolla, and an ash-coloured banner. 13 A. *genistoides*, broom-like A. "Leaves fascicled, filiform, polished, calyxes subracemed, pendulous, which as well as the corollas are smooth." Shrubby, nine feet high, branching, with a reticulate bark, and white villose buds; leaves roundish, half an inch long; flowers three or four, terminal, pendulous; calyxes smooth, with short teeth; bractes two, minute; corollas yellow; style protruding. 14. A. *hystrix*, porcupine A. "Leaves fascicled, filiform, rigid, spiny, silky, flowers lateral, sessile, solitary, corollas villose." This shrub differs much from the other species by its leaves resembling silky white spines. 15. A. *galioides*. "Leaves fascicled, linear, polished; peduncles two-flowered, elongate, leafy at the end." Stem two feet high, decumbent, branching, smooth; warts of the buds small, remote, tomentose; leaves like those of Asparagus acute; teeth of the calyx the length of the corolla, which is smooth, yellow; legume ovate, lanceolate, smoothish. 16. A. *retroflexa*. "Leaves fascicled, subulate, smooth, very small; branches filiform, very spreading; flowers solitary, terminal." 17. A. *uniflora*, one-flowered A. Gen. Æthiop. glabra, &c. Pluk. Mant. 88. t. 414. f. 7. "Leaves fascicled, linear, unarmed, smooth; stipules sharp, permanent; flowers solitary, divisions of the calyxes boat-shaped." Branches alternate, crowded, tomentose; flowers one or two, terminal, pubescent, keel of the corolla tomentose. 18. A. *aranciosa*, Gen. &c. Pluk. Mant. 88. t. 414. f. 4. Seba Thes. 1. p. 38. t. 23. f. 6. "Leaves fascicled, bristle-shaped, unarmed, hispid; flowers headed." Leaves hairy, beset with tubercles, and rough on both sides; banner hairy outwardly. 19. A. *asparagoides*. "Leaves fascicled, setaceous, rather hairy; calyxes leaf-shaped, the length of the corolla, solitary." A shrub much branched, with small pubescent warts where the leaves fall off; leaves pointed, thinly scattered with hairs; flowers solitary, sessile. 20. A. *fericea*, silky A. "Leaves fascicled, lanceolate, silky; peduncles two flowered, terminal, banner almost naked." This resembles the preceding, but the leaves are flat, and none of them in heads; flowers large, smooth. 21. A. *canescens*, hoary A. "Leaves fascicled, subulate, tomentose, silky; flowers lateral; banners pubescent." An erect, stiff, hoary shrub, with alternate branches; leaves sharpish; flowers sessile, at the sides of the branches; calyx bell-shaped, with subulate teeth, shorter than the body of it; bractes two, short, setaceous; corolla yellow; banner hoary. 22. A. *heterophylla*, various-leaved A. "Leaves of the branches fascicled, of the branchlets ternate, linear, hairy, spikes terminal; calyx and corolla villose." Lower leaves in bunches, upper, ternate; spikes long, flowers yellow. This, and all the foregoing species, are natives of the cape of Good Hope. 23. A. *indica*, small-flowered A. Pluk. Alm. 225. t. 201. fig. 2. (called Lotus, &c.) "Leaves quinate, sessile; peduncles one-flowered." A slender shrub with alternate branches; leaves alternate; leaflets oblong, obtuse, bluntish, smooth, broader towards the end; peduncles axillary, much longer than the leaves, but shorter than the legumes; flowers of a pale red colour, and appear in May. A native of the East Indies, and in 1759, cultivated by Miller. 24. A. *cretica*, evergreen A. "Leaves trine, wedge-shaped, smooth, lateral ones shorter; stipules obsolete, flowers headed." About four feet high, with very flexible branches; leaves

leaves many, small, narrow, oblong, fleshy, evergreen, reflex at the edge, with a hard point, sometimes [illegible] at the base; peduncles axillary; flowers of a pleasant smell, in two rows, yellow, very small; legume small, yellowish, containing a single round compressed shining seed. A native of the Cape. 25. A. *spicata*, spiked A. Pluk. Alm. 128. t. 273. f. 4. "Leaves in fives, sessile; peduncles spiked." The leaflets are lanceolate, petioled; a little hairy, mucronate; peduncles many times longer than the leaves, receme-spiked; corollas tomentose. A native of the Cape. 26. A. *trifoliata*, three-toothed A. "Leaves trine lanceolate, smooth; stipules three-toothed mucronate, flowers headed." A native of the cape of Good Hope. 27. A. *pilosa*, hairy A. "Leaves in threes, linear villose; heads terminal, very hairy; corollas pubescent." Stems shrubby simple, a little hairy; leaves spreading, sessile, acute, subpubescent; head of flowers protected by bractes and calyxes, which have white hairs. A native of the Cape. 28. A. *anthylloides*. "Leaves trine lanceolate, equal subpubescent; stipules none, heads terminal." This shrub has a hirsute stem; the leaves are sessile, rather fleshy, the upper ones somewhat hairy; heads solitary, sessile, oblong; three bractes under each calyx. It has the appearance of a lotus or anthyllus. Cape. 29. A. *laxata*, loose leaved A. "Leaves tern linear, villose; flowers in bunches of five; calyxes woolly; stems prostrate round." Stem subherbaceous, decumbent, round, flexile, pubescent; branches alternate; leaves loose, on very short petioles; flowers terminal, sessile, no bractes; corolla smooth, yellow. Cape. 30. A. *argentea*, silvery A. Cytisus, &c. Pluk. Mant. 63. t. 345. f. 2. "Leaves trine linear silky; stipules simple mucronate; flowers scattered tomentose;" shrubby, four feet high; flowers sometimes in spikes, purple, downy. Cultivated by Miller in 1759. A native of the Cape. 31. A. *callosa*, callous A. Pluk. Mant. 63. t. 345. f. 4. "Leaves trine subulate equal; stipules roundish, callous; flowers spiked, smooth." An undershrub, having the branches covered with round calluses, occasioned by the falling of leaves, which are sessile, with a callous base like those of juniper; spikes loose; bractes one-leafed; flowers yellow, smooth. Cape. 32. A. *orientalis*, Levant A. "Leaves ternate, lanceolate, pubescent; flowers in bunches of five; calyxes pubescent; stems erect, angular." Stems a foot high; leaves sessile, resembling those of flax; corollas yellow, the size of those of laburnum; stamens connate. Found in the Levant by Tournefort. 33. A. *mucronata*. "Leaves tern, polished, branches acuminate; flowers in racemes." Stem smooth; branches remote, tapering to a point; leaves lanceolate, on short petioles; racemes terminate, erect, on very short pedicles. Cape. 34. A *pinnata*, pinnate-leaved A. "Leaves pinnate-quinate obcordate; peduncles headed;" leaflets five, close, a little hairy, tomentose underneath, on short petioles; peduncle longer than the leaves; corollas rather tomentose. It resembles A. quinquefolia, n. 25. Cape. 35. A. *pedunculata*, small-leaved A. L'Herit. Ang. t. 26. "Leaves fascicled, subulate, smooth; peduncles filiform, twice the length of the leaf." Found at the Cape by Masson, and introduced into the Kew garden in 1775. It flowers in June. 36. A. *candicans*, fair A. "Leaves trine and fascicled, filiform, silky; flowers sublateral, banners naked." This was also found at the Cape by Masson and introduced in 1774. 37. A. *arborea*, tree A. Lour. Cochinch. 431. "Leaves pinnate-quinate; racemes terminating." This is a middle-sized tree with a straight trunk, and weak reclining branches; leaves smooth, entire, sessile; flowers white, small, banner obcordate, broadish, ascending; wings oblong, equal to the banner; stamens alternate.

Protection and Culture. Few of these shrubs have hitherto been cultivated in Europe. They are to be propagated by seeds which must be procured from the country where they grow spontaneously, and should be sown in pots filled with light earth as soon as they arrive: if this happen in the autumn, the pots should be plunged into an old tan-bed whose heat is spent, where they may remain till spring, when they should be removed into a temperate hot-bed, which will bring up the plants. But when the seeds arrive in the spring, the pots in which the seeds are sown should be then plunged into a moderate hot-bed; and in warm weather the glasses must be shaded during the middle of the day, and the plants frequently refreshed with water. Those seeds that are sown in the spring, seldom grow the same year; therefore, in the autumn, the pots should be put into an old tan-bed as above directed, and the following spring put into a hot-bed. When the plants become strong enough to remove, they should each be planted in a separate small pot filled with light earth and plunged into a moderate hot-bed to promote their rooting again, and as soon as they are established in the pots, they should gradually be enured to the open air, into which they are to be removed in the summer, and remain in a sheltered situation till autumn, when they must be placed in the green-house, allowing them very little water during the winter. See Martyn's Miller's Dict.

ASPALATHUS. See ROBINIA and SPARTIUM.

ASPALATHUS *Elemus*. See AMYRIDEÆ.

ASPALAX, in *Zoology*, an animal mentioned by Aristotle, as being blind. The Romans and some moderns translating the term *aspalax*, mole, and knowing that this animal is not blind, have thought themselves warranted in denying the assertion of Aristotle. Olivier, however, has not long since brought from the Levant an animal actually blind, with its skin not so much as pierced in the place of the eyes. This animal lives under ground, and has all the characters ascribed by Aristotle to the aspalax. It is known to Zoologists under the name of *mus typhlus*, and *zemni*.

ASPALAX, a species of MUS, called by Pennant and later English naturalists the Daurian rat; Laxmann names it MUS *myospalax*; and Pallas, Schreber, Gmelin, &c. specifically describe it as having a short tail, cuneated or wedged foreteeth, no ears, and claws of the forefeet elongated. It is a native of the Altaic mountains, and of the country beyond the lake Baikal; like other subterranean or ground rats, it burrows with its snout and feet, raises numerous hillocks of earth in its progress, and feeds on bulbous roots. In respect of size, it varies considerably, being from five to eight inches and a half or more in length.

Dr. Shaw observes that this species in form and manners of life agrees with the *mus typhlus*, or blind rat; but is in general of a smaller size and of a yellowish ash colour, and in some specimens a whitish line or longitudinal streak appears on the top of the head; the upper foreteeth are naked, but the lower are covered with a moveable lip; there is no appearance of external ears, and the eyes are extremely small and deeply seated; the head is flat and blunt; the body short and somewhat depressed; the limbs very strong, especially the fore-legs, the feet of which are large, naked, and well adapted for burrowing into the ground, having five toes, the three middle of which are furnished with long and strong slightly curved claws; the hind feet are also naked, and have five toes with small claws; the tail is very short. Gen. Zool.

ASPALUCA, in *Ancient Geography*, a valley of the Pyrenées, now the valley of *Aspe*, in which was the Gabarus, or Gave.

ASPANEUS, a foreſt of Aſia Minor, in the Troas, being a part of the foreſt of Ida. Strabo.

ASPANG, in *Geography*, a town of Germany, in the archduchy of Auſtria, ſeventeen miles ſouth of Ebenfurth.

ASPARAGI, in *Entomology*, a ſpecies of CHRYSOMELA (Linn.), with a red thorax marked with two dots of black; wing-caſes yellow, with a cruciform mark, and four ſpots of black. Geoffroy calls it le criocère porte croix de l'aſperge: it is attelabus aſparagi of Scopoli; lema aſparagi of Fab. Ent. Syſt. Supp.; cryptocephalus aſparagi of Gmelin; and auchenia aſparagi of Marſh. Ent. Brit. This miſchievous intruder into the kitchen garden, is but too well known by its depredations in the larva ſtate upon the beds of aſparagus; it is a little grub of a blackiſh-brown colour, that feeds excluſively on theſe plants; and if neglected, will in the courſe of a few days leave nothing but the naked ſtalks of the aſparagus remaining in thoſe beds where they can once take up their reſidence. Donov. Brit. Inſ. &c.

ASPARAGUS, in *Botany* (Ἀσπάραγος, a young ſhoot, before its leaves unfold). Lin. g. 424. Schreb. 573. Gærtn. 16. Juſſ. 41. Claſs, *hexandria monogynia*. Nat. Ord. *farmentaceæ*. Gen. Char. *Cal.* none. *Cor.* petals ſix, cohering by the claws, oblong, erected into a tube, three alternately interior, permanent. *Stam.* filaments ſix, filiform, inſerted into the petals, erect, ſhorter than the corolla; anthers roundiſh. *Piſt.* germ. turbinate, three-cornered; ſtyle very ſhort; ſtigma, a prominent point. *Per.* berry globular, umbilicated with a point, three-celled. *Seeds*, two, round, angular on the inſide, ſmooth. *Obſ.* According to Dr. Smith, there are three ſtigmata; the flower appears as if it were monopetalous.

Eſſ. Gen. Char. *Cor.* ſix-parted, erect, equal. *Cal.* none; ſtyle very ſhort; ſtigmas three; berry ſuperior, three-celled; ſeeds two, externally convex. Smith.

Species, 1. A. *officinalis*, common aſparagus or ſperage, Hudſ. 145. With. 340. Smith Brit. 369. Eng. Bot. 339. Flor. Dan. 805. "Stem herbaceous, round, erect, leaves ſetaceous; ſtipules uniform, ſubſolitary." It grows wild in maritime places in the ſouth of England, abundantly on the pebbly beach oppoſite the ferry going from Weymouth to Portland iſland. A variety *β*. viz. A. maritimus craſſiore folio, (Dill in Ray's Synop.) has been found in Angleſea. Root perennial, creeping, with very long, thick, ſimple fibres; ſtem erect, occaſionally procumbent, round, ſimple, and bearing alternate ſcales (or ſtipules without leaves blow) in the upper part, branching in a panicled alternate manner: leaves in tufts, very narrow, and briſtly, but flexible; ſtipules ſolitary, membranous, triangular, acute, the upper ones ovate and jagged; flowers from the axillæ of the branches on capillary ſimple ſtalks, drooping, white, none of the ſegments inflexed, in ſome the ſtamens, in others the piſtillum occaſionally abortive; ſtyle deeply three-cleft; berry red. It flowers in Auguſt. The above is a deſcription of the plant in its wild ſtate in which its ſtems are uſually about the ſize of a gooſe's quill, yet this is now well known to be the origin of our luxuriant garden aſparagus, for the cultivation of which ample inſtructions are ſubjoined 2. A. *declinatus*, long-leaved A. "Stem unarmed, round; branches declined; leaves ſetaceous." This reſembles the common ſort, but it is higher, has more and much longer leaves; ſtipules ſolitary, lanceolate-ſubulate, with a membranaceous point at the baſe downwards; leaves ſeven or ten in a bunch, filiform, ſpreading. A native of the Cape. Introduced in 1787, by Mr. Maſſon. 3. A. *falcatus*, ſickle-leaved A. Burm. Flor. Zeyl. 36. t. 13. f. 2. "Prickles ſolitary, reverſed; branches round; leaves enſiform, falcated." A native of Ceylon. 4. A. *retrofractus*, arch-leaved A. "Prickles ſolitary, branches round, reflected, and retrofracted; leaves ſetaceous, faſcicled." Its branches are round dichotomous, warted at the diviſions with a minute nodding prickle. The ſtalks are ſhrubby, crooked, irregular, eight or ten feet high; leaves long, narrow, in cluſters like thoſe of the larch. A native of the Cape. Cultivated by Miller in 1759. The leaves preſerve their verdure all the year. 5. A. *æthiopicus*. "Prickles ſolitary, reverſed; branches angulate; leaves lanceolate-linear." This is nearly allied to A. falcatus, but the leaves are ſmaller, and about ſeven in a bunch. The ſtipules put forth a reverſed ſpine. A native of the Cape. 6. A. *aſiaticus*, ſlender-ſtalked A. "Prickles ſolitary; ſtem erect; branches filiform; leaves faſcicled, ſetaceous." It ſends up many weak ſhoots in cluſters, and armed with ſharp ſpines at the ſides and ends of the ſhoots; leaves in ſmall cluſters, and continuing green all the year. 7. A. *albus*, white A. "Prickles ſolitary; branches angular, flexuoſe; leaves faſcicled, triquetrous, awnleſs, deciduous." Stems ſhrubby, covered with white bark, armed with thorns, three or four feet high, furniſhed with many branches, bearing ſhort narrow leaves. Theſe continue green all the winter, if ſcreened from the froſt. A native of Spain and Portugal; cultivated here in 1640. 8. A. *acutifolius*, acute-leaved A. "Stem unarmed, angular, ſhrubby; leaves needle-ſhaped, rather rigid, perennial, mucronate, equal." It has white, crooked, ſhrubby ſtalks, four or five feet high, without ſpines; leaves like thoſe of larch, but ſhort, and end in prickles. It reſembles A. aphyllus, from which it differs in uſually having ſeven leaves together, which are much ſmaller. A native of Spain and the Levant. Cultivated by Miller in 1739. 9. A. *horridus*, thorny A. "Leafleſs, ſhrubby, pentagonal; prickles four-cornered, compreſſed, ſtriated." The ſpines are about the length of the finger. A native of Spain. 10. A. *aphyllus*, prickly A. "Stem unarmed, angular, ſhrubby; leaves ſubulate, ſtriated, unequal, diverging. Stems weak, irregular, furniſhed with ſtiff, ſhort ſpines inſtead of leaves; flowers ſmall, of an herbaceous colour; berries very large, and black when ripe. A native of the ſouth of Europe. Cultivated here in 1640. 11. A. *capenſis*, cape A. "Spines in fours; branches aggregate, round; leaves ſetaceous." Pluk. Alm. t. 78. f. 3. Root tuberous; ſtems fruticoſe, filiform, flexuoſe; branchlets from the axillæ of the ſpines, filiform, looſe, unarmed, deciduous; leaflets ſetaceous, acute, ſhort. A native of the Cape. Cultivated in the royal garden Hampton-court, in 1691. 12. A. *farmentoſus*, linear-leaved A. "Leaves ſolitary, linear-lanceolate; ſtem flexuoſe; prickles recurved." It riſes five or ſix feet high; and its ſhoots are ſo cloſely beſet with ſhort crooked ſpines that it is difficult to touch the branches. The roots, which are long and fuſiform, are eaten with broth or milk by the inhabitants of Ceylon, who are very fond of them. Cultivated in 1714, by the ducheſs of Beaufort. 13. A. *verticillaris*, whorl-leaved A. "Leaves verticillate." Found by Tournefort in the Levant.

ASPARAGUS, in *Gardening*, comprehends one of the moſt valuable eſculent vegetables of the kitchen garden; it has erect, herbaceous ſtalks, three or four feet in height, and very fine briſtly leaves; it is a perennial fibrous rooted vegetable, the roots being of many years duration, but the tops or ſtalks annual. The plants being raiſed from ſeed, after having acquired a period of three or four years growth, produce proper ſized aſparagus, of which the ſame roots furniſh an annual ſupply for many years, continuing to riſe in perfection for ſix or eight weeks in the ſummer ſeaſon,

the ſhoots afterwards run up to ſtalks and flowers, and perfect ſeeds in autumn.

But beſides the crop raiſed in the ſummer ſeaſon, it may alſo be obtained in perfection during the winter, and early in the ſpring, by the aid of hot-beds, in the manner explained below.

Propagation of the Plants. It is obſerved by the authors of the Univerſal Gardener, that the propagation of this plant is by ſeed only, which may be eaſily obtained from ſeed-ſhops. It ſhould be ſown in February, or any time in March, in a four feet wide bed of rich earth, either broad caſt on the ſurface, and directly raked in, or in drills longways ſix inches aſunder, the ground being afterwards raked. In ſix weeks or thereabouts, the plants will generally appear; they ſhould be kept clean from weeds all the ſummer, and in winter a little ſhort ſtable litter ſpread on the ground to defend the crowns of the roots from froſts; and in the ſpring following they will be fit for tranſplanting where they are finally to remain, and in two or three years afterwards, as has been juſt obſerved, they will produce aſparagus fit to gather.

Aſparagus is always three years at leaſt from the time of ſowing the ſeed before the plants obtain ſtrength enough to produce ſhoots of due ſize for the table; that is, one year in the ſeed-bed, and two after being tranſplanted, though it is ſometimes three or four years after planting before they produce good full-ſized ſhoots. But the ſame bed or plantation will continue producing good aſparagus ten or twelve years, and even endure fifteen or twenty years; however, at that age the ſhoots are generally ſmall, and the whole annual produce inconſiderable; a new plantation ſhould therefore be made every eight, ten, or twelve years, as may be judged neceſſary. When new plantations of aſparagus are required to be raiſed in the quickeſt manner for uſe, it ſhould be done by purchaſing ready-raiſed year-old plants of the nurſerymen or kitchen gardeners, as in this way a year may be gained.

The beſt ſeaſon of the year to make a plantation of theſe plants is in March, in common light ground, or at the lateſt, the firſt or ſecond week in April; but in cold moiſt ſoils, from about the twentieth of March to the fifteenth of April.

In regard to ſoil and ſituation, the plants ſucceed tolerably well in any that is light and mellow, and that is ſufficiently rich; but it is eligible to allow them a ſpot that is rich and light in one of the open quarters of the garden, that is expoſed to the free air and full ſun, as this is of much importance. Dung muſt be added ſix or eight inches thick at leaſt; the ground is then to be trenched one or two ſpits deep, as may be neceſſary, burying the dung regularly in each trench, obſerving that where the trench is but one ſpade depth, the dung be buried well in the bottom; but if two ſpades depth, betwixt the firſt and ſecond ſpit, or about ten or twelve inches below the ſurface. Where the trenching is performed in winter, or any conſiderable time before the planting ſeaſon, it is proper to throw the ground into ridges to meliorate and improve by the weather into better preparation for planting, as well as for the benefit of the young plants. When the time of planting arrives, it is to be levelled down, which will be a further improvement. See TRENCHING and RIDGING *of Ground*.

The ſpace of ground neceſſary to plant for private uſe is generally from about four or five to twenty rod, according to the extent of the family; and the proper quantity of plants to a rod, excluſive of the alleys, is about 260; one year old plants are to be preferred to ſuch as are older, as thoſe of that age will eſtabliſh themſelves ſooner and more effectually than older roots. The plants at the time of being put into the beds, conſiſting uſually of only roots, are at the proper time to be taken up from the ſeed-bed with a dung-fork as entire as poſſible, and the ſtrongeſt ſorted out for uſe, but not trimmed, only ſuch parts as are broken or bruiſed being cut off.

In planting, they are to be placed in rows a foot aſunder, and formed into beds, each bed to conſiſt of four rows ranging lengthways of them, and planted in drills, or in ſmall narrow trenches, as explained below, allowing three feet and a half interval between every four rows, two feet of which to be afterwards allotted for an alley between the beds, and the reſt to be annexed to the beds, which, as well as the alleys, muſt be regularly laid out in their proper dimenſions, four feet and an half for the beds, and two feet for each alley between bed and bed. Or they may be at firſt marked out and formed into beds and alleys regularly and of their reſpective dimenſions; the beds four feet and a half, and the alleys trodden out between the different beds two feet wide; then four ſpaces a foot aſunder marked out for four rows lengthways of each bed, the two outſide rows of each nine inches from the edge; ſtretch a line tight along the length of the bed in the firſt outſide row, and with the ſpade held in an erect poſition, the back being towards the line, cut out a ſmall neat trench along cloſe to the line about ſix inches deep, forming the ſide next the line upright, turning out the earth evenly to lie cloſe along the edge of the trench, ready to earth in the roots as planted; this being done, proceed to planting the row, placing the plants in the trench cloſe againſt the upright ſide ten or twelve inches aſunder, with the crowns upright about two inches below the ſurface, ſpreading the roots both ways, and drawing a little earth up to thoſe of each plant as they are put in, juſt ſo as to fix them in their places till the whole of the row is planted; then directly rake the excavated earth into the trench over the roots and crowns of the plants evenly; which done, move the line a foot further for the next row, and cut out another trench as above, and plant it in the ſame manner, directly earthing over the plants as in the firſt row; and thus proceeding regularly with the reſt till the whole is completed. Having finiſhed the planting in either of the above methods, the bed and alleys may either be lined out now regularly, or deferred until the winter and ſpring dreſſing, though where the beds, &c. are formed previous to the planting, it may be eligible to line them neatly in their proper dimenſions as ſoon as planted, making the edges of the beds full and ſtraight, and the alleys level and even. In the other method, either forming the beds and alleys now or afterwards, as hinted above; obſerving that of the wide intervals of three feet and an half between the beds, two feet only are to be allowed for alleys, the other eighteen inches muſt be added to the beds, which will make each bed four feet and a half wide, nine inches on each ſide wider than the outſide rows; and noting that in either method, if the beds, &c. are formed as ſoon as planted, the alleys at this time are only to be trodden out gently the proper width, without caſting out any of the earth upon the beds, ſo as to ſtand in the alleys, and lightly to rake the bed even, drawing off any large ſtones and lumpy clods, ſo as to leave a ſmooth ſurface.

In performing the above, if you have occaſion to make the moſt of every part of the ground, a thin crop of onions may be ſown the firſt year on the ſame plat as ſoon as the aſparagus is planted; but in this caſe, ſow the ſeed moderately thin, raking it in regularly with a light and even hand, ſo as not to diſplace any of the aſparagus plants.

The aſparagus being planted in this manner, it requires the following culture.—The ſhoots moſtly appear above

ground the beginning of May, commonly not much bigger than tares: all ſuch muſt be permitted to run wholly to ſtalk. During ſummer, they muſt be kept clean from weeds by hand hoeing or hand weeding three, four or five times in the courſe of that ſeaſon; and if rain be a conſiderable time, then them in the uſual way, cutting over the ſurface immediately cloſe about the aſparagus plants. In October, when the aſparagus ſtalks decay, cut them down, and clear off all weeds from the beds into the alleys, and then dig the alleys two feet wide, burying the weeds therein, and ſpread ſome of the earth over the bed. See *Winter Digging*.

This is all that is neceſſary to be done until March, at which time the beds ſhould be deeply hoed and raked ſmooth, permitting all the ſhoots to run as in the firſt ſummer; and in October, cut down the decayed haulm as before, and land up the beds: in the ſpring following, being the ſecond after planting, ſlightly fork-dig the beds, and rake them level. See *Spring Dreſſing*. In this ſpring, as the ſhoots riſe of ſome tolerable ſubſtance, begin the firſt gathering of the largeſt plants in the firſt fortnight, but do not practiſe any general gathering till the third year. See *Gathering Produce*.

Winter Dreſſing, or landing up the Beds.—From about the middle of October to the latter end of November, is the time to give the aſparagus beds their winter dreſſing. This conſiſts in cutting down the decayed ſtalks of the plants annually at the above time, and clearing the bed from weeds, digging the alleys, and ſpreading ſome of the earth upon the top of the beds, which is called landing up the beds. It is done in the following manner.—The decayed ſtalks, or haulm, are cut down with a knife cloſe or within an inch or two of the ground; then with a ſharp hoe cut up all weeds, drawing them off at the ſame time into the alleys to be buried; after this, proceed to line out the alleys, ſtretching the line along the edges of the beds about nine inches from each outward row of plants, the ſtakes that are to be placed at the corners of the beds, or otherwiſe the ſtumps of the ſtalks, will be a guide; then with a ſpade chop the ground along by the direction of the line, by which you will form each bed four feet wide, and the alleys two feet. The alleys are then to be dug one ſpade deep, and a good portion of the earth ſpread over each bed two or three inches thick. As you proceed in digging, let the weeds drawn off the beds be trimmed into the bottom, and buried a due depth, obſerving to land the beds all a regular thickneſs, ſo as to make them about ſix or eight inches higher than the level of the alleys, forming the edge of each bed full and ſtraight. This work muſt be repeated every autumn. It may be ſuppoſed by ſome that in annual landing of the beds, they may in ſeveral years be conſiderably raiſed; but by the ſpring forking and raking, together with the repeated hoeings and clearing off weeds in ſummer and at the time of preparing for landing up in autumn, a conſiderable part of the earth is annually drawn off again into the alleys.

After thus performing the winter dreſſing of the beds, a row or two of cabbage plants may be planted in each alley, as a place of ſhelter during winter, by which they will be forwarded for early ſpring coleworts; or a row of mazayan dwarf or other beans may be planted in November or December in the warmeſt ſide of each alley, for an early crop; or occaſionally, where ground is ſcarce, ſome of the bed might be occupied during winter by planting a crop of cabbage lettuce on it for ſpring uſe, which being all gathered, or tranſplanted into other places, by the beginning of April, are ſuppoſed to do little harm. It muſt, however, be done with great care, and ſuch crops not ſuffered to remain long, otherwiſe they may injure the aſparagus plants in a high degree.

Spring Dreſſing the Beds.—The ſpring dreſſing conſiſts in fork digging the beds annually at that ſeaſon to a moderate depth, to looſen the ſoil, that the buds may freely advance and ſwell to their due ſize. The ſeaſon for performing this work is any time in March, but not later than the firſt or ſecond week in April, becauſe many of the buds will then be formed, and, in forward ſeaſons, begin to advance in growth.

This work is moſtly performed with a ſhort flat three-pronged fork. In the firſt ſpring dreſſing after planting, it is proper to looſen the ſurface only with a hoe, two or three inches deep, and then rake the beds ſmooth. But the general ſpring dreſſing is to be annually performed by fork-digging all ſuch beds as have been planted more than one year, three or four inches deep, with the aſparagus fork; being careful to looſen all the earth as deep as the ſurface of the roots, having regard however not to wound the crowns of them; and afterwards all the beds ſhould be neatly raked, to break clods, clear off ſtones, and form a level ſmooth ſurface, drawing off all rough earth, &c. into the alleys, which afterwards alſo rake up in a neat order.

Manuring the Beds.—Theſe ſhould be enriched with an addition of good rotten dung, once every two or three years at fartheſt, the benefit of which will be evident in the quantity, as well as the ſize and quality of the produce; the ſeaſon of applying this manure is at the time of winter dreſſing or landing up the beds. The dung for this purpoſe ſhould be perfectly well rotted, as the dung of old cucumber and melon beds, or any other of ſimilar quality, which ſhould be applied after the ſtalks and weeds are cleared off; ſpread two or three inches thick over the ſurface of each bed, and a double portion in the alleys; the beds being then ſlightly fork-digged to bury it; after this, dig the alleys in the uſual way, and ſpread a portion of the earth evenly over the beds. In this way, the winter rains may waſh the enriching quality of the manure into the beds and the roots, from the vegetation of the ſpring.

Gathering Produce.—As aſparagus plants ſometimes, in very rich ground, afford tolerable large buds the ſecond year, here and there, one of the largeſt that happens to appear the firſt week or fortnight may be cut, afterwards permitting the whole to run to ſtalk; but in the third year, a more general gathering may be practiſed, and continue a month or ſix weeks; and in the fourth year the general produce will riſe in its utmoſt perfection. Then, and every ſucceeding year, gather all the buds ariſing from every plant during the ſeaſon of cutting. The proper ſize of the aſparagus for uſe, is when the ſhoots are about two or three inches above the ſurface of the earth, while the heads remain compact and plump. The principal ſeaſon of cutting them, is from the latter end of April, or beginning of May, according to the forwardneſs of the ſeaſon, till the middle or latter end of June. They might, however, be obtained a month or two longer in the ſeaſon, by continuing to cut all the buds, according as they attain proper ſize; but this would be a very wrong practice, as the roots would thereby continue ſending up a freſh ſupply, till they in a manner exhauſt their vegetable food, as would be apparent by the inconſiderableneſs of the future crop, and ſhort duration of the plants. The principal gatherings ſhould therefore be terminated generally towards the latter end of June, eſpecially as by that time there will be plenty of young peas to be uſed as a ſubſtitute in its place at table.

In cutting the aſparagus for uſe, it is neceſſary to be furniſhed with a ſtrait narrow-pointed knife, the blade ſix or eight inches long, toothed on the edge like a ſaw, which is

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to be ſlipped down cloſe to each ſeparate bud, in order to cut it off ſlanting, three or four inches within the ground; being careful not to injure any of the younger buds rising in ſucceſſion, as there are generally ſeveral from the ſame root, advancing in different ſtages of growth.

Forcing Aſparagus.—As aſparagus is frequently required in winter, and early in ſpring, another method muſt be practiſed for obtaining it in theſe ſeaſons. This is by means of planting the roots in ſubſtantial hot-beds, covered with frames and glaſſes. When it is intended to have a conſtant ſucceſſion of aſparagus during the winter and ſpring, a new hot-bed muſt be made, and planted with freſh plants every three or four weeks. As theſe roots when forced in hot-beds do not continue to yield any tolerable produce longer than that period of time, when they will in a manner be quite exhauſted, and are not fit for that or any other purpoſe afterwards; therefore, for this purpoſe, a freſh quantity of plants muſt be in readineſs for every new hot-bed. Theſe are raiſed in the natural ground to a proper age: they muſt be three or four years old, the plants being raiſed from ſeed, as directed for the natural ground aſparagus, and when they are one year old, tranſplanted into beds of rich earth, as directed alſo for the natural plantations, in rows a foot aſunder; but they need not be more than nine inches diſtant in each row, forming them in beds of ſix rows in each, with only two feet alleys, juſt to go in to clean off weeds, &c. as the beds need not be landed up in winter, as in the natural aſparagus; but when the plants have had two ſummers' growth, they will, in good ground, be fit for forcing, though they are in greater perfection if permitted to ſtand three years. During the time they remain in the natural ground, none, or very few, buds ſhould be gathered, the whole being permitted to run to ſtalk each ſummer. It is alſo neceſſary, when intended to force aſparagus annually, that ſome ſeed ſhould be ſown every ſpring, and a due quantity of plants tranſplanted as before directed, ſo as to have three different pieces of ground always employed at the ſame time with plants for the above purpoſe; that is one piece with ſeedlings in the ſeed-beds, the other two with tranſplanted plants, one to be of a year's growth before the other; by which practice, after the three firſt years, an annual ſucceſſion of plants fit for forcing may be procured. But where it is inconvenient to wait the raiſing of the plants in this manner, they may be furniſhed by moſt of the kitchen gardeners in the neighbourhood of great towns, where when raiſed to proper growth for this purpoſe, they commonly ſell by meaſurement of the ground they grow upon, generally from ſix to ten ſhillings per rod, according to the age and ſize of the plants, and fulneſs of the crop.

Mr. Nicol, in his Forcing Gardener, obſerves, that plants for this uſe ſhould not be older than ſeven or eight years, nor younger than four years, and that they ſhould be covered with litter or ſtraw, in order to have acceſs to them during froſts. The neceſſary quantity of plants for hot-beds is (he ſays) conſiderable, ſince about as many as grow upon three rods of ground, are requiſite for a bed intended for a common three-light garden frame. The common allowance of the London gardeners is about one rod to a light; for the plants are to be placed as cloſe as they can poſſibly ſtand to one another, to the amount of five, ſix, or ſeven hundred, or more according to their ſize, in a three-light frame, otherwiſe a bed would not ſupply a quantity adequate to the expence and trouble neceſſary in the culture of theſe plants in hot-beds; for, from a bed of the above dimenſions, we commonly expect about three hundred large buds or ware, beſides ſprew, weekly, and in the whole, about eight or nine hundred good aſparagus, and near as many ſmall ones, in three weeks, in which period of time, the roots will have exhauſted their ſtrength, and produce very little more. Therefore, in raiſing or procuring plants for the above purpoſe, the quantity muſt be proportioned to the number of lights you intend working, and the ſucceſſion of aſparagus required. The ſeaſon for beginning the above work, is according to the time the aſparagus is required for uſe; as for inſtance, if you would have good aſparagus at Chriſtmas, it is proper to make the hot-bed in the firſt or ſecond week in November, and ſo on in proportion to any other time in winter or ſpring it is deſired to have it fit to gather. The rule is this: if a conſtant ſucceſſion is required from about Chriſtmas till the time when the natural aſparagus come in, a new hot-bed ſhould be made every three weeks or a month from the beginning of November until that of March: but ſome begin about the latter end of September, in order to obtain aſparagus about the ſecond week in November. The proper materials for this ſort of hot-bed are, according to the authors of the Dictionary of Gardening, a ſufficient quantity of horſe ſtable dung, freſh and full of heat; for one or more three light frames, two feet and an half or a yard high; alſo ſome to line the ſides of the bed, when the heat declines, a quantity of good kitchen garden earth, and one or two three light garden frames to place over the beds, and ſome large garden mats to cover occaſionally in nights and bad weather; the dung being previouſly prepared as directed under the article Hot-bed. The beſt ſituations for the hot-beds are ſome of the warmeſt and moſt ſheltered compartments of the kitchen garden, or the melon or cucumber ground if there be room; though the London gardeners, when they make a conſiderable extent of aſparagus hot-beds, often form them in or near ſome of the large quarters of the kitchen ground, where the ſoil is rich and light, for the convenience of having plenty of good proper earth at hand for earthing the beds, banking up the outſide plants, and moulding at top, &c. The expoſure ſhould be open to the full ſouthern ſun, and well defended from the northerly winds. The beds may be made either wholly on level ground, or occaſionally in a ſhallow trench, four or five feet wide and ſix or eight inches deep, or if intended to make them in any of the quarters of the kitchen ground, a trench might be formed as above, in which to make the beds for the ſake of the earth being laid ready for earthing the beds and plants, and to ſave the trouble of bringing it from a diſtance, eſpecially for beds of conſiderable length; but otherwiſe they may be made, as has been juſt ſeen, entirely on even ground in the moſt convenient ſituations. As to the general dimenſions of the beds, they muſt be in proportion to the width and length of the intended frames, or rather a little wider and longer, to allow from three or four to five or ſix inches clear on each ſide and end, whereon to bank up ſome earth againſt the outſide roots, &c. and they ſhould be about a yard high, earthed at top about ſix inches thick for the reception of the plants, before the frames are put on, keeping them within the compaſs of them upright and as cloſe as they can ſtand, as directed below. The clear ſpace of a few inches on each outſide end is, as ſuggeſted above, to receive a ſmall bank of earth againſt the outſide roots, both to defend them from the weather, and for the ſupport of the frame; the latter of which, on account of the firſt violent heat, is not put on till ſome time after planting the roots: theſe, as ſoon as planted and banked up on the outſides, are earthed over the crowns of the plants an inch deep, which ſhould be increaſed to five or ſix when the buds appear through the firſt earthing, at which time as the heat of the bed will be moderate, the frame and glaſſes ſhould be placed on. See *General Culture*.

The author of the Scotch Forcing Gardener, however, ſuggeſts, that the forcing of aſparagus in flued pits, is by far the moſt eligible method, as ſuch pits may anſwer ſeveral other purpoſes; beſides the graſs is of a much better colour and higher flavour than that produced on a dung hot-bed. Such a pit as is repreſented at *fig.* 1. in *Plate* I. (GARDENING), will completely anſwer the intentions of the cultivator. As it frequently occurs in large families, where much company is kept, that this eſculent is wanted in a hurry, the conveniency of a pit will be found to be a great relief in this reſpect; as it is much eaſier (by aid of flues) to forward or protract the growth of the plants here, than in a common hot-bed; on the one hand, if the plants are advancing too rapidly, you are, it is obſerved, under the neceſſity of cooling the bed in a certain degree; and on the other, if they are not advancing ſo faſt as you could wiſh, you are under the neceſſity of applying linings, which is attended with trouble and loſs of time. The author ſays, that a pit twenty-five or thirty feet long, and ſix wide, and which one fire can perfectly command, is ſufficient to force aſparagus to ſerve a large family from November to May, in a conſtant and regular ſucceſſion; after which it may be advantageouſly employed in raiſing a late crop of melons or cucumbers, or in ſtriking young pine-apple plants, &c. The trifling conſumption of fuel, even where it is moſt valuable, ought not, he thinks, to deter any who require aſparagus, French beans, ſallads, &c. at an early ſeaſon, from building ſo uſeful a compartment in the forcing garden. If, continues he, a ſcrupulous attention is paid to the deſign in general, particularly to the conſtruction of the fire-places and flues, it will give more ſatisfaction to the gardener than any other hot-bed whatever, and in the end be a ſaving to the proprietor. In the conſtruction of this kind of pit, as is ſhewn by the plate, the firſt courſe of the flue runs along the front, the bottom of which is about the ground level, and as the outer wall of the flue is only a brick in bed, it is obvious that early cellery, carrots, lettuces, radiſhes, cauliflowers, &c. &c. ſown on a well-prepared border about two feet broad, immediately adjoining the breaſt of the pit, would reap infinite advantage from the flue. At the time of any operation within the pit, a board or plank, ſupported by bricks, &c. would defend the border from injury. The pit is about four feet in the back and three in the front, deeper than the bottom of the flues; which great depth is made on the preſumption that it may be frequently uſed for pine-apple plants; but where it is uſed for aſparagus alone, half the depth would be ſufficient. It is immaterial whether the pit is entirely filled with tan or not; the author frequently uſed three-fourths of ſtable dung, prepared in the ſame manner as for a hot-bed, with equal ſucceſs; but has always found that dung is worſe to manage than the tan, as it is more liable to heat violently; beſides, from the nature of the building, there is not a poſſibility of drawing off the rank heat, as in a hot-bed; for which reaſon, if dung is to be uſed, it ought to be ſweated in a more careful manner. It is added, that a very ſmall degree of bottom heat is ſufficient for the purpoſe; and that if the pit has been previouſly employed with young pines, it will require no preparation whatever for aſparagus roots, excepting to level and put a few inches of very rotten tan upon the ſurface. But if melons were the laſt thing the pit produced, it will be neceſſary to ſtir up the bed about two feet deep, and add a little new tan or dung; then level the ſurface with old rotten tan, as before. In either caſe the ſurface ſhould be levelled in a ſloping manner to the ſun, about ſix inches above the bottom of the flues, allowing ſo much for the tan ſettling; the roots are then to be placed in and covered, as directed for the common hot-bed. If the pits are from twenty to thirty feet long, one half will be ſufficient for a time; and, to keep a conſtant ſucceſſion, the other half may be filled in about fifteen or twenty days, which will begin to come up before the firſt is all uſed; after which, once a month or ſix weeks, according to the ſize of the pit and conſumption of the family, may be ſufficient, till it be fit for cutting in the open ground. It is recommended that no fires be made if the thermometer ſtands as high as forty-eight to fifty degrees; but, if neceſſary, covered with mats at night; alſo to admit plenty of air through the day, if the weather will permit. When it is neceſſary to make fires, it ſhould be done with caution; a ſmall one made in the evening will ſerve the whole night, and it will be unneceſſary to make any in the morning, unleſs it be a great ſtorm. He has, however, ſometimes found it convenient to make a ſmall fire in the morning, that he might have it in his power to admit air, and at the ſame time keep up a proper degree of heat. It is added, that warmth will here be required in a more plentiful degree than recommended for hot-beds; but due obſervation of the ſtate of the tan and the health of the buds ſhould always determine the warmth that may be neceſſary. In filling the firſt end of the pit a ſecond time with freſh roots, it will be unneceſſary to ſtir up the tan, &c. and perhaps it may be ſo even at the third filling; but by keeping a thermometer plunged in the bed, or watch-ſticks, you will be beſt enabled to judge: at all events, there will be no neceſſity for adding freſh materials, as he has always found that trenching the bed to the depth of two feet or ſo has anſwered the purpoſe for the whole ſeaſon. If dung or oak leaves are uſed, the bed ſhould be turfed; and at leaſt a foot of very rotten tan or light mould laid on before the roots are placed in. This precaution is unneceſſary, he ſays, when tan alone is uſed; in which caſe, however, not more than an eighth part of new tan ought to be trenched in.

Method of making the Beds, planting the Roots, and Culture. When the firſt method is followed in the ſituation and expoſure above deſcribed, it is adviſed by the authors of the Univerſal Gardener, to mark out the place of the hot-bed, of the proper width and length proportionably to that of the intended frame or frames, whether one, two, or more; and if a trench is intended, to dig out the cavity, only one moderate ſpit deep, and the width as above; then wheel in the dung, and with it form the bed of the proper width and length, either on level ground or in a trench, as juſt directed, raiſing it regularly of the ſame dimenſions, about a yard high, eſpecially in winter; but for the final ſpring beds, two feet and a half depth of dung may be ſufficient, working the whole upright and firm in the uſual manner.

Mr. Nicol, however, recommends that a ſufficient quantity of ſtable dung be ſhaken up to heat and ſweeten, and that after it has lain ſix or eight days, it be turned over and ſhaken well up again, in which ſtate it may lie four or five days more; by which time it will be ready for building the bed; this muſt be done in the common way, to the height of four feet in the back and three in front, and about a foot larger than the frame all round; it is then to be well levelled, the whole covered with ſquares of turf, cut ſo as to join again exactly, which are to be laid the green ſide down, and ſmoothed well with the back of the ſpade; then place the frame thereon, which ſhould be thirty inches deep in the back, and twenty in front, in which dry well-reduced old tan ſhould be laid to the thickneſs of ſix or eight inches; which alſo level, and gently ſmooth with the ſpade. Where old tan cannot be procured, he adviſes a light ſandy earth, with a fourth part of good vegetable mould. The bed will begin to heat in twenty-four hours, and muſt then have air admitted to paſs off any ſteam that may ariſe, which will

will however in general be inconſiderable; the only reaſon of turfing the ſurface is to prevent the ſteam, which, if carefully done, will have the deſired effect. Yet, it ſometimes happens, that there will be a little, eſpecially if the dung did not undergo a proper fermentation; but until the graſs begin to appear, it is of no great conſequence if there is a little ſteam in the frame, nor provided there is not much ſteam, whether it has any air admitted or not. But, from the moment the buds begin to peep through, the greateſt attention muſt be paid to prevent ſteam, which is ſure to give the graſs a diſagreeable flavour and bad colour. In order to prevent the graſs from drawing up weak, a large portion of air muſt be admitted every day, if the weather be not ſtormy; and a little air ſhould be let in at night: while the bed has a rank heat in it, Fahrenheit's thermometer ſhould not ſtand above 50° at any time, unleſs in ſunſhine, and then not above 60°. By the above rule, it will eaſily be ſeen, whether matting at night is neceſſary, and to what extent, but it muſt be attended to, till it entirely diſappears.

When the beds are formed in the firſt method, they are adviſed in the Dictionary of Gardening to be directly earthed at top for the reception of the plants, with finely broken earth ſix inches thick, to the full width and length of the beds, the ſurface being raked level and ſmooth. Then immediately proceed to place the roots, for no time muſt be loſt in aſparagus hot-beds, in waiting for the temperature of the heat; previouſly to planting the roots, mark out on the ſurface of the beds the exact width and length of the frames, ſo as to have a clear ſpace on each outſide of a few inches width, to receive the banking of earth againſt the outſide roots, &c. as before mentioned; then begin at one end, and raiſe a ſmall ridge of earth croſs-ways upon the ſurface, five or ſix inches high, againſt which lay the firſt row of roots, then having the roots which are not to be trimmed, place the firſt courſe cloſe againſt the above ridge, and entirely upon the ſurface of the bed, with the crowns upright, and as cloſe to one another as you can poſſibly place them, either wholly upon the top of the earth, or only draw a little to the lower ends of the roots, or inſert the ends a little into the earth, though they are often planted without either drawing any earth about the fibres, or inſerting them therein; and when one courſe or row is thus placed, lay another againſt theſe in the ſame manner; and ſo proceed, laying them one againſt another, every way as you can poſſibly crowd them, from one end of the bed to another, being careful to place all the crowns of ſuch an equal height, that the whole may form as it where a level ſurface, keeping the whole rather within the meaſure of the frame, for they will unavoidably ſwell out a little on each ſide. If more frames than one are intended for the ſame bed, then, at the termination of the length of each frame, raiſe a croſs ridge of earth as at firſt, about ſix inches in height; ſo proceed laying the roots as before; and when all the roots are thus placed the whole length of the bed, directly bank up ſome earth on each ſide and end as above hinted, againſt the outſide roots, raiſing it an inch higher than the crowns; then cover the crowns all over evenly with finely broken light earth an inch deep, which finiſhes the work until the buds appear; for the roots muſt not till then be earthed deeper, nor the frame and glaſſes placed upon the beds till the violent heat has ſubſided, becauſe they would confine the burning ſteam, and occaſion the bed to heat too vehemently to the deſtruction of the plants.

In forming the above beds, they ſometimes, where neceſſary to the ſaving of dung, are only made the exact width of the frame, ſo as to ſecure the outſide roots; but for the ſupport of the frame, raiſe a bank of earth quite from the ground, ſix inches broad at bottom, drawing it in gradually to the top, banking it cloſe againſt the ſides of the beds; and that of the outſide roots, raiſing it an inch higher than the crowns at bottom of them, ſo earthing them all over the top an inch deep as before obſerved; which method of banking quite from the ground may alſo prove effectual in preſerving the temperature of the bed, by defending the dung from driving rains, ſnow, and piercing winds. As ſoon as the beds are made and planted in either of the above methods, in order to judge of the temperature of the heat, it is proper to thruſt ſome ſharp-pointed ſticks, too feet long, down betwixt the roots into the dung of the bed, and by drawing theſe up daily, and feeling the lower part, you will be able to judge of the degree of heat, whether too violent or weak, which is to be regulated accordingly.

The beds being made and planted, the roots will ſoon after ſend forth freſh fibres into the earth, and even in time into the very dung, and the buds of the aſparagus begin to appear in a fortnight or three weeks; but till that period, as the heat will probably be very ſtrong, the bed is to remain unframed and uncovered, except being occaſionally defended at top; or at leaſt, if the frames are placed on the beds, the glaſſes not fully put on, only uſing them occaſionally if very inclement weather ſhould happen at that time, juſt to protect the bed and crowns of the plants from exceſſive wet or rigorous froſt; or the bed may be occaſionally defended with long litter or garden mats from violent rains, ſnow, and ſevere froſty weather; obſerving, however, to uſe only occaſional covering juſt to preſerve the heat of the bed and the crowns of the plants till the buds begin to appear, and the heat becomes quite moderate, as at this period too much covering would increaſe the heat to a violent degree, and ſcorch or ſteam-ſcald the roots, which, in ſtrong beds, muſt be particularly guarded againſt. The temperature of heat muſt therefore be every day examined by the trying-ſtick; and if it is found ſo vehement that you judge the roots are in danger of ſcorching, the remedy is to bore with a large rake-handle, &c. the ſides of the bed quite through in ſeveral places, both in the dung, and betwixt the top of the dung and the earth, that the rank ſteam and burning quality may evaporate at the holes; at the ſame time the free air may have acceſs, and in two or three days the bed will be reduced to a moderate temperature. On the other hand, it ſhould likewiſe be obſerved, that if the bed in a week or two after being made does not heat kindly, or ſeems rather to decline, it may be proper to lay dry or warm ſtable-litter round the ſides and over the top, which will forward and revive the heat more effectually. When the aſparagus begin to appear, they are then to have their final earthing of four or five inches depth of additional mould all over the crowns of the roots, and the frame and glaſſes put on. At this period prepare ſome light, rich, finely-broken earth, ſufficient to mould them the above depth; at the ſame time in order to ſecure the outſides of the ſaid final earthing, it is proper to form a ſort of wreathing or empalement round the top of the edges of the bed four or five inches high, which is done either with a thick ſtraw-band, or by raiſing the outſide banking an additional four or five inches; either of which, as juſt obſerved, is neceſſary not only to ſecure the ſides and ends of the ſaid final top covering of earth, but alſo to ſupport the frames when finally placed on the beds.

The beds being now finally earthed and framed, and the heat become moderate, the glaſſes or lights are to be kept conſtantly upon the frames, which in the night ſhould be covered

were with mats, or dry long litter, but muſt be uncovered every day, except in uncommonly ſevere weather; for it is of importance, when the plants are beginning to advance, to admit as much light and air as poſſible, to promote a green colour in the tops of the buds; and as to the admiſſion of freſh air, if the heat is moderate, the glaſſes need only be ſhaved a little open in fine days, eſpecially if you require the plants to be drawn up quick; but by admitting a large portion of air, the buds riſe ſlower, and will acquire a larger ſize and greener colour; on which conſideration you may ſometimes, in the ſpring-months, take the glaſſes entirely off a few hours in fine mild dry days, particularly when the heat of the bed is conſiderable at the firſt appearance of the buds after the bed is framed.

This is alſo the proper period to examine the temperature of heat in the beds. When they have been made about three weeks, if but ſmall beds, the heat will probably begin to decline conſiderably, which ſhould be renewed by a lining of hot dung applied to the ſides; this is not to be omitted, particularly when the buds begin to appear through the laſt covering of earth, if there ſeem occaſion for it; though beds of more conſiderable length ſeldom require lining till after the firſt breaking, or gathering of the buds, then adding good linings, they will maintain the beds in the due temperature from fifteen to eighteen days longer, which is generally as long as the roots continue yielding any tolerable produce. Mr. Nicol has however remarked, that he has ſeldom found it neceſſary to line aſparagus beds; yet that ſometimes in a ſtorm it may be requiſite. This, when neceſſary, ſhould therefore be done with caution; and never more than one ſide of the beds at a time. Let the dung for this purpoſe, ſays he, be prepared in the ſame manner as for a bed at firſt; then cut, with a ſharp ſpade or dung knife, the part you intend to line, perpendicularly by the ſide of the frame; reject the tan and turf, and uſe the reſt along with the new dung, unleſs very much waſted; from twenty-four to thirty inches will be a ſufficient breadth for the lining; raiſing it to about ſix inches above the bottom of the frame, and obſerving to tread it well towards the old dung, giving it a conſiderable ſlope on the outſide, which naturally makes it lean that way. If the lining ſhould raiſe too great a heat in the bed, or cauſe a ſteam, draw it off as directed above; and when it has done ſubſiding, let it be turfed in the ſame way as the bed was. In reſpect to water, he ſays, he has frequently produced a whole crop of aſparagus without either earth or water. This, however, is not always the caſe, nor is it deſirable; as if a little water is not required the dung muſt be in too moiſt a ſtate, and conſequently too much noxious vapour muſt have attended the whole proceſs. It will be adviſable however, he ſays, from the little ſun there is, to be ſparing in the uſe of that element at this ſeaſon of the year.

The aſparagus is moſtly in a ſituation to be cut about five or ſix weeks after the planting of the beds, or when the plants are advanced five or ſix inches above the ſurface of the earth with which the beds are covered. In gathering the ſhoots in hot-beds, it is the beſt method to break them off as cloſe to the bottom as poſſible, by thruſting the fingers and thumbs down into the beds.

Asparagus *Draco*. See Dracæna.

Asparagus *Scandens*. See Medeola.

Asparagus was alſo uſed, by the ancient Greeks, to expreſs not only the young ſhoots of the plant of that name, but any other young ſprouts of an eatable plant. The ſprouts of the ſeveral kinds of cabbage were particularly expreſſed by this word, or ſometimes by the compound term *crambe-aſparagus*.

ASPARN, in *Geography*, a town of Germany, in the arch-duchy of Auſtria, ten miles ſouth-eaſt of Laab.

ASPASIA, in *Biography*, a native of Miletus, and daughter of one Axiochus, was one of the moſt celebrated ladies of antiquity, for her beauty, talents, and diſſolute life. Heraclides ſays, that ſhe kept an houſe of ill fame at Megara, and after her removal to Athens, ſhe purſued the profeſſion of a courteſan, and of a procureſs. She was as much diſtinguiſhed, however, by her mental accompliſhments, as by the attractions of her perſon, and the infamy of her conduct. In eloquence ſhe ſurpaſſed her contemporaries; and her converſation was ſo pleaſing and inſtructive, that perſons of the firſt diſtinction, male and female, reſorted to her houſe, as to a ſchool of rhetoric and ſcience; and ſhe numbered even Socrates among her hearers and admirers. Such were her attainments in philoſophy and politics, as well as the graces of her perſon, that ſhe captivated Pericles, the great Athenian ſtateſman; ſo that after an illegitimate connection with her, he divorced his own wife, and married Aſpaſia. By her extenſive knowledge, irreſiſtible elocution, and intriguing genius, ſhe for ſome time directed and influenced the adminiſtration of Athens. Accordingly, to her have been imputed the war againſt Samos, and alſo that with Megara. At length Aſpaſia was criminally proſecuted by Hermippus the comedian, on the two charges of impiety, and of enticing women to her houſe for the gratification of Pericles; and it required all the tears and entreaties of Pericles to ſave her. After his death, ſhe formed a connection with a perſon of low condition; and by her intereſt and influence advanced him to the firſt offices of the ſtate. Plut. in vit. Pericl. Athen. lib. xiii. p. 560. Cicer. in Brut. Bayle, art. Pericles.

Aspasia was alſo the name given by Cyrus to a young woman of exquiſite beauty, whoſe original name was *Milto*, and who was the daughter of Hermotimus of Phocæa, a perſon of mean circumſtances. Having been taken captive by the commander of Cyrus, brother of Artaxerxes Mnemon, he ſent her to his maſter, whom ſhe ſo much captivated by her modeſty and reſerve, as well as by her perſonal charms, that he treated her more like a wife than a concubine. Cyrus made her the partner of his counſels, and the companion of his expeditions; and ſuch was her moderation, that ſhe uſed her influence merely in making the fortune of her father, without aiming at any wealth and ſplendour on her own account. Her reſpectful attention to Paryſatis ſecured her favour; and her magnificence was only diſplayed in her offerings to Venus, whom ſhe conſidered as the patroneſs of her fortunes. When Cyrus loſt his life in an engagement with his brother, ſhe was equally favoured by him, into whoſe hands ſhe fell, as by her former maſter. Plutarch and Juſtin relate, that when Darius, ſon of Artaxerxes, was declared his ſucceſſor, and according to the cuſtomary privilege allowed him, aſked of his father this Aſpaſia; the fair female being permitted to make her election, preferred the ſon. Upon which Artaxerxes took her out of his ſon's poſſeſſion, and made her prieſteſs of Diana, thus obliging her to perpetual continence; but the artifice occaſioned the rebellion of Darius. The ſtory, however, is attended with ſome circumſtances which weaken its credibility. Bayle, art. Cyrus.

Aspasia. Ætius has preſerved ſome fragments of the works of this female phyſician, and commends ſome of her compoſitions. She pretended to be acquainted with the uſe of certain drugs that were efficacious in procuring abortion, and even in preventing women from conceiving. Theſe, however, were only to be adminiſtered, ſhe ſaid, to women who were incapable (from diſtortion, or ſome natural defect,

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we ſuppoſe) of bearing living children, or of undergoing the pains of labour, without manifeſt danger of their lives. There have never been wanting perſons profeſſing to be able to procure abortion, with perfect ſafety to the women; but either theſe have been the vain boaſts of impudent pretenders, or the art has been long loſt, no drug or compoſition now known poſſeſſing ſuch powers. See the article ABORTION in this work. It is not known who this Aſpaſia was, or in what age ſhe lived. Le Clerc Hiſt. de Med.

ASPASIA, in *Entomology*, a ſpecies of PAPILIO, in the family *Heliconius*. It inhabits Tranquebar: the wings are black, with tranſparent ſtreaks and ſpots; and the poſterior ones yellow at the baſe. Fabricius, &c.

ASPASIA, among *Ancient Phyſicians*, a conſtrictive medicine for the *pudenda muliebra*. It conſiſted only of wool, moiſtened with an infuſion of unripe galls. Caſtell. Lex. Med.

ASPASIÆ, in *Ancient Geography*, a people of Aſia, placed by Polybius between the Oxus and the Tanais; probably the ſame with the *Aſpoſiacæ* of Strabo, and the *Aſpaſi* of Ptolemy.

ASPASTICUM, in *Eccleſiaſtical Writers*, a place or apartment adjoining to the ancient churches, wherein the biſhop and preſbyters ſat, to receive the ſalutations of the perſons who came to viſit them, deſire their bleſſing, or conſult them on buſineſs.

This is alſo called *aſpaticum*, *diaconicum*, *receptorium*, *metatorium*, or *oraſtorium*, and *ſalutatorium*; in Engliſh, *greeting-houſe*.

ASPATHIS, in *Ancient Geography*, a town of India, on this ſide of the Ganges. Ptolemy.

ASPE, in *Geography*, a town of Spain, in Valencia, ſituate on the Elda, four leagues weſt of Alicant.

ASPE, a valley of Berne, in Switzerland, between the Pyreneés and the town of Oleron. The river of Oleron paſſes through this valley, and is called the *Gave of Aſpe*.

ASPE *Viejo*, a town of Spain, in Valencia, three leagues and a half weſt of Alicant.

ASPECT, in *Aſtronomy*, is uſed for the ſituation of the ſtars, or planets, in reſpect of each other; or, in *Aſtrology*, it denotes a certain configuration, and mutual relation between the planets, ariſing from their ſituations in the zodiac, whereby their powers are ſuppoſed to be mutually either increaſed or diminiſhed, as they happen to agree or diſagree in their active or paſſive qualities. Though ſuch configurations may be varied and combined a thouſand ways, yet only a few of them are conſidered. Hence Wolfius more accurately defines aſpect to be the meeting of luminous rays emitted from two planets to the earth, either ſituate in the ſame right line, or including an angle which is one or more aliquot parts of four right angles.

The doctrine of aſpects was introduced by the aſtrologers as the foundation of their predictions. Hence, Kepler defines aſpect an angle formed by the rays of two planets meeting on the earth, able to excite ſome natural power or influence.

The ancients reckoned five aſpects, viz. *conjunction*, when the planets are in the ſame ſign and degree, or have the ſame longitude, denoted by the character ☌; *oppoſition*, where they are in oppoſite points of the circle, or at the diſtance from one another of 180 degrees, expreſſed by ☍; *trine*, when they are diſtant one-third of the circle, or 120 degrees, denoted by △; *quadrate*, or *quartile*, when they are diſtant ¼th of the circle, or 90 degrees, marked by □; and *ſextile*, when their diſtance is the ſixth part of a circle, or 60 degrees, denoted by *.

Conjunction, and oppoſition, are the two extremes of the aſpects; the firſt being the beginning, and the ſecond the higheſt or ultimate term.

The aſpects are divided, with regard to their ſuppoſed influences, into *benign*, *malign*, and *indifferent*.

The quadrate aſpect and oppoſition are accounted malign, or unfriendly; trine and ſextile, benign or friendly; and conjunction, an indifferent aſpect.

To the five ancient aſpects, the modern writers have added ſeveral more; as *novile*, containing the ninth part of a circle; *tridecile*, three-tenths; *quintile*, a fifth part of the circle; and *biquintile*, four-tenths, or two-fifths.—Kepler adds others, as he tells us, from meteorological obſervations; as the *ſeſqui-ſextile*, containing the twelfth part of the circle; and *quincunx*, containing five-twelfths.—Laſtly, to the aſtrological phyſicians we owe *octile*, containing one-eighth; and *trioctile*, containing three-eighths.

The angle intercepted between two planets in the aſpect of conjunction is 0; in the ſemi-ſextile aſpect, 30°; in decile, 36°; in octile, 45°; in ſextile, 60°; in quintile, 72°; in quartile, 90°; in tridecile, 108°; in trine, 120°; in trioctile, 135°; in biquintile, 144°; in quincunx, 150°; in oppoſition, 180°.

Theſe angles, or intervals, are reckoned on the ſecondary circles, or according to the longitudes of the planets; ſo that the aſpects are the ſame, whether a planet be in the ecliptic, or out of it.

The aſpects are alſo divided into *partile* and *platic*.

ASPECTS, *Partile*, are when the planets are juſt ſo many degrees diſtant, as is above expreſſed. Theſe alone are the proper aſpects.

ASPECTS, *Platic*, are when the planets do not regard each other from theſe very degrees; but the one exceeds as much as the other falls ſhort.—So that the one does not caſt its rays immediately on the body of the other, but only on its orb or ſphere of light.

ASPECT, *Double*, is uſed in painting, where a ſingle figure is ſo contrived, as to repreſent two or more different objects, either by changing the poſition of the eye, or by means of angular glaſſes.—Inſtances hereof, ſee under the articles ANAMORPHOSIS, CATOPTRIC, CISTULA, and MIRROR.

ASPECT, in *Gardening*, is uſed for what we otherwiſe call *expoſure*.

ASPECT, in *Military Language*, is applied to a country and to an army thus; a country is ſaid to have a *military aſpect*, when its general ſituation preſents appropriate obſtacles or facilities for an army's acting on the offenſive or defenſive. An army is ſaid to hold a *menacing aſpect*, when by advanced movements or poſitions it gives the oppoſing army reaſon for apprehending offenſive operations. An army is ſaid to have an *inviting aſpect*, when it appears ſtronger than it really is; and this aſpect is aſſumed for the purpoſe of deceiving an enemy, and ſerves as a kind of feint in war.

ASPEN-TREE, in *Planting*, a ſpecies of the poplar, having ſmall roundiſh leaves with an angular indenture, and ſmooth ſurfaces on both ſides. According to Marſhall the leaves of this tree ſtand upon long, flat, ſlender footſtalks, which render them liable to the ſhaken by the leaſt wind; whence it has been called the trembling poplar or aſpen-tree. This tree will grow on moſt kinds of ſoil, but may be cultivated to the greateſt advantage on ſuch as are inclined to be moiſt, without having much ſtagnant ſurface water. In ſuch ſituations, they will ſometimes grow to a conſiderable ſize. They may be raiſed in the ſame way and with equal facility as the common poplar. The wood of the aſpen-tree is light, porous, and open; conſequently of little value as

timber. From its lightneſs, it might however probably be uſed to advantage for the purpoſe of common field-gates, hurdles, and other ſimilar uſes. In Mr. Marſhall's treatiſe on Planting, it is repreſented as wholly unfit for being ſet in ſuch grounds as are intended to be kept for pleaſure, on account of the great number of ſuckers that are annually thrown up by it. See POPULUS.

ASPENDII, in *Ancient Geography*, a people of Pamphylia, who inhabited the town of Aſpendus. They fortified their town in order to diſpute the payment of the tribute which they had promiſed to Alexander; but he marched againſt them, and compelled them to ſubmit; and afterwards doubled the tribute which he had at firſt demanded.

ASPENDUS, a town of Pamphylia, ſituate upon the Eurymedon, at the diſtance of 60 ſtadia from the ſea, according to Strabo, who ſays that it was well-peopled, and that it had been founded by a colony from Argos. In M. D'Anville's map, it is placed between Perga and Sida.

ASPER, or SPIRITUS ASPER, in *Grammar*, denotes a character, or accent, in form of a *c*; placed over certain letters, in the Greek tongue, to ſhew they are to be ſtrongly aſpirated, and that the breath is here to ſupply the place of an *h*: as ὕδωρ, *water*. The ſpiritus aſper, or that mark which correſponds to the letter H, was undoubtedly in uſe among the ancient Greeks. Their H was at firſt a ſpiritus aſper, and was taken from the Hebrew ה, and was retained in the ſame figure H in Latin. The Greek H was uſed in ancient monuments, inſtead of a ſpiritus aſper, and the ſame letter ſtands for 100, becauſe they wrote the word ἑκατὸν, thus, HEKATON. Nevertheleſs, the ancient Grecians did not judge it neceſſary always to expreſs this aſpiration upon their monuments. Thus upon a medal of the Tyrians we find IEPAC. Hence it is very doubtful, whether this aſpiration was in common uſe in the time of the apoſtles; and it becomes much more doubtful, when we conſider, that the moſt ancient verſions ſo frequently confound ἁγὸς with ἁγὸς, that both words ſeem to have been written without an aſpiration. Marſh's Michaelis, vol. ii. p. 522. See ASPIRATE.

ASPER, or ASPRE, in *Commerce*, ſignifies a ſmall Turkiſh ſilver coin, wherein moſt of the grand ſignior's revenues are paid.

The aſper may be eſtimated at 6 deniers (one farthing). —The only impreſſion it bears is that of the prince's name under whom it was ſtruck.—The pay of the janizaries is only diſtributed every three months, and has a progreſſive increaſe from 3 aſpers to 99; and 99 aſpers are equivalent to 49½ ſous, or about two-ſhillings and three farthings. But from an eſtimate made of the reſpective currency, the courſe of exchange reduces it to 39 ſous 6 deniers (1s. 7d. ¾); though this calculation is much above the intrinſic value of this coin.

ASPER, in *Conchology*, a ſpecies of MUREX deſcribed by Martin, (Conch. 4. t. 150.) The ſhell is plaited longitudinally, and ribbed tranſverſely; ſpire rather prominent; aperture ovate; and the lip crenulated. This kind is reddiſh; whorls about five or ſix, and the ribs acute. Gmelin. In the Gmelinian *Syſtema Naturæ*, there is alſo another ſpecies of MUREX under the ſame name, which is a native of Guinea; the whorls of the ſpire are ſulcated tranſverſely, ſtriated, and muricated; and the tail (or beak) aſcending. The colour is milky white, with rows of brown dots; ſolid, with from twelve to fourteen furrows; aperture rather oval; and a ſingle plait on the pillar lip. Gmelin.

The firſt ſpecies belongs to the ſection *Caudigeri*, cauda ſubulata clauſa recta elongata, teſta inermi (or murices, with ſubulate, ſtraight, elongated, and cloſed beak, and ſhell unarmed); and the ſecond to turriti ſubulati, cauda breviſſima (murices tapering, ſubulate, and furniſhed with a very ſhort beak).

ASPER, a ſpecies of TROCHUS, figured by Chemnitz, the native place of which is unknown. The ſhell is obtuſe; whorls round, with many rows of tubercles, ſulcated and ſtriated tranſverſely; pillar-lip dentated; aperture lunated. This kind is of the middle ſize, cinereous, or teſtaceous; lip plaited and rugoſe within.

ASPER, in *Entomology*, a ſpecies of CERAMBYX (*Stenocorus* Fab.), a native of Italy, and figured by Sulzer. It is black, rough, thorax armed with two ſpines; wing-caſes tuberculated in the middle. Sulzer, &c.

ASPER, a ſpecies of SCARABÆUS found in Europe; the head and thorax are grooved tranſverſely; wing-caſes ſtriated. Fabricius, &c.

ASPER, a ſpecies of CANCER found on the Britiſh coaſts. The thorax is heart-ſhaped, ſpinous; two ſpines on the proboſcis; legs and arms ſpinous.

ASPER, in *Ichthyology*, a ſpecies of PERCA. It is faſciated with yelloviſh, and has thirteen rays in the ſecond dorſal fin. Jonſton, Ray, and others, call this aſper piſciculus; and aſper piſciculus, gobionis ſimilis.

ASPERA ARTERIA, in *Anatomy*. See ARTERIA *Aſpera*.

ASPERA, in *Conchology*, a ſpecies of TELLINA, about an inch and three quarters in length, and three inches in breadth. This ſhell is pointed at one end, yelloviſh within, and externally radiated, and rough, with tranſverſe ſtriæ. Gmelin. Country unknown.

ASPERANA, in *Entomology*, a ſpecies of PHALÆNA (*Tortrix*), found in the vicinity of Hamburgh, and other parts of Europe. The anterior wings are white at the baſe, brown at the tip, and rough. This inſect belongs to the *Tortrix* ſection in the Linnæan and Gmelinian arrangements; in that of Fabricius to the ſection *Pyralis*.

ASPERELLA, an European ſpecies of PHALÆNA, of the *Tinea* tribe. The anterior wings are whitiſh, emarginate at the tip, with two common black ſpots. This is phalæna tinea alis albidis; macula communi fuſca, apicibus nigro punctatus retuſis of Linn. Fn. Sv.

ASPEREN, in *Geography*, a ſmall town of Holland in the country of Gorkum or Arkel, ſeated on the Linge, two leagues north-eaſt from Gorkum, and five ſouth from Utrecht.

ASPERGELLOUS, in *Botany*, the name given by Micheli to that genus of moſſes called by Dillenius and others, *byſſus*.

ASPERGILLUM, in *Antiquity*, a long bruſh made of horſe-hair, fixed to a handle, wherewith the luſtral water was ſprinkled on the people, in luſtrations and purifications. Horſley Brit. Rom. lib. ii. cap. 1.

This is alſo denominated *aſpergile*, and *aſperſorium*. The ancients, inſtead of a bruſh, made uſe of branches of laurel and olive. It is alſo uſed in *Eccleſiaſtical Writers*, to denote the inſtrument in Romiſh churches, wherewith holy water is ſprinkled.

ASPERIFOLIOUS, in *Botany*, one of the diviſions or claſſes of plants in the Fragmenta Methodi Naturalis of Linnæus; ſo denominated, becauſe they are uſually rough-leaved. According to Mr. Ray, theſe plants make a diſtinct genus, the characters of which are, that the leaves ſtand alternately, or without any certain order, on the ſtalks: the flowers are monopetalous, but they have the margin cut into five diviſions, ſometimes deep, ſometimes ſhallow; and the upper ſpike or top of the plant is often curved back, ſomething like a ſcorpion's tail.

In

In the place of each flower, there uſually ſucceed four ſeeds; Mr. Ray ſuppoſes the cerinthe the only plant of this genus that hath leſs than four ſeeds at the baſe of each flower: this indeed hath but two.

To the claſs of herbæ aſperifoliæ, referred in the Linnæan ſyſtem to the monopetalous tetraſpermous diſtinction, under the claſs of pentandria and order of monogynia, belong the pulmonaria, cynogloſſum, borago, anchuſa, echium, heliotropium, lithoſpermum, cerinthe, heliotropium, myoſotus, ſymphytum, onoſma, aſperugo, lycopſis, porana, tourneforția, and meſſerchmidia.

They all poſſeſs the ſame general virtues, and are accounted glutinous and vulnerary.

ASPERITY, implies the inequality or roughneſs of the ſurface of any body; by which ſome parts of it are ſo much more prominent than the reſt, as to hinder the hand, &c. from paſſing over it with eaſe and freedom.

Aſperity, or roughneſs, ſtands oppoſed to ſmoothneſs, evenneſs, politure, &c.—From the aſperity of the ſurfaces of contiguous bodies ariſes friction.

According to the relations of Vermauſen, the blind man ſo famous for diſtinguiſhing colours by the touch, it ſhould appear, that every colour has its particular degree and kind of aſperity. He makes black the rougheſt, as it is the darkeſt of colours: but the others are not ſmoother in proportion as they are lighter; i. e. the rougheſt do not always reflect the leaſt light: for, according to him, yellow is two degrees rougher than blue, and as much ſmoother than green. See Colours.

ASPERNATA, in *Entomology*, a ſpecies of Phalæna, of the *geometra* family, deſcribed by Linnæus. The wings are whitiſh; anterior margin ſubferruginous. Inhabits Europe. Muſ. Leſk. Gmel. &c.

ASPEROSA, in *Geography*, a town of European Turkey, which is a biſhop's ſee, ſeated on the north-eaſt of the Archipelago, and not far from the iſland of Taſſo, oppoſite to the northern point of which is a cape of this name. N. lat. 40° 58'. E. long. 24° 20'.

ASPERRIMUS, in *Conchology*, a ſpecies of Murex. The ſhell is brown, varied with yellow and white, and ribbed; whorls oblique, with a tuberculated margin; a brown band in the middle, and another of white; tail ſhort, dilated, and aſcending; length about two inches. Gmelin, &c.

ASPERSA, is a ſpecies of Helix that inhabits Italy. The ſhell is ſubimperforate, rather globoſe, pale yellow, with four rufous bands interrupted with white ſpots; lip white. Müll. Gmel. This kind is from an inch to an inch and a half in diameter; ſubrugoſe, with minute impreſſed dots; rarely white; whorls four, and the aperture elongated. The ſynonyms, quoted by Gmelin, are very doubtful, if not incorrect.

Aspersa, in *Natural Hiſtory*, a ſpecies of Ascidia, deſcribed by Müller, Zool. Dan. as a native of the Norway ſea. This is rather compreſſed, and ſomewhat rough, white, bag ſpotted with red. Adheres to ſea-weeds; is heart-ſhaped; ſkin pellucid, and ſmooth within; bag yelloviſh.

ASPERSED, in *Heraldry*, a term ſometimes uſed inſtead of powdered or ſtrewed.

ASPERSION, formed of the Latin *aſpergere*, *to ſprinkle*; of *ad*, *to*, and *ſpargo*, *I ſcatter*, the act of ſprinkling with water, or ſome other fluid.

Some contend for baptiſm by *aſperſion*, others by *immerſion*.

ASPERSKIRCH, in *Geography*, a town of Germany, in the archduchy of Auſtria, five miles to the ſouth-eaſt of Peyrbach.

ASPERSTORFF, a town of Germany, in the arch-duchy of Auſtria, two miles north-eaſt of Sonneberg.

ASPERUGO, in *Botany* (ab aſperitate), a rough-leaved plant. Lin. g. 189. Schreb. 249. Juſſ. 131. Claſs, *pentandria monogynia*. Nat. Ord. *aſperifoliæ*. *Borragineæ* Juſſ. Gen. Char. *Cal.* perianth one-leafed, five-cleft, erect, with unequal toothlets, permanent. *Cor.* one-petalled, funnel-ſhaped; tube cylindrical, very ſhort; border ſemiquinquefid, obtuſe, ſmall; throat cloſed with five convex, prominent, converging, little ſcales. *Stam.* filaments five, in the throat, very ſhort; anthers oblongiſh, covered. *Piſt.* germs four, compreſſed; ſtyle filiform, ſhort; ſtigma obtuſe. *Per.* none. *Calyx* very large, erect, compreſſed; lamellas flat-parallel, ſinuate. *Seeds*, four, oblong, compreſſed, diſtant, by pairs.

Eſſ. Gen. Char. *Calyx* of the fruit compreſſed; lamellas flat-parallel, ſinuated.

Species, 1. A. *procumbens*, procumbent aſperugo, or German madwort. Hudſ. 82. With. 231. Smith Brit. 220. Flor. Dan. 552. Eng. Bot. 661. "Calyx of the fruit flat." Root annual, ſmall, attenuated; ſtems procumbent, angular, rough, leafy; leaves oppoſite, aſcending, oblong, rough; flowers axillary, ſolitary, pedunculated, ſmall, blue; calyx of the fruit large, compreſſed, cloſe, reticulated, with a ſetaceous margin, concealing the ſeeds. It grows among rubbiſh in roads, &c. flowering in April and May. Small wild bugloſs, or borrage, great gooſe-graſs, are alſo names under which it has been known, 2. A. *ægyptiaca*, Egyptian aſperugo. Jacq. Hort. v. 3. t. 21. "Calyx of the fruit ſwelling." Root annual; ſtem eight inches high, with divaricating hiſpid branches; leaves broad-lanceolate, alternate, beſet with rough hairs; flowers yellow, all directed the ſame way, on thick ſtalks. A native of Egypt, flowering from June till Auguſt.

Propagation and Culture. The ſecond, or Egyptian ſpecies, may be raiſed from ſeeds ſown in a temperate hot-bed. The plants will flower in the open air in ſummer, but they muſt be houſed in winter.

ASPERULA, in *Botany* (a diminutive of *aſper*, the ſeeds of the plant being roughiſh). Lin. g. 121. Schreb. 157. Juſſ. 196. Claſs, *tetrandria monogynia*. Nat. Order, *ſtellatæ*. *Rubiaceæ* Juſſ. Gen. Char. *Cal.* perianth ſuperior, ſmall, four-toothed. *Cor.* one-petalled, funnel-ſhaped; tube cylindric, long; border four-parted; diviſions oblong, obtuſe, reflex. *Stam.* filaments four, at the top of the tube; anthers ſimple. *Piſt.* germ twin, roundiſh, inferior; ſtyle filiform, bifid; ſtigmas headed. *Per.* two dry globular united berries. *Seeds*, ſolitary, roundiſh, large

Eſſ. Gen. Char. *Cor.* one-petalled, funnel-ſhaped. *Seeds*, two, globular.

Species 1. A. *odorata*, ſweet woodruff or woodroof. Hudſ. 66. With. 185. Smith Brit. 172. Curt. Lond. f. 4. t. 15. Flor. Dan. 562. Eng. Bot. 755. "Leaves eight in a whorl, lanceolate; flowers faſcicled, peduncled; fruit hiſpid." Root perennial, creeping; ſtems erect, ſimple, ſmooth; leaves ſeven, nine, but moſt commonly eight in every whorl, elliptic-lanceolate, rough at the edge; panicles terminal, trifid, or dichotomous; flowers white, ſometimes ſweet-ſcented, about four; fruit rough, with ſetaceous hairs. When recent, the plant is inodorous; but on being dried, it is very fragrant like vernal graſs. It grows in woods, flowering in May. 2. A. *arvenſis*, blue woodroof; "leaves ſix in a whorl; flowers ſeſſile, terminal, aggregate." Root annual, ſlender; ſtem a foot high, roughiſh, jointed, dichotomous; leaves linear-lanceolate, beneath whitiſh with hairs; a cloſe umbel of ſeſſile flowers terminates the ſtem and branches; flowers blue. A native of the ſouth of Europe, flowering in July. It was introduced here, in 1772, by M.

Richard. 3. A. *taurina*, broad-leaved woodroof; "leaves four in a whorl, ovate-lanceolate; flowers in terminal bunches." Root perennial, woody; ſtems a foot high, branched; leaves hairy, nerved; pedunckes one or two; bracteas ciliate. A native of the mountains of Switzerland and Italy, ſometimes in flower. It was cultivated by Miller in 1759. 4. A. *cynanchica*, dark-leaved woodroof; "leaves four in a whorl, oblong-lanceolate, revolute, bluntiſh, pubeſcent." Stem alternately branching; leaves the length of the internodes, the whorls on the branches more remote, and leaves narrower, unequal; flowers few, in upright terminal branches, pubeſcent on the outſide. A native of Crete and the Levant, flowering in June. Introduced here by Mr. Thomas, in 1775. 5. A. *rubra*, Calabrian woodroof, L'Herit. ſtirp. nov. 4. 65. t. 32. "Leaves four in a whorl, oblong, obtuſe, cluſtered, rough and even." An undershrub, a cubit high, decumbent, fœtid. Leaves linear-lanceolate, one-nerved: there is a ſhort ſheathing appendage between the leaves, half embracing the ſtem; flowers three or four, in terminating corymbs; bracte two-leaved, acute, ſpreading a little below the germs. A native of Syria. The fœtid ſmell of this ſufficiently diſtinguiſhes it from the other ſpecies. 6. A. *tinctoria*, narrow-leaved woodroof; "leaves linear, the lower ſix, the middle four, in a whorl; ſtem flaccid; flowers generally trifid." Stem branching, procumbent, three feet in length; leaves reſembling thoſe of wild thyme; pedunckes from the axillæ of the leaves, forming little umbels; flowers white; ſeeds ſmooth. The roots are uſed in Gothland for dying wool of a red colour. A native of Sweden, Germany, Switzerland, &c. Cultivated by Mr. James Gordon in 1764. 7. A. *pyrenaica*, Pyrenean woodroof; "leaves four in a whorl, lanceolate-linear; ſtem erect; flowers generally trifid." Root perennial; ſtems ſix or ſeven inches high; leaves keeled, acute, ſmooth; lower ones ſhorter, more obtuſe, lanceolate; upper and floral leaves oppoſite, broader; flowers red. A native of the Pyrenees, and about Basil. 8. A. *cynanchica*, ſquinancy-wort, or ſmall woodroof. Hudſ. 66. With. 186. Smith Brit. 173. Eng. Bot. 33. Rubiecla vulg. &c. Ray Syn. 225. "Leaves four in a whorl, linear; the upper ones very unequal; flowers all quadrifid; fruit ſmooth." Root perennial, fibrous; lower leaves in fours, on the branches obovate; upper leaves linear, and thoſe near the top very unequal, ſo that the intermediate pair ſeems diminiſhed into ſtipules; umbels terminal; corollas of a fleſh colour, marked with red lines, fragrant; fruit ſmooth. It grows in England on warm banks, affecting a calcareous ſoil. 9. A. *ariſtata*, awn-flowered woodroof; "leaves linear, rather fleſhy; lower ones four in a whorl; flowers ſubtern awned." Stem upright; flowers pale, yellowiſh, placed parallel, divitous bluntly awned. A native of the ſouth of Europe. 10. A. *hexaphylla*, mining woodroof; galium rotundifolium, Jacq. Auſt. t. 58. t. 94. "Leaves four in a whorl, elliptic, nerveleſs, ſmoothiſh; peduncles divaricate, trichotomous; ſeeds roughiſh." Stems ſimple, ſmooth, ſpreading; leaves ſubpetioled, obtuſe; flowering branches horizontal, bifid; bractes two, ſmall, lanceolate: flowers white, uſually in threes. 11. A. *hexaphylla*, ſix-leaved woodroof, Allion Ped. t. 77. "Leaves ſix in a whorl, linear; flowers umbelled, terminal, ſubſeſſile." Root perennial; ſtems generally ſimple; leaves acuminate, flat, erect; umbels accompanied with ten or twelve leaves; corollas purple, white within; ſegments a little revolute; ſeeds oblong, compreſſed. It grows in the fiſſures of rocks near Tende.

Propagation and Culture. All theſe plants being perennial, except the ſecond, may be increaſed by the roots as well as by the ſeeds. The firſt ſort will proſper under the ſhade of ſhrubs in wilderneſs quarters. The fifth muſt have the protection of a green-houſe, and does not continue many years; but may be increaſed both by ſeeds and cuttings. The eighth growing naturally in chalk, and moſt of the others being natives of rocks, muſt have a dry open ſituation. Martyn's Miller's Dict.

ASPERUM, in *Conchology*, a ſpecies of BUCCINUM, about an inch and an half in length. It is figured by Liſter, but its *habitat* is unknown. The whorls of the ſpire are ribbed, and ſtriated tranſverſely; the firſt is gibbous, and the tail (or beak) rather prominent. Gmelin, &c.

ASPET, in *Geography*, a town of France, in the department of the Upper Garonne, and chief place of a canton in the diſtrict of St. Gaudens; two leagues ſouth-eaſt of St. Gaudens.

ASPEYTIA, a town of Spain, in the province of Guipuſcoa, ſeven leagues from St. Sebaſtian.

ASPHALTITES, in *Anatomy*, the fifth vertebra of the loins. It is thus called, becauſe conceived as the ſupport of the whole ſpine of the loins; from the privative ἀ and σφάλλω, *I ſupplant*.

ASPHALTITE LAKE, in *Geography*, a lake of Paleſtine, ſo called from the great quantity of bitumen, called *aſphaltum*, which it produces. It has alſo been called the *Dead Sea*, from a ſuppoſition that no fiſhes will live in it, and that birds, which have attempted to fly over it, have been ſuffocated. From its ſituation, it has been denominated the *Eaſt Sea*; and diſtinguiſhed by other appellations, as the *Salt Sea*, the *Sea of Sodom*, the *Sea of the Deſert*, and the *Sea of the Plain*, by the ſacred writings. Its origin has been aſcribed to the ſubmerſion of the vale of Siddim, where once ſtood, according to common report, the three cities which periſhed, in the miraculous conflagration, with thoſe of Sodom and Gomorrah. Theſe cities have, on account of their number, been called Pentapolis. Strabo, however, on the authority of an ancient and received tradition, reckoned thirteen of theſe cities, of which Sodom was the capital; and he adds, that they were overthrown by a violent earthquake occaſioned by ſubterraneous fire, that threw up this great and ſulphureous lake, in which all thoſe cities were ſwallowed up. Joſephus likewiſe aſſures us, that in the overthrow of Sodom, this vale became the lake Aſphaltites. It has been ſaid, that the ruins of theſe cities are ſtill to be ſeen in clear weather; and we likewiſe read of apples that grew about it, fair without, but bitter to the taſte and fill'ed with aſhes; which added to the deadly nature of its water and ſmoke, afforded another evidence of the divine indignation. Some of the circumſtances that have been recited concerning this lake, and which have long obtained credit, have been contradicted by the teſtimony of more modern travellers. Although it was long thought that nothing would live in the water of this lake, and that no animal could live in it, yet Dr. Pococke aſſures us, that much as their ſpecific gravity is augmented by the ſalt with which they are impregnated, ſeveral perſons, and among others this writer himſelf, ſwam and dived in this lake, and birds have flown over it with ſafety. It is poſſible, indeed, that the ſpecific gravity of the water of this lake may have been diminiſhed ſince the experiments made by Veſpaſian, and recited by Pliny (N. H. l. v. c. 15.), becauſe great quantities of the bitumen have been collected and removed, and this lake has been ſupplied with copious ſtreams of freſh water. Mr. Kirwan ſays (Analyſis of Mineral Waters, p. 144.), that the heavieſt water of which he has met with any account is that of this lake. Lavoiſier found it 1.2403, and that it contained 44.4 per cent. of ſaline matter, of which 6.25 parts were common ſalt, and

38.15 were muriated lime and muriated magnesia. See Mem. Paris, 1778, p. 63. From these salts the water derives its bitter taste; and the bitumen which floats upon the surface of this lake, and which arises from its borders or its bottom, does not communicate to it any quality. As to the salt which it produces, the Arabs furnish themselves with large quantities by digging pits about the shore of the lake, filling them with water, and leaving them to be crystallized by the sun. As to the bitumen, which gave name to this lake, it is said to have thrown up great quantities of it, and that it is much used by the Egyptians and the inhabitants of other countries for the purpose of embalming dead bodies. Indeed Josephus assures us, that it ascended in masses as big as an ox without its head, and even of a larger size. Mr. Maundrell says (Journey, p. 84.), that there was no bitumen in the place where he happened to be; but that it is gathered near the mountains on both sides in great plenty. Pococke, however, (Travels, p. 56.), observed it to float on the surface of the water, and after windy weather to be found on the shore, where the Arabs gather it for the purpose of applying it to the same use with common pitch; and Dr. Shaw (Travels, p. 347.) informs us, that he was assured that the bitumen is raised at certain times from the bottom of the lake in large hemispheres, which, as soon as they touch the surface, and are acted upon by the external air, burst at once with great smoke and noise like the pulvis fulminans of the chemists, and disperse themselves into a thousand pieces. This, he adds, only happens near the shore; for in greater depths, the eruptions are supposed to discover themselves in such columns of smoke as are now and then observed to arise from the lake. This bitumen is described as resembling our black pitch, and not to be distinguished from it except by its sulphureous and fœtid smell, occasioned either by friction or by setting it on fire. Some persons have confounded it with a blackish combustible stone thrown on the shore, and sometimes called "Moses's stone," which held in the flame of a candle, will soon burn, and emit a smoke and intolerable stench. Whilst its weight is much diminished, it retains its bulk, and becomes of a whitish colour. Dr. Pococke observes, that these stones are found about two or three leagues from the shore; and he supposes, that a stratum of this kind of stone under the lake is probably one part of the matter that feeds the subterraneous fire, and causes the ebullition of the bitumen.

Mr. Maundrell informs us, that he saw several birds flying about and over this sea without any visible harm; and he suspects that the tradition which reports, that no animals can live in these waters is false, as he observed among the pebbles on the shore two or three shells of fish resembling oyster shells, which were cast up by the waves. He surveyed the waters with attention, in order, if possible, to discern the ruins of the absorbed cities, but he failed in his attempts to discover them; he was told, however, by two aged persons, not destitute of understanding or probity, that they had once actually seen one of these ruins near the shore, and the waters being shallow, they went to it, and found there several pillars and other fragments of buildings. As for the apples of Sodom, Mr. Maundrell neither saw nor heard of any; nor was any tree to be seen near the lake from which such kind of fruit might be expected. A late traveller, Mr. Volney (Travels in Egypt and Syria, vol. i. p. 310.) says, that this lake contains neither animal nor vegetable life. No verdure is perceived on its banks, nor are fish to be found in its waters; but it is not true, adds this writer, that its exhalations are pestiferous so as to destroy birds flying over it. It is very common to see swallows skimming its surface, and dipping for the water necessary to build their nests. The real cause which deprives it of vegetables and animals, is the extreme saltness of the water, which very much exceeds that of the sea; the soil around it, impregnated with this salt, produce no plants, and the air itself, loaded with it by evaporation, and receiving the sulphureous and bituminous vapours, cannot be favourable to vegetation; and hence proceeds the deadly aspect which reigns around this lake. The origin of this mineral (says Mr. Volney) may be easily discovered: for on the south-west shore are mines of fossil salt, which are situated in the sides of the mountains extending along that border, and which have, for time immemorial, supplied the neighbouring Arabs, and even the city of Jerusalem. On this shore are also found fragments of sulphur and bitumen, which the Arabs convert into a trifling article of commerce. There is also found a sort of stone, which, with friction, emits a noxious smell, burns like bitumen, receives a polish like white alabaster, and is used for the paving of court yards. At intervals there may be also seen unshapen blocks, which prejudice has mistaken for mutilated statues, and which pass with ignorant and superstitious pilgrims for monuments of the adventure of Lot's wife. Mr. Maundrell was informed that on the west side of the sea is a small promontory, near which stood the monument of Lot's metamorphosed wife, part of which, as he was told, is visible at this day. But he had neither faith enough in the report of his informers, nor sufficient leisure for examining the truth of this fabulous relation. One remarkable property of this lake remains to be mentioned; and this is, that though it receives the Jordan, the brooks of Jabok, Kishon, Arnon, and other springs, which rush down from the adjacent mountains, yet it never overflows; this circumstance has led some naturalists to imagine that there is a subterraneous communication between this lake and the Mediterranean, or the Red Sea. But no gulf of this kind has been discovered; nor, indeed, is it necessary to recur to any hypothesis of this kind; since it has been demonstrated by accurate calculations, that evaporation is more than sufficient to carry off the waters with which the lake is supplied. This evaporation is, in fact, very considerable, and frequently becomes sensible to the eye by the fogs with which the lake is covered at the rising of the sun, and which are afterwards dispersed by the heat. This lake is inclosed on the east and west by very high mountains; on the north it is bounded by the plain of Jericho, on which side it receives the waters of Jordan; on the south it is open and extends beyond the reach of the eye. Josephus (Antiq. l. viii. c. 2. De Bell. l. iv. c. 14.) assigns this lake the length of 580 furlongs, from the mouth of Jordan, to the town of Segor or Zohar on the opposite shore, or about twenty-two leagues; and a breadth of about 150 furlongs, or five leagues: but Mr. Maundrell (ubi supra, p. 84.) says, that it is twenty-four leagues long, and six or seven broad.

ASPHALTUM, in *Mineralogy*, denotes a kind of bituminous stone, found near the ancient Babylon, and lately in the province of Neufchâtel; which, mixed with other matters, make an excellent cement, incorruptible by air, and impenetrable by water; this was supposed to be the mortar so much celebrated among the ancients, wherewith the walls of Babylon, and the temple of Jerusalem were cemented.

It yields a oil which defends things from water, worms, &c. much better than the ordinary composition: and which is also of good service for the cleansing and healing of ulcers, &c. See *Mineral* Pitch.

ASPHAX, in *Ancient Geography*, a nation of the isle of Cyprus. Steph Byz.

ASPHODELUS, in *Botany*, *asphodel* or *king's-spear*. Lin. Gen. 421. Schreb. 509. Gærtn. 57. Juss. 52. Class, *hexandria monogynia*. Nat. Ord. *coronariæ*. *Asphodeli* Juss. Gen.

Gen. Char. *Cal.* none; *corolla* one-petalled, ſix-parted; divisions lanceolate, flat, ſpreading; nectary, ſix very ſmall valves, converging into a globe, inſerted into the baſe of the corolla. *Stam.* filaments ſix, ſubulate, inſerted into the valves of the nectary, bowed; alternately ſhorter; anthers oblong, incumbent, riſing. *Pist.* germ roundiſh within the nectary; ſtyle ſubulate, in the ſame ſituation with the ſtamens; ſtigma truncate. *Per.* capſule globular, fleſhy, three-lobed, three-celled. *Seeds*, ſeveral, triangular, gibbous on one ſide.

Eſſ. Gen. Char. *Cor.* ſix-parted; nectary ſix valves covering the germ.

Species, 1. A. *luteus*; yellow aſphodel, or king's-ſpear, Jacq. Hort. 1. 32. t. 77. "Stem leafy, leaves three-ſided, ſtriated." Root compoſed of fleſhy long thick tubers; ſtalks round, ſimple, about three feet high, and wholly covered with long triangular boat-ſhaped leaves. The upper part of the ſtalk is crowned with yellow ſtar-ſhaped flowers, which open in ſucceſſion, about the beginning of June. Peduncles one-flowered, ariſing from the axillæ of the bractes, which are membranaceous, ſmall, whitiſh. The corolla has a ſweet ſmell, and is ſo deeply divided as not to ſeem monopetalous, and the diviſions or petals are alternately narrower. It is a native of Sicily. 2. A. *ramoſus*; branched aſphodel. Villar's Dauph. 2. 265. Murray in Com. Gott. 1776. 37. t. 7. β. A. *albus*. Mill. Dict. n. 3. "Stem naked, leaves enſiform, keeled, ſmooth." Root compoſed of many tubers and fibres; leaves long, flexible, ſharp at the edges, growing in irregular cluſters from the crown of the root; ſtalks three feet high, ſending off naked branches, from the upper part of which ariſe many ſtar-ſhaped flowers, which are white, with a longitudinal purple line along the outſide of each ſegment. A native of the ſouth of Europe. 3. A. *fiſtuloſus*; onion-leaved aſphodel. Gærtn. Fruct. 1. 68. Gouan. Hort. 174. "Stem naked, leaves ſtiff, ſubulate, ſtriated, ſubfiſtuloſe;" annual; roots conſiſt of many fleſhy yellow fibres; leaves in a large cluſter from the crown of the root, convex on their under ſide, flat above and hollow. Flower ſtalks riſe immediately from the root, and grow to the height of two feet, dividing towards the top into three or four branches, which are adorned with white ſtarry flowers, having purple lines on the outſide; theſe come out in July and Auguſt, and their ſeeds ripen in October. A native of the ſouth of France, Spain, and the iſland of Crete. Scopoli has deſcribed and figured another ſpecies, which he named *aſphodelius liburnicus*; it has yellow pendulous flowers, ſtreaked with five browniſh lines, and has ſaffron-coloured filaments. It was found in Iſtria by Mygind. See Flor. Carn. n. 411. t. 12. The three former ſpecies were cultivated by Gerard in 1596.

Propagation and Culture. The firſt ſpecies multiplies very faſt by roots, and will ſoon overſpread a large border, if ſuffered to remain undiſturbed. The ſecond does not increaſe very rapidly by roots, nor ſhould it be often tranſplanted, for that will weaken it; therefore the beſt way is to propagate it by ſeeds. Theſe aſphodels are pretty ornaments in a garden, and requiring very little trouble to cultivate, are rendered more acceptable. They may be propagated by ſeeds which ſhould be ſown ſoon after they are ripe, on a warm border of light freſh earth: in the ſpring the plants will appear, when they are to be carefully cleared from weeds, and in dry weather frequently watered, by which means the plants will be in a proper ſtate to be tranſplanted the Michaelmas following. A bed muſt then be prepared in the flower nurſery of freſh earth, into which you ſhould plant the roots, at about ſix inches diſtance, and ſo deep that the top of the roots may be three or four inches under the ſurface of the bed; and ſome old tan or dung ſpread over the bed to keep out the froſt. In this bed they are to remain one year, by which time the roots having acquired ſtrength enough to produce flowers the following year, they ſhould in autumn, when their leaves are decayed, be carefully taken up and tranſplanted into the flower garden, obſerving to place them in the middle of the borders among other hardy kinds of flowers, where being properly intermixed, they will make an agreeable variety, and continue a long time in flower. The third ſort is an annual, and can only be propagated by ſeeds which ſhould be ſown in autumn, and not removed till they have put out four or five leaves, when they are to be tranſplanted into the places where they are to remain. If the ſeeds of this plant are permitted to ſcatter, they will come up without care, and thoſe which are not removed will be the ſtrongeſt, and produce a greater number of flowers. See Martyn's Miller's Dict.

ASPHYXIA, in *Medicine*, a term which, in its literal ſenſe, ſignifies a want of pulſation, being derived from α privative, and σφυξις, *pulſus*. It is uſed to denote apparent death. Such ſuſpenſions of the vital actions are referred by Cullen to apoplexy and ſyncope; but in the ſyſtem of Sauvages they conſtitute a diſtinct genus, under the above name. The laſt-mentioned noſologiſt has been too minute in his ſubdiviſion of this, as well as of many other diſeaſes. The following appear to us to be the only legitimate ſpecies; viz. A. *ſubmerſorum*, apparent death from DROWNING; which ſee. A. *ſuſpenſorum*, apparent death from HANGING; which ſee. A. *congelatorum*, apparent death from expoſure to extreme cold. This we ſhall notice here, as the moſt convenient place. In the northern latitudes, frequent inſtances occur, during the winter ſeaſon, of perſons being frozen to death. Before this event takes place, they are ſeized with a general numbneſs, and an irreſiſtible propenſity to ſleep, followed by ſtupor, and inſenſibility. In this apparently lifeleſs ſtate they lie for ſeveral hours, more or leſs, according to the intenſity of the cold, and the previous condition of the body. They are, however, yet recoverable by proper treatment; which conſiſts in taking off the perſon's clothes, and rubbing the body all over with ſnow, or daſhing cold water upon it. The friction ſhould be continued for many hours, until ſigns of life appear; when the patient ſhould be wiped dry, and put into a cold bed, in a room without fire: he ſhould have but few clothes upon him at firſt. When the power of ſwallowing is reſtored, a ſmall quantity of white wine and water (two parts of water to one of wine) ſhould be given in a tepid ſtate; but on no account any ſpirituous liquors, ſuch as brandy, rum, &c. Afterwards he may have tea, with a large proportion of milk, increaſing the quantity of nouriſhment gradually. He ſhould avoid a heated room for a day or two, as well as all ſtrong drinks and ſeaſoned food; otherwiſe a fever, or dangerous local inflammations, will be excited. Travellers or others who are about to be expoſed to extreme degrees of cold, ſhould be cautioned againſt the uſe of ſpirituous liquors, and every effort ſhould be exerted by their companions to prevent them from falling aſleep. For the treatment of partial injuries from cold, ſee the article FROST-BITTEN. A. *a carbone* (A. *carbonica*, as we would term it), ſuffocation from the fumes of charcoal, from the gas thrown out by fermenting liquors, &c. (*i. e.* ſuffocation from the carbonic acid gas.) See SUFFOCATION. A. *a mephidite* (A. *azotica*), ſuffocation from foul air or azotic gas. See SUFFOCATION. A. *neophytorum*, apparent death of new-born infants. See MIDWIFERY.

ASPIA, in *Ancient Geography*, a river of Italy, in Picenum, north-eaſt of Auximum.

ASPIC, Fr. in *Artillery*, a piece of ordnance, weighing 4250 lb, and carrying a 12 lb ſhot.

Aspic, in *Botany*, a plant which grows in plenty in Languedoc, in Provence, and eſpecially on the mountain of St. Baume, in France. It is a kind of lavender, nearly like what grows in our gardens; both with regard to the figure and colour of its leaves and flowers. The botaniſts call it *male lavender*, *lavendula mas*, or *ſpica nardi*, *pſeudo nardus*, &c.

Aspic, *Oil of*. See *Oil of* Spike.

ASPIDO, in *Geography*, a river of Italy, in the marquiſate of Ancona: it riſes near Polverigo, and runs into the Muſona, a little above its mouth in the Adriatic ſea.

ASPIDOPHORE, in *Ichthyology*, the name of a new genus of fiſhes in Lacépède's arrangement. This genus is compoſed of the two ſpecies of Cottus, in the Linnæan ſyſtem called *cataphractus* and *japonicus*, the former of which M. Lacépede names *l'aſpidophore armé*, and the latter *l'aſpidophore liſiza*. See Cottus.

ASPII, in *Ancient Geography*, a powerful people of India, whom Alexander defeated in a pitched battle near the river Euaſpla. He had previouſly croſſed this river, as well as the Choe; and after the battle he paſſed through the territory of the Guræi, and croſſed the river Guræus, ſuppoſed by major Rennell to be the Kameh or Cabul river. This ingenious geographer conjectures, that the nations of the Aſpii, Thyræi, and Araſaci were inferior diviſions of the modern Cabul, and ſituated between the rivers of Ghizni and Cabul, at the height of Irjab and Dukkah. Mem. p. 172.

ASPING, in *Zoology*, a name given by the inhabitants of Smoland to a venomous ſmall ſnake, not more than ſix inches long, found in Oſieries and Willow-holts, the bite of which is frequently fatal, and which is much dreaded by the Smolanders. It is the Coluber Chersea of Linnæus, with 150 abdominal ſcuta, and 34 ſubcaudal ſcales.

ASPIRAN, in *Geography*, a town of France, in the department of Herault, and chief place of a canton in the diſtrict of Lodeve, two leagues north of Pezenas.

ASPIRATE, Aspiratio, in *Grammar*, a character uſed to denote an aſpiration.

The aſpirate, by the Greeks called *ſpiritus aſper*, and marked over their vowels, ſeems to be of a very different nature from the letters; but is nevertheleſs a true letter, as well as the reſt, and a real conſonant.—By letters we do not mean the characters of the alphabet, which are changeable according to the languages and the people, and among the ſame people, according to time and cuſtom; and even according to the fancy of particular perſons. Thus, ſome, for inſtance, write the aſpirates, or letters aſpirated; which by others are omitted; though both the one and the other pronounce alike; as in *huomo*, *huomini*, an Italian word frequently written *uomo*, *uomini*. But by letters we mean articulate ſounds, marked by them, and formed by the organs of ſpeech, viz. the throat, mouth, tongue, palate, teeth, &c.

Theſe ſounds are of two kinds, the one *ſimple*, and the other *compound*, or modified. *Simple* ſounds are thoſe pronounced by a ſingle motion of the organ, ſuch are the vowels. *Compound* ſounds are thoſe ſame ſimple ſounds modified by a motion of the organ, ſuperadded to the motion neceſſary to pronounce the ſimple ſound; of which kind are the conſonants.

Now an aſpirate is an effect or conſequence of a motion made by ſome of the organs of ſpeech; and therefore it muſt either be a vowel or a conſonant. The former it cannot be, as not being a ſimple ſound, or a ſound that may be pronounced by itſelf. It muſt therefore be a modificative, or conſonant; and in effect it has all the properties of one.

For, 1ſt, It reſults from a motion of the organ, which of itſelf produces no ſound. Thus the *ſpiritus* of the Greeks, our *h* aſpirate, as well as that of the French, and other people, has no more ſound of itſelf, than *b*, *c*, *d*, &c. and the ſame thing may be obſerved of the *aleph*, *bheth*, and *caph*, of the Eaſtern languages.

2dly, On the contrary, our *h*, the *ſpiritus* of the Greeks, and the other aſpirates juſt mentioned, are pronounced with all the vowels, in the ſame manner as conſonants are. They modify thoſe vowels, and are effects of a motion of the organ ſuperadded to the motion neceſſary to form the vowel. Thus, to pronounce *ha*, two motions of the organ are required as well as for *ba*, or *ca*, &c. one for *a*, which itſelf is a ſound; the other for *h*, which yields no ſound, no more than *b*; but adds ſomething to *a* which modifies it, and makes that *ha* is not mere *a*, nor *ba*, nor *ca*, &c. And this muſt hold ſtill more ſenſibly in the ſtronger aſpirates, as thoſe of the oriental tongues ח, חַ, חִ, חו, חִי, הֹ, כ, כַּ, &c. in all which there are evidently two motions, the one to expreſs the vowel, and the other to modify it: now this being the nature and eſſence of a conſonant, it follows, that let them be denoted in what manner they will, whether as our *h*, as the orientals do, i. e. by proper characters in the courſe of the words themſelves; or, as the Greeks do ſome of theirs, by a ſign of aſpiration placed over the vowel, it matters not. The aſpirate is no leſs a conſonant in ἅιρω, than in χαιρω; in ἓω, than in χεω; in ὁλη than in χολη; and ſo of others.

The third and laſt reaſon urged by ſome, is, that the Eaſtern languages, which, according to them, do not expreſs the vowels, do yet expreſs the aſpirates. This kind of argument ſeems, however, to be grounded on a miſtake; ſince it is more than probable, that the א, ה, ו, ע of thoſe languages, ſhould be ranked among the vowels, and were ſo uſed.

Add, that the aſpirate is frequently changed into a conſonant, and expreſſed by a conſonant. Thus of ἑξ is made *ſex*; of ἑπτα, *ſeptem*; of ἑσπερος, *veſperus*, &c. of the Hebrew יין, οἰνος, and thence *vinum*, &c. Nay even in the ſame language, Heſiod, ſpeaking of Hercules's buckler, uſes Ἠρσυν for Θηρσυν; making no difference between a Θ and an aſpirate.

Hence it follows, that aſpirates are real conſonants; and that we ought not to exclude the *h* in our language, out of the number of letters.

Other grammarians contend, that the *h* is founded only by a ſtrong emiſſion of the breath, without any conformation of the organs of ſpeech, and conſequently is no letter. See H.

ASPIRATION, the act of aſpirating, i.e. of pronouncing any ſyllable, or word, ſtrongly; with a good deal of breath, and vehemence.

This we do, for inſtance, in thoſe words which have the letter *h* before them; as *harangue*, *hook*, *Holland*, *hero*, &c. whereas the like ſyllables are founded much ſofter and eaſier without the *h*; as in *ear*, *eat*, &c. See H.

ASPIS, in *Ancient Geography*, a town of Spain, northweſt of Ilicis and very near it on the ſame river.—Alſo, a town of Africa Propria, in 33° 20′ N. lat. according to Ptolemy.—Another town of the ſame country, about 30° 20′ N. lat. according to Ptolemy. Strabo places it in the Greater Syrtis, and ſays it is the beſt port of that coaſt.—Alſo, a hill or territory of Africa, in the promontory of Taphitis, according to Strabo. Alſo, a town of the Carthaginians, called *Clypea*. M.'d'Anville thinks this to be the ſame with the former; but Ptolemy diſtinguiſhes them.—Alſo, an iſland of Aſia, upon the coaſt of Aſia Minor, between Tenedos and Teos. It was called, according to Strabo, Arconneſus.—Alſo, a promontory of Ethiopia, near Egypt.—An iſland in the vicinity

vicinity of the Cyclades.—Alſo, a town of Aſia, in Macedonia, founded by Philip, the father of Perſeus. Steph. Byz.

ASPITHRA, a town of Aſia, in the country of the Sinæ. Ptolemy.—Alſo, a river of Aſia in the ſame country.

ASPIUS, in *Ichthyology*, a ſpecies of CYPRINUS, that inhabits the freſh water ſtreams in moſt of the northern parts of Europe. Linnæus in his Fauna Suecica, deſcribes it ſpecifically as having fifteen rays in the anal fin, and the lower jaw longer than the upper one, and recurved. It grows to the weight of twelve pounds; is blackiſh above, and blueiſh-white on the ſides; feeds on vegetables, worms, and little fiſh; ſpawns in March; fleſh white, ſoft, fat, and well taſted. This is Cyprinus rapax ovatus ſubcompreſſus cæruleicens, &c. of Leſk.; leucicus argenteus, &c. Klein; and rapax of Gron.

ASPLEDON, in *Ancient Geography*, a town of Bœotia, north-eaſt of Orchomene, from which it was ſeparated by the ſmall river Melas.

ASPLENIUM, in *Botany*, ſpleenwort (ſaid to be derived from α and σπλὴν, becauſe it was ſuppoſed to dry upon the ſpleen). Lin. g. 1178. Schreb. 1631. Lingua cervina, trichomanes Tournef. Claſs, *cryptogamia filices*. Generic Char. Fructifications diſpoſed in right lines along the under diſk of the frond.

* *Frond ſimple.*

Species, 1. A. *rhizophyllum*, root-leaved ſpleenwort. Phyllitis Pluk. Alm. 154. t. 105. f. 3. Morr. Hiſt. 3. 557. 14. ſ. 14. t. 1. f. 14. "Fronds cordate-enſiform undivided, top filiform, rooting." Root fibrous; fronds triangular acuminate, point long linear; at the baſe hollowed, eared, on long footſtalks; fructifications irregularly diſperſed over the whole diſk of the leaf in oblong ſpots; the ends of the fronds bent down to the ground, and there ſtriking root. A native of North America. Introduced here by Mr. Bartram in 1764. 2. A. *hemionitis*, mule's-tongue ſpleenwort. Lour. Cochin. 677. "Fronds ſimple, cordate-haſtate, five-lobed, entire; ſtipes ſmooth and even." It riſes about ſix inches in height, and nearly reſembles N° 3. (hart's-tongue), but the longitudinal diameter of the frond ſcarcely exceeds the tranſverſe one; the ſtipes are ſlender and in tufts; the lobes of the fronds are ſublinear, unequal; fructifications in oblique lines. A native of the ſouth of Europe. Introduced here in 1779. 3. A. *ſcolopendrium*, hart's-tongue ſpleenwort, Hudſ. 452. With. 3. 51. Lightf. 660. Curt. Lond. 1. 67. Bolton Fil. 18. t. 11. Woodv. Med. Bot. f. 272. The varieties are β. phyllitis criſpa. Bauh Hiſt. γ. P. ſ. Lingua cervina maxima, undulato folio auriculato per baſim. Pluk. phyt. δ. Lingua cervina, multifido folio. Bauh. pin. ε. P. ſ. Lingua cervina minor criſpa, fol. multifido, ramoſa, Pluk. phyt. "Fronds ſimple, cordate-lingulate, quite entire; ſtipes hirſute." Root black, hard, ſcaly, furniſhed with numerous fibres; ſtipe and lower part of the mid-rib covered with chaffy ſcales; fronds from five inches to a foot long, and from an inch to two inches broad, lanceolate, rounded, and hollowed at the baſe, of a firm tough texture, and of a ſhining green on the upper ſide, and more or leſs waved at the edges; fructifications in parallel lines; theſe are at firſt covered with a pellucid involuere, which burſts when the capſules ſwell; they then appear globular and brown, and each is ſurrounded with a jointed elaſtic ring, by which the ſeeds when ripe are forced out of the capſule and diſperſed to a conſiderable diſtance. It grows commonly on old walls, rocks, and in ſhady lanes. This plant, like ſome others of the ſame genus, was formerly uſed to ſtrengthen the viſcera, reſtrain hæmorrhages, and alvine fluxes, expel gravel, and open obſtructions of the liver and ſpleen; but its medicinal qualities are now little valued. It is one of thoſe termed the five capillary herbs. 4. A. *nidus*, bird's-neſt ſpleenwort; "fronds ſimple, lanceolate, quite entire, ſmooth." Leaves two feet long, broad, firm, thick, ſmooth, ſtreaked; fructifications in parallel lines, extending one-third of the breadth of the leaf. It roots into the tops of trees; the leaves come out in a circle, and form a kind of umbel, in the middle of which birds make their neſts. A native of Java and the Society Iſles. 5. A. *ſerratum*, ſerrate-leaved ſpleenwort. Phyllitis, &c. Sloan. Jam. f. 72. n. 5. "Fronds ſimple, lanceolate, ſerrate, ſubſeſſile." Root compoſed of brown fibres, which ſend forth eight or nine fronds about three inches long, gradually broader near the end, which is formed into a blunt point. A native of woods in the inlands parts of Jamaica. 6. A. *plantagineum*, plantain-leaved ſpleenwort, Brown Jam. 92. "Fronds ſimple, ovate-lanceolate, ſubternate, ſtipe quadrangular." The fronds riſe from a thick fibrous root to the height of ten or twelve inches, with an even margin and a ſmooth ſtipe. A native of Jamaica 7. A. *lanceum*, lance-leaved ſpleenwort. Thunb. Japon. 333. "Frond ſimple, elliptic, entire, ſmooth; ſtipe round, ſcaly." Stipe ſexuoſe, decumbent; lines of fructifications near the edge of the leaf, which is lanceolate. A native of Jamaica. 8. A. *bifolium*, double-leaved ſpleenwort, lingua, cerv. &c. Plum. fil. 116. t. 133. "Fronds pinnate; leaflets lanceolate, ſubſinuate, connate." Fronds all double, or compoſed of two equal ſimilar leaflets, united at the baſe by a common membrane; the common peduncle forks a very little above the baſe, and forms the mid-rib. A native of South America.

** *Frond pinnatifid.*

9. A. *ceterach*, common ſpleenwort, Hudſ. 452. Lightf. 661. Bolton Fil. 20. t. 12. "Fronds pinnatifid; lobes alternate, confluent, obtuſe." Fronds many, from three to ſix inches long; lobes of the frond ſhort, broad, roundiſh, entire, about twenty pairs in a frond. This grows in ſimilar ſituations to thoſe mentioned of A. ſcolopendrium. 10. A. *obtuſifolium*, blunt-leaved ſpleenwort, adiantum alis latioribus, Pet. Fil. 117. t. 2. f. 4. "Fronds ſubpinnate; pinnas obtuſe, ſinuate, decurrent, alternate." A native of South America.

*** *Frond pinnate.*

11. A. *nodoſum*, knotted-ſtalked ſpleenwort. Brown Jam. 93. Lour. Cochinch. 678. Sloane Jam. 1. 85. t. 41. f. 1. "Fronds pinnate; pinnas oppoſite, lanceolate, entire." Above a foot and a half high, upright, ſmooth; pinnas long, ſtriated; fructifications in oblique, ſtraight, parallel lines. A native of the Weſt Indies and Cochinchina. 12. A. *ſalicifolium*, willow-leaved ſpleenwort. Lonchitis, &c. Plum. Amer. 4. t. 6. Pet. Fil. 110. t. 3. f. 3. Sloane. Jam. 1. 78. 24. "Fronds pinnate; pinnas ſickle-lanceolate, crenate from the baſe upwards, angular." A foot high or more; pinnas alternate; middle pinnas largeſt, ſerrate at the edges. A native of Jamaica and the Antilles. 13. A. *trichomanes*, common maiden hair. Hudſ. 452. With. 3. 52. Bolton 22. t. 13. Woodv. Med. Bot. 204. Eng. Bot. 576. "Fronds pinnate; pinnas roundiſh, crenate." Fronds about five or ſix inches long, lanceolate; ſtipe and rachis ſmooth, gloſſy, blackiſh, purple; pinnas fifteen or twenty pairs, the loweſt moſt remote, of an irregular oval figure, largeſt below; ſeminal lines oblique to the mid-rib, three, four, or five in number. It grows in the crevices of rocks and walls, and in ſhady places among ſtones. The leaves have been uſed in diſorders of the breaſt proceeding from an acrimony of the fluids, and alſo to promote the expectoration

expectoration of tough phlegm, and to open obſtructions of the viſcera. They are uſually directed in infuſion or decoction, with the addition of a little liquorice. A ſyrup prepared from them is common in our ſhops, both as made here and imported from abroad; this latter has an admixture of orange-flower water. A little of theſe ſyrups, mixed with water, makes a very pleaſant draught. 14. A. *viride*, green ſpleenwort. Hudſ. 453. With. 3. 52. Lightf. 663. Bolton Fil. 24. t. 14. Trich. coſta viridi, &c. Raii Syn. 119. β. Trich. fol. eleganter inciſis, Tournef. Inſt. 539. t. 350. f. 1. c. "Fronds pinnate; pinnas roundiſh, crenate, truncate at the baſe." Pinnas eighteen or twenty pairs; leaflets ſometimes alternate, rhomboidal, or trapezium-ſhaped. It is found on rocks in mountainous ſituations in the north of England. 15. A. *ebeneum*, ivory-ſtalked ſpleenwort. Ait. Fort. Kew. "Frond pinnate; pinnas lanceolate, ſubfalcate, ſerrate, eared at the baſe; ſtipe very gloſſy, ſimple." A native of North America. Cultivated by Dr. Fothergill in 1779. 16. A. *dentatum*, tooth-leaved ſpleenwort. Brown Jam. 93. 5. Plum. Fil. t. 101. Pet. t. 2. f. 15. "Fronds pinnate; pinnas wedge-ſhaped, obtuſe, crenate, emarginate." A native of South America and the Weſt Indies. We learn from Swartz, that the A. pygmæum l. is nothing more than the young plant of this ſpecies. 17. A. *marinum*, ſea ſpleenwort, or dwarf ſea fern. Hudſ. With. Lightf. Bolton, 26. t. 15. Eng. Bot. 392. "Frond pinnate; pinnas obovate, ſerrate, gibbous, above obtuſe, wedged at the baſe." Fronds from three inches to a foot in length, but commonly five or ſix inches; ſtipes ſmooth, reddiſh, brown; pinnas uſually about twelve pairs, nearly rhomboidal, ſometimes lanceolate, ſharply crenate; lines of fructification four or five on each ſide of the nerve in an oblique direction. It grows on rocks on the ſea coaſt. 18. A. *cultrifolium*, ſickle-leaved ſpleenwort. Plum. Fil. 45. t. 59. "Fronds pinnate; pinnas ſickle-lanceolate, gaſh-ſerrate, from the baſe downwards angular." A native of Martinico. 19. A. *rhizophorum*, Swartz. Obſ. 399. Brown Jam. 92. Pluk. Alm. 9. t. 253-4. "Fronds pinnate, rooting at top; pinnas ovate, repand, ſomewhat eared; very ſmall ones remote, entire." About ten or twelve inches in length, with the top bending to the ground; the old plant is bipinnate. A native of Jamaica. 20. A. *monanthemum*, one flowered ſpleenwort. Smith ic. ined. 3. 73. "Fronds pinnate, pinnas trapeziumed, obtuſe, ſerrate, behind entire; one line of fructifications." Fronds numerous, linear lanceolate, a foot high, often twiſted; leaflets numerous, rather alternate, ſeſſile; line of fructification ſingle. The younger Linnæus has confounded this plant with A. refectum. A native of the Cape. 21. A. *ruta muraria*, wall-rue, tent-wort, white ſpleen-wort. Hudſ. 453. With. 3, 53. Bolt. Fil. 28. t. 16. Eng. Bot. 150, "Fronds alternately decompound; leaflets wedge-ſhaped crenulate." Fronds three or four inches high, furniſhed at the end with two, or more commonly three alternate pinnas; they are ſhort, broad, and ſomewhat of a rhomboidal figure; fructifications appear in two or three white dots on each ſide of the nerve. It grows on fiſſures of walls and rocks. 22. A. *alternifolium*, alternate-leaved ſpleenwort. Jacq. Miſc. 2, 51. t. 5. f. 2. "Fronds ſimply pinnate; leaflets alternate, wedge-ſhaped, gaſhed above." Linnæus regarded this as a variety of the preceding ſpecies, from which it differs in having the ſtems more ſimple, black at the baſe, with one or two ſhort diviſions only, having three leaves lobed and two-lobed; the other leaves are ſolitary; in the lower part of the leaf are two or three lines of a longiſh form. A native of Swiſſerland and Auſtria. 23. A. *adiantum nigrum*, black maidenhair. Hudſ. 454. With. Bolt. 30. "Fronds ſubtripinnate, leaflets alternate, pinnas lanceolate, gaſh-ſerrate." Fronds eight or nine inches high, their outline triangular; ſtipes gloſſy, black, or very dark red; pinnas alternately pinnate. It grows on fiſſures of rocks and old walls, and among ſtones and ſhady places. 24. A. *lanceolatum*, lanceolate ſpleenwort. Eng. Bot. 240. Hudſ. 454. With. 3. 54. A. trichomanes ramoſum. Lin. Sp. Plant. "Fronds doubly pinnate, lanceolate; pinnas obovate, crenate; root crowned with tufts of long narrow dark ſcales." Fronds in ſize and habit ſomewhat like pol. fragile; pinnas lanceolate, lobed above; pinnulæ and lobes obovate, veiny, ſharply crenate or toothed. Found on the great rocks at Tunbridge, and in Fayal one of the Azores, by Forſter. 25. A. *marginatum*, margined ſpleenwort. Pet. Fil. 108. t. 12. f. 2. Plum. 88. t. 106. "Fronds pinnate; pinnas oppoſite, cordate-lanceolate, emarginate, entire." A native of South America. 26. A. *ſquamoſum*, ſcaly-ſtiped ſpleenwort. Pet. Fil. 112. t. 5. f. 2. Plum. Fil. 86. t. 103. "Fronds pinnate; pinnas acuminate, gaſhed; ſtipe ſcaly." A native of South America. 27. A. *ſtriatum*, ſtriated ſpleenwort. Plum. Fil. 15, 16. t. 18, 19. "Fronds pinnate; pinnas pinnatifid, obtuſe, crenate, the terminal one acuminate." A native of South America. 28. A. *emarginatum*, lacerated ſpleenwort. Brown. Jam. 94. Sloane Jam. 1. 73. t. 33. f. 2. "Fronds pinnate; pinnas trapeze-oblong, ſtriated, eroſe, eared at the baſe." From fourteen to eighteen inches high; ſtipe black, ſimple; leaves pointed, and appearing as if torn at the margin. A native of Jamaica. 29. A. *japonicum*, Japoneſe ſpleenwort. Thunb. Jap. 334. "Fronds pinnate, pinnas acute, gaſh-pinnatifid, ſerrulate; ſtipe ſcaly." Stipe compreſſed, furrowed, ſcaly at bottom, two feet high; pinnas oppoſite, ſeſſile, lanceolate. Lines of fructification approximating. A native of Japan. 30. A. *reflexum*, half-leaved ſpleenwort. Smith ic. ined. 3. t. 72. "Fronds pinnate; pinnas trapezium-ſhaped, acuminate, gaſh-crenate." Frond lanceolate, a foot high; leaflets numerous, alternate, ſubſeſſile, an inch long, entire at the baſe, and along the hinder edge, and appearing as if cut off at the nerve in front, and at the tip, unequally gaſh-crenate, veined; lines of fructification two or three. Found by Commerſon in the iſle of Bourbon. 31. A. *bulboſum*, bulbous-rooted ſpleenwort. Lour. Coch. 678. "Fronds pinnate; pinnas lanceolate, ſlightly crenate; root bulbous." A foot high, diffuſed; ſtipes fleſhy, thick, tubercled, reclining; leaflets ſmooth; fructification in oblique parallel lines. A native of the mountains of Cochinchina, where the roots are eaten.

The following eight ſpecies are from Swartz.

32. A. *proliferum*. Swartz Prodr. 129. Sloan. Jam. 1. 71. t. 26. f. 1. "Fronds ſubſeſſile, broad-lanceolate, the firſt leaves obovate, rooting at the end." Leaves two inches long, ending in a point, which bows down to the ground, takes root, and ſends out other leaves; ſeeds in a round ſpot on each ſide of the midrib. A native of Jamaica. 33. A. *pumilum*. Swartz 129. A. anthriſcifolium, Jacq. coll. "Frond ternate, leaflets three-parted, gaſhed." Fronds about four inches high; leaflets elongate, triangular, acute, divided into round, blunt, lobes; fructification on the whole back of the frond. A native of Jamaica and Martinico. 34. A. *dimidiatum*. Swartz 129. "Fronds pinnate; pinnas trapeze-oblong, acuminate, angular upwards, entire, and flat downwards. A native of Jamaica. 35. A. *fragrans*. Swartz 130. "Fronds ſubtripinnate, leaflets alternate, pinnas lanceolate, broadiſh, ſerrate at the tip." 36. A. *grandiflorum*. Swartz 130. "Fronds pinnate; pinnas alternate, lanceolate, ſubſerrate, at the baſe rectangular, lower ones rounded. 37. A. *diſſectum*. Swartz 130. "Fronds pinnate; pinnas lanceolate, gaſh-ſerrate, tailed at the tip. 38. A. *premorſum*.

Swartz 130. "Fronds tripinnatifid; pinnas somewhat wedge-shaped, pinnulas crose, toothed at the tip. 39. A. *cicutarium*. Swartz 130. "Frond tripinnate, very smooth, the upper one pinnatifid, leaflets lanceolate, entire." The six last species are natives of Jamaica.

The following Species are from Forster, and are all Natives of New Zealand.

40. A. *flaccidum*. Forst. Flor. Aust. n. 426. "Fronds pinnate; leaflets alternate, remote, pinnatifid, linear, stiff. 41. A. *lucidum*. Forst. n. 427. "Fronds pinnate; leaflets opposite, oblong-ovate, acuminate, serrulate." 42. A. *polyodon*. Forst. n. 128. "Fronds pinnate; leaflets trapezoid, acuminate, acute, doubly-serrate." 43. A. *obliquum*. Forst. n. 129. "Fronds pinnate; stipes scaly; leaflets oblong, opposite, acuminate, serrate, the outer margin shorter." 44. A. *obtusatum*. Forst. n. 130. "Fronds pinnate; leaflets opposite, oblong, obtuse, serrate." 45. A. *tenerum*. Forst. n. 131. "Fronds pinnate; leaflets rhomb-oblong, obtuse, gash-serrate." 46. A. *caudatum*. Forst n. 132. "Fronds pinnate; leaflets pinnatifid, linear, bristle-shaped at the tip, segments blunt, gash-serrate at the tip, stipe rough with hairs." 47. A. *bulbiferum*. Forst. n. 133. "Fronds subbipinnate; leaflets decurrent, oblong, obtuse, pinnatifid; fructifications proliferous.

Propagation and Culture. Whoever is desirous of cultivating any of these ferns, must have walls or rocks or heaps of stones to set the hardy species in, or pots may be filled with loamy undunged earth, or sand gravel and lime rubbish for that purpose, placing them in the shade. Hart's-tongue has been raised from seed; but all the sorts may be increased by parting the roots. Some of the foreign species must be placed under a common frame in winter; and it is evident that such as are natives of the West Indies and other hot climates, require the protection of a stove.

Asplenium. See Acrostichum, and Myniscium.

ASPOE, in *Geography*, a small island of Sweden, in the Baltic, two miles south-west of Carlscron.

ASPONA, in *Ancient Geography*, a municipal town of Asia Minor, in Galatia, in the road from Ancyra to Cæsarea, according to Antonine's Itinerary.

ASPORENUM, a district of Asia Minor, near Pergamus; which, according to Strabo, was barren and stony, and in which was a temple dedicated to the mother of the gods, called Asporéne.

ASPOTAGOEN Mountain, in *Geography*, a high land of America, that lies on the promontory which separates Mahone from Margaret's bay, on the coast of Nova Scotia. This land, which is seen at a distance, is that which is generally made by the ships bound from Europe and the West Indies to Halifax. Its summit is about 500 feet above the level of the sea.

ASPRA, a town of Italy, in the territory of the church, upon the river Aja, between Tivoli and Terni. It was formerly in the district of the Sabines, and called *Casperia*, and *Casperula*.

ASPREDO, in *Ichthyology*, a species of Silurus that inhabits the rivers in America. This kind has a single dorsal fin, with five rays, and has eight cirri. Gmel. The back is carinated, and the tail forked. Klein names it *batrachus*.

ASPRELLA, in *Botany*. See Lefrsia.

ASPREMONT, in *Geography*, a town of France, in the department of the Meuse, and chief place of a canton in the district of St. Michiel, four miles south-east of St. Michiel.

ASPRES Les Vaynes, a town of France, in the department of the Higher Alps, and chief place of a canton in the district of Serres, fifteen miles west of Gap.

ASPRO, a river of European Turkey, which runs into the sea, twenty-eight miles west of Lepanto.

ASPRONISI, formerly *Automate*, a small island of the Archipelago, which, by some convulsion at a former period was separated from Thera, now Santorin. This separation is said to have happened 237 years before the Christian æra. The coast of the gulf between these two islands, composed of these rocks, black, calcined, and towering upwards of 300 feet above the level of the sea, appears to be the edge of an enormous crater, the bottom of which has never been fathomed. Asproniśi is rent internally, and covered with pumice stone; whence it has obtained the name of the "White Island," which it now bears. Sonnini's Travels in Greece, &c. p. 188. Olivier's Travels in the Ottoman empire, p. 161.

ASPROPITI, a small town of European Turkey, in Livadia, upon the gulf of Lepanto.

ASPROPOTAMO, a river of the southern part of Greece, has its source in mount Mezzovo, and discharges itself into the Ionian sea.

ASPROSPIZIA, a town of European Turkey, ten miles S. S. W. of Livadia.

ASPUCA, in *Ancient Geography*, a town of Africa Propria. Ptolemy.

ASPUNGITANI, a people of Asia, near the Palus Mæotis. Strabo.

ASPURGIANI, a barbarous nation about the Bosphorus. Strabo.

ASS, *Asinus*, in *Zoology*. See Asinus.

Ass's *Milk*. See Milk.

Ass *Bay*, in *Geography*, lies on the south coast of the island of Newfoundland.

Ass, *Cucumber*. See Momordica.

Ass, *Feast of the*, in *Ecclesiastical History*, a festival which was celebrated in several churches of France, during the dark ages, in commemoration of the Virgin Mary's flight into Egypt. On this occasion a young girl richly dressed, with a child in her arms, was set upon an ass richly caparisoned. The ass was led to the altar in solemn procession, and high mass was said with great pomp. The ass was taught to kneel at proper places: a hymn no less childish than impious was sung in his praise; and when the ceremony was ended, the priest, instead of the usual words with which he dismissed the people, brayed three times like an ass; and the people, instead of their usual response, "We bless the Lord," brayed three times in the same manner. This was an act of devotion performed by the ministers of religion, and by the authority of the church. However, as this practice did not prevail universally in the catholic church, its absurdity contributed at last to abolish it. Du-Cange, Voc. Festum.

ASSA, in *Geography*, a town of European Turkey, in the island of Cephalonia, sixteen miles N. N. W. of Cephalonia.

ASSABA, in *Botany*, the name given by the people of Guinea to a shrub which they are very fond of for its medicinal virtue; they boil it in water, and rub it on a *bubo*, and it proves a cure. Phil. Transf. N° 232.

ASSABENSIS, in *Ancient Geography*, an episcopal see of Africa, in Numidia.

ASSABET, in *Geography*, a river of America, which rises in Grafton, Worcester county, Massachusetts, and runs north-east into Merrimack river.

ASSACANI, or Assaceni, in *Ancient Geography*, a people of India, who inhabited a country situated between Bazira, now Bijore, and Peucelaotis, corresponding to the present Puckholi. The government of the country, when Alexander

Alexander invaded it, was poſſeſſed by a woman, as Plutarch, Curtius, and Juſtin, agree: ſhe was, as they ſay, the wife of Aſſacenus, and, according to the latter, her name was Cleophes. The Aſſaceni, when they were attacked by Alexander, had, according to Arrian, (l. iv. c. 24, 25.) 20,000 horſe, 30,000 foot, and 30 elephants, ready to take the field. Their capital was Maſſaga, called by Curtius Mazaga, by Strabo Magoſa, and by Diodorus Maſſaca, which Alexander took by aſſault, though he was wounded on the occaſion, and repeatedly repulſed; and he then proceeded to ſummon Bazira, the capital of the next adjoining territory. After the capture of the rock Aornus, Alexander made a ſecond expedition into the country of the Aſſacani, in order to get poſſeſſion of ſome elephants which were ſent thither that they might not fall into his hands. Theſe elephants were at laſt found in the paſtures near the Indus, and ſent off by land to the grand army. The country of the Aſſaceni, afterwards called *Aſhenagur*, anſwers, ſays major Rennell, (Mem. p. 173.) to the preſent Sewad or Sowhad; or at leaſt Sewad was one of the diviſions of Aſhenagur. See ASHENAGUR, and SEWAD.

ASSACH, or ASSATH, in *Antiquity*, a kind of purgation, anciently uſed in Wales, by the oaths of three hundred men. It was abrogated by 1 Hen. V. c. 6.

ASSAD, in *Zoology*, the name by which ſome Arabic writers call the lion.

ASSA-DULCIS. See ASA-*Dulcis*.

ASSAIA, ASSAFENSIS, in *Ancient Geography*, an epiſcopal ſee of Africa, in Mauritania Sitifenſis.

ASSA-FŒTIDA, or ASA-FOETIDA, in *Pharmacy*, *Teufel's Dreck*, Germ. (Devil's Dung.)

This curious and valuable article of the Materia Medica is a gum reſin procured from the root of a large umbelliferous plant, growing in the mountains of ſeveral provinces in Perſia, and on the borders of the Perſian gulf, and called in the language of the country *hingiſeh*. For the botanical deſcription of this plant, ſee FERULA *Aſſa-Fœtida*.

The aſſafœtida is brought over in maſſes of various ſize and form, of a yellow brown, or bluiſh colour, interſperſed with roundiſh pieces white in the inſide, which are the aſſafœtida in tears, and the pureſt.

The taſte of this gum is bitteriſh, acrid or biting, and very permanent on the tongue; when chewed, it becomes plaſtic, and ſoon diſſolves in the ſaliva into a white milky liquid. Aſſafœtida is principally diſtinguiſhed (as its name imports) by its exceſſively ſtrong fœtid ſmell, ſomewhat reſembling that of garlic; which is extremely diffuſible and permanent. The odour, however, is not of a ſickening or very oppreſſive quality, and ſo readily can the organs be accuſtomed to it, that this gum makes a favourite ſeaſoning for food in many countries of the Eaſt.

By chemical analyſis, aſſafœtida is found to conſiſt of an eſſential oil, a reſin, and a gummy ſubſtance, ſo that it is with great propriety reckoned among the gum reſins. Trommsdorf obtained about fifteen or ſixteen grains of eſſential oil from an ounce of the gum, which in one experiment ſwam upon the water with which it was diſtilled, and in another partly ſank to the bottom. The remaining gum yielded 108 grains of reſin, and 292 grains of gum. The analyſes of Neuman and Cartheuſer exhibit the ſame ingredients, but in different proportions. Both ſpirit and water diſtilled off this gum reſin are ſtrongly impregnated with its ungrateful odour. If aſſafœtida be digeſted with warm water, the liquor preſently whitens, and by long ſtanding the whole is reduced into a ſoft pulpy maſs of a dirty yellow, owing to the ſolution of the gummy part. By trituration with water, this gum is entirely diſſolved into a milky liquor which remains uniformly turbid for a conſiderable time. It is partly ſoluble in expreſſed oil, but ſcarcely ſo in the eſſential oils.

The following curious and authentic account of the method of collecting the aſſafœtida is given from ocular teſtimony by Kœmpfer, who viſited the country in the year 1687. The plant which yields this valuable gum reſin (and called in Perſia *hingiſeh*) is found abundantly on the mountains around Heraat, the capital town of the province of Choraſan, and in the province of Laar, which extends from the river Cuur to the town of Congo on the Perſian gulph. Beyond this, on the Arabian ſide, the plant is ſaid to loſe much of its ſtrong odour and acrid quality, ſo that goats browze upon it with great delight and advantage. The richer the ſoil, the more valuable is the gum. The principal harveſt of this ſubſtance is made on the mountains around the ſmall town of Diſguum, in the province of Laar.

The root of the hingiſeh grows for many years increaſing in ſize, till ſooner or later it ſends forth the flowering umbelliferous ſtem, after which, on the ſucceeding year, the whole plant periſhes. The crop of gum therefore is procured from the root before the time of flowering. When the root is four years old, it is about the thickneſs of a man's arm, and of conſiderable length; it ſeldom yields any gum before this age, and the older it is, the greater is the quantity of product. The root is heavy, ſmooth externally, when growing in a rich ſoil; but ſcaly in a ſandy ſoil. It is often found bifurcated or further divided at about a foot below the ſurface. The upper part, which riſes above the ſoil, is thickly beſet with ſhort fibres ſtanding up like hairs. The rind of the root is eaſily ſeparable when freſh, the ſubſtance within is ſmooth and moiſt, conſiſting of a tough fibrous part, incloſing a pulpy cellular portion, full of an oily white juice, of a moſt intenſely fœtid ſmell, which when expoſed to the air becomes firſt clammy and yellow, and at laſt hardens into the gum aſſafœtida. The intenſity of the ſmell is the teſt of the goodneſs of the gum, and the odour of the freſh juice or recent gum is beyond all compariſon more fœtid than that of the gum as it is received by us. Hence in the gathering ſeaſon, the whole town of Diſguum ſmells of it; a ſingle ſhip is excluſively devoted to tranſporting the bulk of this commodity to the ports in the Perſian gulf; and in carrying ſmaller parcels they are tied to the top of the maſt to prevent their infecting every thing on board. In a ſhort time, however, this intenſity of ſmell goes off.

The whole gathering of the aſſafœtida is performed by the inhabitants of Diſguum in four different journeys to the mountains. The demand for the article in foreign countries being firſt aſcertained to be ſufficient to indemnify the trouble of collecting, the gatherers divide into companies of four or five each, and proceed to the mountains about the middle of April, when the leaves of the plant are turned yellow and decaying, a ſign that the root is in a proper ſtate to yield the juice. The firſt operation is to remove the ſoil for a hand's breadth from the plant, and to ſtrip off the leaves and the hair-like fibres, leaving the root perfectly bare and ſmooth, which is again earthed round and covered with a bundle of its own or any other leaves at hand, to ſcreen it from the ſun. Theſe bundles of leaves are confined by a large ſtone, leſt the wind ſhould blow them off; for without this precaution, the heat of the ſun would deſtroy the roots in a day's time, and the juice would be ſpoiled. Each party of four or five men take to themſelves about two thouſand plants, and when ſeveral

myriads of roots are thus prepared, the whole company return home.

In about forty days, or towards the end of May, the parties return to the mountain, arriving there at day break. The implements which they employ are a ſharp knife for cutting the root, a broad and flat iron ſcoop for ſcraping off the dried juice, a ſmall pan faſtened to the thigh for receiving the contents of the ſcoop, and a double baſket ſuſpended at each end of a pole which is ſlung acroſs the ſhoulders in order to carry the whole crop when they return home. They now uncover the root, remove the earth to a little depth from the top, and with the knife they cut off a ſmall tranſverſe ſlice. The root, in which the juice that has been collecting for forty days, has been made to ſtagnate by the previous operation of ſtripping off the boughs, now bleeds copiouſly; and it is immediately again covered with the umbrella of leaves as before, taking care that theſe do not actually touch the ſurface of the root and rub off the juice. On the enſuing day it is ſufficiently concreted to be ſcraped off, after which another very thin ſlice is cut off from the ſurface of the root, which bleeds afreſh, and is allowed time to concrete as before. This proceſs is performed on half the roots on alternate days, that the employment of the gatherers may be more uniformly divided. After this collection has been twice made from each root, a third ſlice is cut off, the root is covered with its umbrella, and the whole company leave the mountain bringing home their firſt harveſt, which to each party of five or ſix men is about fifty pounds weight of aſſafœtida. This firſt gum is reckoned of rather inferior ſtrength to the ſubſequent crop, and is called *Sjiir*.

In about ten days the company again return to the mountain, making their third excurſion, and they find on the top of each cut root a quantity of very fine and pure aſſafœtida, which having had time to concrete very ſlowly, is eſteemed the beſt and moſt powerful, and is called *Piſpaas*, and ſells at a much higher price than the *Sjiir*. This latter, however, appears chiefly to owe its inferiority to a quantity of earth with which the gatherers adulterate it while yet in a very ſoft and ſemifluid ſtate, whereas the *Piſpaas* being concreted into a hard gum is not liable to this abuſe. After this latter is collected, two more ſucceſſive inciſions are made, the juice is ſcraped off as before, the root is again cut and covered over, and the company return home.

The fourth and laſt excurſion is made after an interval only of three days, for the root, which is exhauſted by ſo many repeated bleedings, is now on the point of periſhing. The *Piſpaas*, or firſt ſcraping, is again collected, and the root will bear about two or three more inciſions, after which it is quite exhauſted, and is left to die by the heat of the ſun, which happens in a ſingle day.

Each root of the four-year-old plants will bear ten or eleven ſucceſſive cuttings, but the large roots of twenty years ſtanding or upwards, ſuch as are ſometimes found in the leſs acceſſible parts of the mountains, will yield the gum much oftener, though not with ſuch eaſe, ſo that the harveſt from theſe is not finiſhed till about the end of December.

It is not quite aſcertained whether the ancients were acquainted with this gum reſin. Some authors have ſuppoſed it to be the Σιλφιον, or Ὀπος σιλφιου, of Dioſcorides and Hippocrates, and the *Laſerpitium* of Pliny, but of this there is conſiderable doubt. It may be mentioned that the root of a plant abounding in a milky juice exactly ſimilar to the aſſafœtida was ſent by profeſſor Pallas to Dr. Guthrie, and tranſmitted by the latter to Dr. Hope, who ſucceeded in cultivating it in the botanical garden of Edinburgh ſome years ago. The botanical character of this plant, however, was ſo different from that given by Kœmpfer (whoſe accuracy is much to be depended on), as to make it probable that there may be more than one ſpecies of plants which yield this fœtid gum.

The uſes and virtues of aſſafœtida are very conſiderable. In many parts of Arabia and Perſia it forms an important article of the Materia Medica, and is employed largely as a condiment for food. In its native country, the common people reſort to it as a ſovereign remedy for dropſy, flatulent and colicky pains in the bowels, and even as an external application to wounds. In the above diſorders, its ſtrongly ſtimulant and antiſpaſmodic power renders it peculiarly valuable, but the fœtor which tranſpires from the bodies and evacuations of thoſe that uſe it is ſo exceſſive, as to be almoſt intolerable even to the organs of the natives. The Banian Indians (who not uſing animal food, have always recourſe to the ſtrongeſt and moſt acrid condiments), employ aſſafœtida liberally in their cooking, and even rub their mouth with it before meals to ſtimulate their appetite. Another uſe common to this, as to all other ſtimulating and heating ſubſtances in the Eaſt, is to excite the venereal appetite.

With us, aſſafœtida is conſidered as a moſt powerful nervine, antiſpaſmodic, carminative, and anthelmintic, though the potency of its odour, in which probably conſiſts a large proportion of its medical virtue, prevents its uſe in a variety of caſes in which it might prove highly beneficial. It is of the greateſt ſervice in hypochondriac affections, in which the ſtate of the bowels is always torpid, and digeſtion liable to be deranged. For the true tympanites, a clyſter of two drams of aſſafœtida diſſolved in water, thrown up once or twice a day, is an excellent remedy. Dr. Millar has introduced the uſe of this gum with great effect againſt the ſpaſmodic aſthma, and the ſpaſmodic ſtate of hooping cough. The doſe of the ſolution, even to children, ſhould be large; and it is worthy of remark, that the diſguſt excited by ſo ſtrongly fœtid a remedy is much ſooner ſurmounted than might at firſt be imagined, nor, when it is in the ſtomach, does it ever excite ſickneſs. The flatulent colic attending hyſteric affections is much relieved by this gum, exhibited either by the mouth or in glyſters. On account of its heating quality, it ſhould be avoided when general fever is preſent. The vermifuge property of this gum appears to be very conſiderable. Kœmpfer relates, that the leaves and ſtalk of the freſh plant in Perſia, are laid in the channels through which the water runs for irrigating gardens, and that fruit-trees and plants are thus preſerved from all kinds of vermin. Probably its penetrating odour much incommodes theſe animals; and it has long been known both in the Eaſt and in Europe as a very powerful anthelmintic, eſpecially when combined with the ſtronger purgatives, or given in the form of glyſter, and followed by them.

Huſeland has employed this gum internally as a very good remedy in venereal exoſtoſis, and caries of the bone, after the conſtitution has received as much mercury as it will bear.

Aſſafœtida enters into ſome of the compound plaſters for external application, and in this combination is reckoned to be ſtimulant and reſolvent.

The pharmaceutical preparations of aſſafœtida in actual uſe, are the following:

Lac Aſſæ-fœtidæ (P. Lond.); a milky ſolution of two drams of the gum in half a pint of water, formed by the aſſiſtance of trituration.

Tinctura Aſſæ-fœtidæ (P. Lond.); made by adding two ounces of aſſafœtida to a pint of rectified ſpirit of wine. The ſame in the Edinburgh Pharmacopœia, but a quarter of a pint more of the ſpirit is uſed.

Rectified

Rectified ſpirit is employed, for the dilute or proof ſpirit, though it diſſolves more of the gum, makes a turbid ſolution; whereas the tincture with the former ſpirit is quite clear. It may be given in doſes of from ten to ſixty drops. The *tinctura Fuliginis* of the former Pharmacopœia, now diſuſed, was made with wood ſoot, aſſafœtida, and proof ſpirit; but the ſoot is properly omitted, as it does not appear to add to the virtue of the medicine, and needleſsly increaſes its naufeous odour.

Spiritus Ammoniæ fœtidus (P. Lond. and Ed.), prepared by diſtilling the ſpirit of ammonia with aſſafœtida, whereby it is ſtrongly impregnated with the peculiar odour.

Pilulæ Galbani compoſitæ (P. Lond.), compoſed of ſeveral heating and graveolent gums, viz. galbanum, opopopanax, myrrh, ſagapenum, and aſſafœtida. The proportion of the latter is one-ninth of the whole.

Pilulæ Aſſæ-fœtidæ compoſitæ, formerly *Pilulæ gummoſæ* (P. Ed.), compoſed of aſſafœtida, myrrh, and galbanum, of each one ounce, and one drachm of oil of amber.

Emplaſtrum Aſſæ-fœtidæ, formerly *Emplaſtrum antihyſtericum* (P. Ed.), compoſed of litharge plaſter and aſſafœtida, of each two parts, and of yellow wax, and ſtrained galbanum, of each one part.

The ſmell of aſſafœtida, and along with it its peculiar virtues, are liable to be loſt and injured by long and careleſs keeping, but a conſiderable latitude may be allowed in the doſing, without much danger of riſk or injury to the patient. Kœmpferi Amenit. Exoticæ.—Murray Appar. Med.—Bergii Mat. Med.—Ph. Tranſact. vol. 75, &c.

ASSAI, in *Geography*, a town of Japan, in the province of Oomi or Omi.

Assai, in *Italian*, is an adverb of augmentation generally in the ſuperlative degree, which is added to another muſical term to increaſe its force: as *Preſto aſſai*, *Allegro aſſai*, very quick; *Largo aſſai*, very ſlow.

ASSAILANT, one that aſſaults or ſets upon another. See Assault.

ASSAM, in *Geography*. See Asam.

ASSAN, a town of Aſia, in the province of Diarbekir, forty miles from Diarbek.

ASSANCALE, a ſtrongly fortified town of Armenia, on the river Aras, ſurrounded with walls, and guarded by towers and a garriſoned citadel, in the road to Erzeron, and a ſhort day's journey from it. It has hot-baths that are much frequented.

ASSANUS, in *Ancient Geography*, now *Iſer*, a river of Africa, in Mauritania Cæſarienſis, which by its junction with other rivers formed the ancient *Siga*, or preſent *Tafna*.

ASSAPOORY, in *Natural Hiſtory*, a name given by the people of the Eaſt Indies to a peculiar ſpecies of ſlate, which they uſed in medicine, reducing it to powder, and ſtrewing this on burning coals, that the ſick perſon may receive the fumes of it. It is principally uſed for children, when they are diſordered by taking cold. The ſmell of it while burning is very offenſive.

ASSAR, in *Geography*, a river of Abyſſinia, which is the ſouthern boundary of Aroossi, as Kelti is the northern. This is the largeſt river which Mr. Bruce ſaw, except the Nile; it was about 170 yards broad, and two feet deep, running over a bed of large ſtones, though generally through a flat country; its courſe is rapid, and after much rain it is ſcarcely paſſable, owing to the height of its ſource in the mountains of the Agows. Its courſe where Mr. B. forded it, was from ſouth to north; but it ſoon turned to the north-eaſt, and, after flowing five or ſix miles, joined the Nile. Below the ford is a cataract above twenty feet high, and eighty broad. The whole river falls in an undivided ſheet of water with incredible violence and noiſe; but below this cataract it becomes much narrower, till it loſes itſelf in the Nile. Bruce's Trav. vol. iii. p. 562.

ASSARA, in *Ancient Geography*, a river of Africa in Mauritania Cæſarienſis. Ptolemy.—Alſo, a place of Aſia, in the department of Meſopotamia.—Alſo, a river of Aſia, which diſcharged itſelf into the Mediterranean, in the gulf weſt of the great promontory. Ptolemy.

ASSARABACCA. See Asarabacca.

ASSARACÆ, in *Ancient Geography*, a people of Africa, in the interior Libya, placed by Ptolemy eaſt of mount Aranga.

ASSARIUM denotes a ſmall copper coin, being a part or diminutive of the *as*.

The word is uſed by Suidas indifferently with οβολος, and νομισμα, to denote a ſmall piece of money; in which he is followed by Cujacius, who defines ασσαριον, by *minimus æris nummus*.

The aſſarium, or imperial *as*, was worth one half-penny Engliſh. This diviſion of the *as* began to be called aſſarium as ſoon as its ſize was reduced to half an ounce, and it was then always ſtruck on copper. Its ſize regularly correſponded to that of the dupondius, and declined till at the cloſe of the reign of Gallienus, it became what is called ſmall braſs, and weighed only about the eighth part of an ounce. In the time of Diocleſian, it was about the twentieth part of an ounce; and in that of Juſtinian, it was the ſame with λεπτα, *lepta*, or the ſmalleſt coin excepting the νουμια, *noumia*. The Greek aſſarion kept pace with the Roman. Pinkerton's Eſſ. on Medals, vol. i. p. 121.

We find mention of the aſſarion in the goſpel of St. Matthew, chap. x. ver. 29.

ASSARLI, in *Geography*, a town of European Turkey, in the province of Romania, forty-four miles E. S. E. from Filippopoli.

ASSARON, an ancient Jewiſh meaſure of capacity, equal to the tenth part of the *ephah*. Exod. xvi. 16.

The aſſaron is the ſame with what is more frequently called omer, or gomer.

Joſephus calls it εσσαρον; in the Hebrew it is alſo written *aſſarith*. Calmet and Arbuthnot.

ASSART, Assartum, (derived either from *aſſartir* Fr. to make plain, or as Spelman ſuppoſes from *exertum*, pulled up by the roots, for it is ſometimes written *eſſart*), in *Law*, an offence committed in the foreſt, by pulling up by the roots, woods which ſerve as thickets and covert for the deer, and making them plain as arable land. This is the greateſt treſpaſs that can be committed in the foreſt, being more than a waſte. For whereas waſte of the foreſt is but the felling and cutting the coverts, which may grow again; aſſart is a total extirpation. What we call aſſartum, is elſewhere termed *diſboſcatio*.

Assart was alſo uſed for a parcel of land aſſarted. See Essart.

Assart-*rents* were thoſe formerly paid to the crown for foreſt-lands aſſarted. Stat. 22. Car. II. c. 6. See Rent.

ASSASI, in *Ichthyology*, a ſpecies of Balistes that inhabits the Red Sea. The body is muricated with brown warts; and a triple row of black ones on the tail. Forſk. Arab. Length about ſix inches, brown, belly-white, vent black ſurrounded by a fulvous ring. The fleſh of this kind is eatable but inſipid.

ASSASSINS, in *Ancient Geography* and *Hiſtory*, the name of a people of Phœnicia, who inhabited the mountains of Libanus, to the north-eaſt of the city of Tyre, and who pretended to derive their origin from the family of the Arſacidæ,

Arſacidæ, the founders of the Parthian empire. To a corruption of Arſacidæ into Aſſaſſins ſome have aſcribed the etymology of the appellation by which they were diſtinguiſhed; whilſt others ſuppoſe it to have been formed from *Haſſiſins*, in reference to the poniard, which was their cuſtomary weapon. It is ſaid that they were a ſect of Mahometans, who aroſe in the year 891, when Carmat, or Karmat, a pretended prophet in Arabia, drew after him many followers. He failed, and laboured with his hands, and prayed fifty times a day. He promiſed to re-eſtabliſh the family of Ali, and to dethrone the caliphs. He releaſed his diſciples from the moſt troubleſome obſervances of their religion, permitting them to drink wine and to eat any kind of food. By this indulgence, joined to the hopes of plunder, he collected a great army, and ravaged the dominions of the caliph. This Carmat had a ſeries of ſucceſſors, of whom the moſt famous was Abu-Thaher or ABUTHAHER. Theſe Carmatians, or KARMATHIANS, being enfeebled, kept their religion concealed, mixed themſelves with the Mahometans, and were diſperſed over various parts of the eaſt. About the year 1090, they were ſettled in Perſia; where Hacen, or Al-Haſan their chief, receiving a threatening meſſage from the ſultan, commanded one of his ſubjects, in the preſence of the meſſenger, to fling himſelf from the top of a tower, and another to kill himſelf, which they inſtantly performed. Upon which Hacen ſaid to the meſſenger, "Tell your maſter that I have 70,000 men ready to do as much." In Perſia and Syria, they were denominated *Iſmaelians*; and among the hills to the ſouth of the Caſpian, theſe odious ſectaries maintained their power for nearly two centuries. Their prince, or Imam, eſtabliſhed his lieutenant to lead and govern the colony of mount Libanus, ſo famous and ſo formidable in the hiſtory of the cruſades. They had acquired or founded ten caſtles in the hills above Tortoſa, and poſſeſſed ſeveral cities about Tyre. As theſe enthuſiaſts had poſſeſſed themſelves of the beſt part of Al Jebal, in the Perſian Irak, under the conduct of Al Haſan Ebn Maſbah, or Al Haſan Sabah, as he is ſometimes called, the commencement of the dynaſty of the Iſmaelian princes is generally placed at this period, or the year of the Hegira 483, A. D. 1090. The ſtyle or title adopted by theſe princes was "Sheikh Al Jebal," that is, the prince of Al Jebal; or "the chief of the mountainous country;" the province of Al Jebal being ſuch a country, and from this circumſtance deriving its modern name, "Kuheſtan or Chuſiſtan:" the words "Sheikh al Jebal" may likewiſe be properly rendered "the ſenior, or old man of the mountain," and hence the chief or prince of the Aſſaſſins has obtained the appellation of "the old man of the mountain," amongſt the writers of the hiſtory of the Holy Wars. Al Haſan Ebn Maſbah and his deſcendants reigned in Al Jebal 171 years, till the whole race of them was deſtroyed by the Tartar Hulaku, or Holagou Khan, the grandſon of Zingis, or Jenghis Khan, who aboliſhed the caliphat by the reduction of Bagdad, in the year of the Hegira 656, A.D. 1258. Gibbon ſays that the Iſmaelians of Syria were extirpated by the Mamalukes about the year 1280. Not a veſtige is left of theſe enemies of mankind, whoſe daggers have been felt both in the eaſt and the weſt, except the term *aſſaſſin*, which, in the moſt odious ſenſe, has been adopted in the languages of Europe. With the fanaticiſm of the Koran, the Iſmaelians had blended the Indian tranſmigration, and the viſions of their own prophets; and it was their firſt duty to devote their ſouls and bodies in blind obedience to the vicar of God. Such was the aſcendant which their prince had acquired over his deluded and fanatical ſubjects, that they paid the moſt implicit deference to his commands; eſteemed aſſaſſination meritorious, when ſanctified by his mandate; courted danger, and even certain death, in the execution of his orders; and fancied, that when they ſacrificed their lives for his ſake, the higheſt joys of paradiſe were the infallible reward of their devoted obedience. It was the cuſtom of this prince, when he imagined himſelf injured, to diſpatch ſecretly ſome of his ſubjects againſt the aggreſſor, to charge them with the execution of his revenge, to inſtruct them in every art of diſguiſing their purpoſe; and no precaution was ſufficient to guard any man, however powerful, againſt the attempts of theſe ſubtle and determined ruffians. The greateſt monarchs ſtood in awe of this prince of the aſſaſſins; and in 1192, Conrade, marquis of Montſerrat, a zealous cruſader, fell a ſacrifice to his reſentment. The prince determined to avenge the death of ſome of his people who had been murdered by the inhabitants of Tyre, then under the government of this nobleman, employed two of his ſubjects for the execution of his purpoſe. Thoſe men inſinuated themſelves in diſguiſe among Conrade's guards, and openly, in the ſtreets of Sidon, wounded him mortally; and when they were ſeized and put to the moſt cruel tortures, they triumphed amidſt their agonies, and rejoiced that they had been deſtined by heaven to ſuffer in a cauſe ſo juſt and meritorious. The prince of the Aſſaſſins himſelf avowed the action in a formal narrative which he ſent to Europe. In 1173, a prince of the Aſſaſſins in Phœnicia, ſent a deputy to the king of Jeruſalem, declaring himſelf and his people inclined to receive the Chriſtian religion; but the knights templars aſſaſſinated the deputy on his return home, and the king was unable to chaſtiſe or reſtrain them. In 1213, Louis of Bavaria was murdered by the Aſſaſſins. The favourers of theſe Aſſaſſins were condemned by the council of Lyons, under Innocent IV. in 1231. Hume's Hiſt. vol. ii. p. 18. Gibbon's Hiſt. vol. xi. p. 417. Jortin's Rem. on Eccl. Hiſt. vol. v. p. 237. Mod. Un. Hiſt. vol. iii. p. 60.

ASSASSINS, a denomination which diſtinguiſhed a faction that ſprung from the followers of Judas of Galilee, in the Jewiſh war that preceded and ſucceeded the deſtruction of Jeruſalem. The head of this faction was Eleazar, the grandſon of Judas the Gaulonite. For their fate at the ſiege of Maſſada, which terminated the Jewiſh war, ſee MASSADA. Of thoſe who had previouſly eſcaped, ſome fled to Alexandria, where they were at firſt kindly received by their brethren; but as they excited ſedition and tumult, they were delivered up to the Romans, and 600 of them put to death. An order was alſo iſſued for ſhutting up the Jewiſh temple at Alexandria, and the worſhip of it was diſcontinued. See GAULONITES, and ZEALOTS.

ASSASSIN, in *Law*, a perſon who kills another with the advantage either of an inequality in the weapons, or by means of the ſituation of the place, or by attacking him at unawares. For the etymology of the term, ſee the preceding article.

There was a certain law of nations, an opinion received in all the republics of Greece and Italy, whereby he that aſſaſſinated an uſurper of the ſupreme power, was declared a virtuous man. At Rome, eſpecially after the expulſion of the kings, the law was formal and ſolemn, and inſtances of it admitted. The commonwealth armed the hand of any citizen, and created him magiſtrate for that moment. Conſid. ſur les Cauſ. de la Grand. des Rom. chap. xi. p. 121.

ASSASSINS' *Bay*, in *Geography*, lies on the ſouth-eaſt coaſt of New Zealand, in the ſouth Pacific ocean.

ASSATION, formed of the Latin *aſſare*, *to roaſt*, the preparing or dreſſing foods, or medicaments, in their own juices, by an external heat, without addition of any foreign moiſture. Aſſation, in reſpect of culinary matters, is more frequently

frequently called roasting; and in pharmacy, ustion, or torrefaction.

ASSAULT, in the *Art of War*, signifies a general attack made by a besieging army, to become masters of an intrenched camp, post, or fortress. In the latter case it is particularly understood to take place without the advantage of any works to screen the assailants from the fire of the garrison.

Anciently, when tactics were yet in their infancy, and the art of besieging places bore comparatively no proportion to that of defence, we rarely meet with instances of walled towns entered by assault. A close blockade was generally the measure resorted to, and the garrison were slowly distressed, and the patience of the besiegers exhausted, by circumvallations supported for years. The sieges of Azotus by the Egyptians, of Nineveh by the Medes and Babylonians, and of Babylon by Darius Hystaspes, where treachery alone prevented a resistance equally tedious with that of the two former places, are evidences of the almost insuperable difficulties attending the reduction of strong holds in earlier days.

The Greeks, previously to the æra of Alexander, had very imperfect notions of assaulting towns. The Carthaginians first demonstrated the possibility of shortening sieges by the summary expedient of reiterated and furious attacks. Thus they became masters, in the fifth century B. C., of Himera and Selinos in Sicily; and, nearly two hundred years after, of Saguntum in Spain. The cruelties they executed against the unfortunate inhabitants were afterwards amply retaliated upon themselves by the Romans.

That warlike nation was employed for ages in almost continual wars before they practised this method of attack. Surprise, not an open and vigorous assault, made them masters of Veii. In the first Punic war, Lilybæum for years baffled their utmost efforts, though they had then united to their own system of tactics, whatever was most new and valuable in that of the Greeks. The storming of New Carthage by Scipio is one of the first and most memorable examples of a successful assault in the Roman annals. To what perfection they afterwards carried this branch of military science, the capture of Athens by Sylla, of Avaricum by Cæsar, and of Cremona and Rome itself by the armies of Vespasian, are melancholy witnesses.

In the dark period of the decline of the empire, the barbarians who successively invaded it only carried on their operations against fortified places by continued assaults, which were commonly successful, nor were the superior tactics of the Romans then capable of resisting their fury.

Alike impetuous and irresistible, the Mogul destroyers, who, under Jengis Khan and his successors, desolated the fairest regions of Asia, mocked the ordinary rules of war. A place which had once refused capitulation, never enjoyed a repetition of the offer. Assault succeeded to assault with astonishing rapidity, and no respite was allowed the devoted garrison, till weakened beyond the power of further resistance, they were involved, with the innocent inhabitants, and the place itself, in one common destruction.

With the Europeans of the middle ages, the science of attack lost much of its former superiority; and the castle of a petty baron frequently baffled the endeavours of the most powerful monarch.

The invention of gunpowder offered new advantages to the art of besieging: but general assaults have become infinitely more dangerous against ramparts mounted with artillery. Even after the requisite breach is made, it is absolutely necessary to destroy the works whose fire, on either side, flank and protect the point of attack. Before therefore a storm is attempted, the besieging general should ascertain that his troops are exposed to no other fire than the garrison are able to maintain from the front of the breach itself.

Owing to the fancied advantages a regular garrison were supposed to possess behind good fortifications, the rules of war formerly required a governor to sustain three assaults before he surrendered. But such rigid notions have been by degrees disregarded. Few commanders chuse, by maintaining a fortress to the last extremity, to expose their troops to an useless slaughter, or the inhabitants to the murder and pillage inevitably the attendants of a storm. At Glogaw, carried by the Prussians in 1741, and Bergen op Zoom, by the French in 1747, success was more the effect of a coup de main than a regular assault.

The Turks, however, materially differ from us on this head. It is with them a maxim of religion, never to surrender to Christians a place where they have once possessed a mosque. They, therefore, hold out to the last. Severe punishment has, indeed, attended this obstinacy. Bender, Ockzakow, and Ismael, are memorable for the undistinguished slaughters exercised by Russian ferocity, and have crowned with bloody laurels the names of Panin, of Potemkin, and of Suwarrow.

The capture of Warsaw, in 1794, is a fresh instance of the summary methods observed by the latter general in attacking towns, and of the lamentable consequences of ineffectual resistance to a barbarous and unforgiving enemy.

During the late war, an incessant cannonade and bombardment have been chiefly substituted by besiegers to the system of assault. Pavia indeed, with some smaller places in Italy, suffered, in 1796, all the horrors of a storm, from the French army, under general Buonaparté. The year 1799 also furnishes four remarkable instances: 1. The attack of Naples (January 22), by general Championet, to which the rashness of the Lazzaroni madly exposed themselves; but memorable for the daring and desperate, though unsuccessful resistance, maintained by them against regular troops. 2. The storming of Jaffa by Buonaparté (Feb.), the garrison of which place, 3,500 strong, was nearly extirpated, presents a striking and frightful picture of Turkish obstinacy. 3. That of Acre (May 8), where the French, after having penetrated within the town, were eventually repulsed with great loss, is the more worthy of notice, from its having effectually checked the adventurous progress of Buonaparté on the side of Syria. 4. The assault of Zurich (Sept. 24) by the republican army of Helvetia, and which may with more propriety be denominated a battle, displays so much ingenuity in the complicated movements directed by general Massena, all of which were inseparably connected with the main point of attack, such precision, firmness, and bravery in the execution, and such importance in the consequences, as to demand a separate relation elsewhere. It will here be sufficient to observe, that the Russian camp before Zurich was forced, the town itself carried sword in hand, and that this event gave so decided a superiority to Massena, as to be immediately followed by a precipitate retreat of the allied forces from Switzerland.

Assailants, as such, acquire a very considerable superiority over those they attack. This superiority, says an excellent writer on tactics, may be derived from two causes; the first a physical one, viz. that air of boldness, peculiar to assailants, cannot but astonish and intimidate an enemy who sees that no difficulty can stop them; the second is, that the assailants can command as much time as they please, to take their measures for overcoming all obstacles that can be thrown in

in their way. Mante's Tranſlation of Maizeroy's Tactics, vol. i. p. 186, &c.

Assault, *Aſſultus*, or *Inſultus*, in *Law*, an offer or attempt to hurt the perſon of another.

Or, it is a violent injury offered to a man's perſon, of a larger extent than battery, becauſe it may be committed by only offering to give a blow, without touching him, as if one lifts up his cane, or his fiſt, in a threatening manner, at another; or ſtrikes at him, but miſſes him; this is an aſſault deſcribed by Finch (l. 202.) to be "an unlawful ſetting upon one's perſon." But no words whatſoever, be they ever ſo provoking, can amount to an aſſault, notwithſtanding many eminent opinions to the contrary. 1 Hawk. P. C. 62. § 1. Aſſault does not always imply a blow; for, in treſpaſs for aſſault and battery, a man may be found guilty of the aſſault, and acquitted of the battery. 1 Hawk. P. C. 263. But every battery includes an aſſault.

For an aſſault, the offender is ſubject both to an action at the ſuit of the party, in which he ſhall render damages; and alſo to an indictment at the ſuit of the king, in which he ſhall be fined according to the heinouſneſs of the offence. 1 Hawk. 263.

The aſſaulting of a perſon with offenſive weapons, with a deſign to rob (though no robbery enſues), is puniſhed with tranſportation for ſeven years. 7 Geo. II. c. 21. Aſſaulting in the ſtreet or highway, with intent to ſpoil people's cloaths, and ſo ſpoiling them, is felony and tranſportation, by 6 Geo. I. c. 23. ſec. 11. And the aſſault of a privy counſellor in the execution of his office, is felony without benefit of clergy, by 9 Ann. c. 16. Aſſaulting or threatening a counſellor at law, or attorney employed in a cauſe againſt a man, or a juror giving verdict againſt him, or an adverſary for ſuing him, &c. is puniſhable on an indictment, by fine and impriſonment, for the contempt. 1 Hawk. 58. There are other aſſaults to which peculiar puniſhments are annexed: thus, ſtat. 5 Hen. IV. c. 6, and 11 Hen. VI. c. 11. render aſſaults on members of parliament more than uſually penal, upon non-ſurrender on proclamation. Stat. 9 Edw. II. ſt. 1. c. 3. gives a double criminal proceſs againſt thoſe who aſſault clergymen, indictment for the temporal offence, and proceſs in the eccleſiaſtical court for the ſpiritual one. By ſtat. 5 Eliz. c. 4., ſervants aſſaulting their maſter, miſtreſs, or overſeer, may be impriſoned twelve months, on conviction before two juſtices. By ſtat. 9 Ann. c. 14. § 8. to aſſault, beat, or challenge another, on account of money won by gaming, incurs forfeiture of goods, and two years impriſonment By ſtat. 9 Geo. I. c. 22. to aſſault another by wilfully ſhooting at him, is felony without clergy. By ſtat. 12 Geo. I. c. 34. aſſaulting a maſter woolcomber or weaver, &c. for not complying with the demands of workmen, is felony, and tranſportation for ſeven years. In many caſes a man may juſtify an aſſault: the defendant may juſtify "molliter manus impoſuit," in defence of his perſon or goods; or of his wife, father, mother, or maſter, or for the maintenance of juſtice. Bract. 9 E. 4. 35 H. VI. c. 51. There are alſo other caſes in which aſſault may be juſtified: as, of an officer reſiſted in arreſting a man by warrant, of a parent reaſonably chaſtiſing his child, or a maſter his ſervant, or a ſchoolmaſter his ſcholar, or a gaoler his priſoner, or even a huſband his wife for reaſonable and proper cauſe, &c. Hawk. P. C. 258.

ASSAY, Essay, or Say, in *Metallurgy*, the proof or trial of the goodneſs, purity, value, &c. of metals, and metalline ſubſtances.

In ancient ſtatutes, this is called *touch*; and thoſe who had the care of it, *keepers of the touch*. Under Henry VI. divers cities were appointed to have *touch* for wrought ſilver plate. 2 Hen. VI. c. 14. By this one might imagine they had no better method of aſſaying than the ſimple one, by the touch-ſtone; but the caſe is far otherwiſe. In the time of king Henry II. the biſhop of Saliſbury, then treaſurer, conſidering that though the money paid into the king's exchequer for his crown-rents, did anſwer *numero & pondere*, it might nevertheleſs be mixed with copper or braſs; wherefore a conſtitution was made, called the *trial by combuſtion*; which differs little or nothing from the preſent method of aſſaying ſilver. See a deſcription of it in the Black Book in the Exchequer, written by Gervaſe of Tilbury, c. xxi. The trial is alſo there called *eſſaium*, and the officer who made it is named *fuſor*. Vid. Lownd. Eſſ. Amend. Silv. Coin. p. 5. & 155.

The method ſtill in uſe of *aſſaying* gold and ſilver, was firſt eſtabliſhed by an act of the Engliſh parliament, in 1354. Anderſon's Com. vol. i. p. 187.

Assay, or *Eſſay*, *Eſſayer* Fr. *Probiren* Germ. The term aſſay in its moſt extended ſignification, means a ſpecies of analyſis applied to metallic ores or alloys, the object of which is to aſcertain the quantity and proportion of only one of the ingredients of the maſs. Hence it differs from analyſis in general, as this takes notice of all the ingredients: thus, in the aſſay of copper ores, the ſole object is to know the proportion of pure metallic copper which a given weight of the ore can be made to yield; diſregarding all the other component parts, ſuch as the ſulphur, iron, ſilex, &c. or rather confounding them together under the general term impurities. The ſame mode of inquiry takes place in the aſſay of a mixture of gold, or gold and ſilver, with copper, lead, tin, or any other of the inferior metals, the whole attention being directed to the proportion of fine, or of gold and ſilver contained in the alloy. For the various methods of conducting the aſſays, the reader is referred to the ſeveral metals; in all which articles the ſecond ſection is devoted to the aſſay and analyſis of the metal treated of. Gold and ſilver, from their ſuperior commercial value, from their being the univerſal mediums of exchange throughout the civilized world, and from their being the materials of the moſt coſtly and ſplendid utenſils, ornaments, and articles of furniture, have demanded and obtained a greater accuracy in their aſſay than any of the other metallic bodies. The method of conducting it has been the ſubject of various legiſlative regulations, has from time immemorial been entruſted to a diſtinct craft or profeſſion, and has more than any other proceſs engaged the attention of ſome of the moſt able and accurate chemiſts of the preſent as well as of former ages. For theſe reaſons, under the articles Gold and Silver, we ſhall enter at length into the conſideration of this important ſubject. It was at firſt our intention to have introduced in this place all the matter relative to the art of the aſſayer, but by ſuch an arrangement, much unneceſſary repetition would have been required of information that properly belongs to the articles *Aſſay*-Balance, Cupel, Cupellation, Coin, *Aſſayer's* Furnace, &c.

Assay-Master, an officer, under certain corporations, entruſted with the care of making true *touch*, or *aſſay*, of the gold and ſilver brought to him; and giving a juſt report of the goodneſs or badneſs thereof.

Such is the aſſay-maſter of the mint in the Tower, called alſo *aſſayer of the king*.

The aſſay-maſter of the goldſmiths' company is a ſort of aſſiſtant-warden, called alſo a *touch-warden*, appointed to ſurvey, aſſay, and mark all the ſilver-work, &c. committed to him.—There are alſo aſſay-maſters, appointed by ſtatute, at York, Exeter, Briſtol, Cheſter, Norwich, Newcaſtle,

and Birmingham, for *aſſaying* wrought plate. The aſſay-maſter is to retain eight grains of every pound troy of ſilver brought to him; four whereof are to be put in the PIX, or box of deal, to be re-*aſſayed* the next year; and the other four to be allowed him for his waſte and ſpillings. 12 and 13 W. III. c. 4. 1 Ann. c. 9.

Note. The number of penny-weights ſet down in the aſſay-maſter's report, is to be accounted as *per pound*, or ſo much in every pound of twelve ounces troy. For every twenty penny-weight, or ounce troy, the ſilver is found by the aſſay to be worſe than ſtandard, or ſterling, ſixpence is to be deducted; becauſe every ounce will coſt ſo much to reduce it to ſtandard goodneſs, or to change it for ſterling.

In gold, for every carat it is ſet down to be worſe than ſtandard, you muſt account that in the ounce troy it is worſe by ſo many times 3 *s.* 8 *d.* And for every grain it is ſet down worſe, you muſt account it worſe by ſo many times 11 *d.* in the ounce troy. And for every half grain 5 *d.*½; for ſo much it will coſt to make it of ſtandard goodneſs, &c. Touchſtone of Gold and Silver Ware, &c. p. 41. &c.

ASSAY-*Balance*, a balance uſed in the operation of aſſaying. See BALANCE.

ASSAY *of Weights and Meaſures*, ſignifies the trial or examination of common weights and meaſures, by the CLERK *of the market*.

ASSÉ LE BERANGER, in *Geography*, a town of France, in the department of the Mayenne, and chief place of a canton in the diſtrict of Evron, one league from Evron.

ASSE *la Boiſve*, a town of France, in the deparment of the Sarte, and chief place of a canton in the diſtrict of Frenay le Viſcomte, eight miles S.S.W. of Alençon

ASSECOMA, in *Ancient Geography*, a place of Spain, between Pria and Brevis. Itin. Anton.

ASSECTATOR, in *Entomology*, a ſpecies of ICHNEUMON that inhabits Europe. It is black; abdomen falcated, with three rufous ſpots on each ſide; poſterior ſhanks clavate and black. Fabricius.

ASSED-ABAD, in *Geography*, a ſmall town of Perſia, towards Amadan.

ASSELEN, a town of Germany, in the circle of Weſtphalia, nine miles S. E. of Paderborn.

ASSELO, a town of Perſia, in the province of Farſiſtan, on the north coaſt of the Perſian gulf, 47 leagues ſouth of Schiras.

ASSELYN, JOHN, in *Biography*, a painter, was born in Holland about the year 1610, and after receiving his education under Iſaiah Vanden-Velde, a battle-painter, at the Hague, travelled into France and Italy. He ſtudied at Rome, and particularly imitated the manner of Bambochio. His hands and fingers were crooked, and from this circumſtance he was denominated by the Flemiſh ſtudents "Krabbate." After improving his time during his reſidence at Rome, he paſſed through Lyons on his return, and there married the daughter of a merchant at Antwerp, whom he brought with him to Amſterdam in 1645. His countrymen received him with applauſe, and from him the Dutch painters firſt acquired the idea of imitating the natural manner of colouring landſcape, for which Claude Lorrain has been ſo much admired; and abandoning the ſombre ſtyle, with the prevalent blue and green tints of Paul Bril and Braugel. Aſſelyn was in great reputation at Amſterdam, and his paintings, conſiſting of hiſtory pieces, battles, and landſcapes exhibiting antiquities, and alſo men and animals, were purchaſed at a high price; they were diſtinguiſhed by their correctneſs and admirable brilliance of colouring; and a ſet of 24 of his landſcapes and ruins has been engraved by Perelle. Aſſelyn died at Amſterdam in 1650. D'Argenville, Vies des Peintres. Gen. Biog.

ASSEM, or GREAT ARDRAH, in *Geography*, a town of Africa, on the Slave coaſt, the capital of the kingdom of Ardrah. It was formerly the reſidence of the kings of Ardrah, and five or ſix leagues in circuit. The ſtreets are very wide, and each houſe ſurrounded by its own rampart, as a ſecurity againſt fire. The walls are of mud, but high and thick, and alſo compact as if they were formed of ſtone and lime. The gates are defended by deep ditches in the inſide, which are croſſed by draw-bridges, and near each gate is a guard-room for the convenience of the officers and ſoldiers. The river Euphrates compaſſes one half of the city. The buildings are of clay, covered with ſtraw, and the ſtreets are kept in good order. The people are numerous, and the women are richly dreſſed. In the conqueſt of the kingdom of Ardrah by the king of Dahomay, in 1724, this city ſuffered very much. It is ſituated 16 leagues from the ſea, and to the north-eaſt of Little Ardrah.

ASSEMBLAGE, the joining, or uniting, of ſeveral things together; or, the things themſelves ſo joined or united. The aſſemblage of two bones for motion, is called ARTICULATION. Carpenters and joiners have various kinds and forms of aſſemblage; as, with mortiſes and tenons, with dove-tails, &c. See DOVE-TAIL, MORTISE, &c. The Europeans admire the CARPENTRY of ſome Indians, where the aſſemblage is made without either nails or pins. Herrera.

ASSEMBLAGE is alſo uſed in a more general ſenſe, for a collection of ſeveral things, ſo diſpoſed together, as that the whole has an agreeable effect. It is with diſcourſe as with bodies, which owe their chief excellency to the juſt *aſſemblage* and proportion of their members.

ASSEMBLY, formed of *adſimulare;* compounded of *ad, to,* and *ſimul, together;* a meeting of ſeveral perſons in the ſame place, and with the ſame common deſign. Aſſemblies of the clergy are called convocations, ſynods, and councils of the clergy; though that annual one of the kirk of Scotland retains the name general aſſembly, &c. The aſſemblies of judges, &c. are called *courts*, &c.—The aſſemblies of the Roman people were called *comitia.*—The aſſembly of a preacher, &c. is his audience.—The academies have their aſſemblies, or days of aſſembly.

Under the Gothic governments, the ſupreme legiſlative power was lodged in an aſſembly of the ſtates of the kingdom, held annually for the like purpoſes as our parliament. See PARLIAMENT.

ASSEMBLY, *General*, in *Eccleſiaſtical Hiſtory*, is an aſſembly poſſeſſing the higheſt authority in the church of Scotland, and conſiſting of a certain number of miniſters and ruling elders delegated from each preſbytery, and of commiſſioners from the univerſities and royal boroughs. A preſbytery, compoſed of fewer than 12 pariſhes, ſends two miniſters and one ruling elder to this aſſembly; if it contain between 12 and 18 miniſters, it ſends three of theſe, and one ruling elder; if it contain between 18 and 24 miniſters, it ſends four miniſters and two ruling elders; and of 24 miniſters, when the preſbytery conſiſts of ſo many, it ſends five with two ruling elders. Every royal borough deputes one ruling elder, and Edinburgh two; and their election muſt be atteſted by the kirk-ſeſſion of their reſpective boroughs. Every univerſity ſends one commiſſioner from its own body. The commiſſioners are choſen annually ſix weeks before the meeting of the aſſembly; and the ruling elders are often men of the firſt eminence in the kingdom for rank and talents.

talents. In this aſſembly, which meets once a year, the king preſides by his commiſſioner, who is always a nobleman; but he has no voice in their deliberations. Appeals are brought from all the other eccleſiaſtical courts in Scotland to the general aſſembly; and in queſtions purely religious, no appeal lies from its determinations. The firſt general aſſembly of the church of Scotland was held in the year 1560; but it bore, ſays Dr. Robertſon (Hiſt. Scotl. vol. i. p. 251.), all the marks of an infant and unformed ſociety. The members were few, and of no conſiderable rank; and, of courſe, a convention ſo feeble and irregular, could poſſeſs no great authority: and conſcious of their own weakneſs, the members put an end to their debates, without venturing upon any deciſion of much importance. By degrees, however, it acquired dignity, authority, and permanence.

Assembly, *General*, of the Jewiſh Rabbis. See Agada.

Assembly *of Divines*, is the name given to an aſſociation of miniſters and others, ſummoned by an ordinance of parliament, in the year 1643, to meet at Weſtminſter, "for ſettling the government and liturgy of the church of England, and for vindicating and clearing the ſaid church from falſe aſperſions and interpretations." This aſſembly conſiſted of 121 divines, and 30 laymen, "celebrated in their party," ſays Mr. Hume, "for piety and learning." The ſeveral parties in this aſſembly were compoſed of Preſbyterians, Eraſtians, and Independents. By their advice, alterations were made in the thirty-nine articles, the firſt fifteen of which employed their committee for ten weeks; and theſe alterations chiefly reſpected the doctrinal articles, and were deſigned to render their ſenſe more expreſs and determinate in favour of Calviniſm. It was of ſtill greater importance, that they utterly aboliſhed the liturgy, and, in its ſtead, eſtabliſhed a new directory for worſhip, by which, ſuitably to the ſpirit of the puritans, the utmoſt liberty, both in praying and preaching, was indulged to the public teachers. They alſo agreed in introducing and enforcing the ſolemn league and covenant, by which epiſcopacy was abjured; and a national engagement, attended with every circumſtance that could render a promiſe ſacred and obligatory, was entered into with the Scots, never to ſuffer its re-admiſſion. All theſe meaſures, ſays Mr. Hume, ſhewed little ſpirit of accommodation in the parliament; and the king's commiſſioners were not ſurpriſed to find the eſtabliſhment of preſbytery, and the directory poſitively demanded, together with the ſubſcription of the covenant, both by the king and kingdom. This aſſembly ſubſiſted till Feb. 22. 164⅞, about three weeks after the king's death, having ſat five years, ſix months, and twenty-two days, in which they had 1163 ſeſſions. They were afterwards changed into a committee for the examination of ſuch miniſters as preſented themſelves for ordination or induction into livings, and met once a week, till March 25, 1652; when the long parliament being turned out of the houſe by Oliver Cromwell, they broke up without any formal diſſolution. The works of the aſſembly, beſides ſome letters to foreign churches, and occaſional admonitions, were, 1. "Their humble advice to the parliament, for ordination of miniſters, and ſettling the preſbyterian government." 2. "A directory for public worſhip." 3. "A confeſſion of faith." 4. "A larger and ſhorter catechiſm." 5. "A review of ſome of the thirty-nine articles." "When poſterity," ſays Mr. Neal, "ſhall impartially review this aſſembly of divines, and conſider the times in which they lived, they will have a juſt veneration for their memory; for though their ſentiments in divinity were in many inſtances too narrow and contracted, yet, with all their faults, amongſt which their perſecuting zeal for religion was not the leaſt, they were certainly men of real piety and virtue, who meant well, and had the intereſt of religion at heart; and moſt of them poſſeſſed as much learning as any of their cotemporaries: the names of Lightfoot, Selden, Gataker, Greenhill, Arrowſmith, Twiſſe, biſhop Reynolds, Wallis, &c. will always meet with eſteem from the learned world; and had they not graſped at coercive power or juriſdiction over the conſciences of men, their characters would have been unblemiſhed." Lord Clarendon (vol. i. p. 530.) allows, "that about twenty of them were reverend and worthy perſons, and epiſcopal in their judgments; but as to the remainder, they were but pretenders to divinity; ſome were infamous in their lives and converſations; and moſt of them of very mean parts and learning, if not of ſcandalous ignorance, and of no other reputation than of malice to the church of England." Mr. Eachard confeſſes, that his lordſhip has, perhaps with too much ſeverity, ſaid, that ſome of theſe divines were infamous in their lives and characters; but Mr. Baxter, who knew moſt of them, ſays, "they were men of eminent learning, godlineſs, miniſterial abilities, and fidelity; and being not worthy to be one of them myſelf," ſays he, "I may more fully ſpeak the truth, which I know, even in the face of malice and envy, that as far as I am able to judge by the information of hiſtory, and by any other evidences, the Chriſtian world, ſince the days of the apoſtles, had never a ſynod of more excellent divines than this ſynod, and the ſynod of Dort." "The *divine right*," ſays Mr. Neal, "of the preſbyterian government, firſt threw them into heats, and then divided them; engaging them firſt with the parliament, and then with the Independents and Eraſtians. Their oppoſing a toleration, raiſed them a great many enemies, and cauſed a ſeceſſion in their own body; for after they had carried the queſtion of "divine right," the Independents and Eraſtians deſerted them, after which they found it very difficult to muſter as many as would make a houſe. Had the parliament diſſolved them at this juncture, they had ſeparated with honour; but they dwindled by degrees, and the buſineſs of the church was tranſlated to the provincial aſſemblies. Hume's Hiſt. vol. vii. p. 32. Neal's Hiſt. Pur. vol. ii. p. 35, &c. p. 335. 4to.

Assemblies of the *campus Martii*, or *Maii*, of the field of *Mars*, or *May*; ſee Field *of Mars*, &c.—Rebellious aſſembly; ſee Rebellious.—Unlawful aſſembly; ſee Unlawful.

Assembly is particularly uſed in the *beau-monde*, for a ſtated and general meeting of the polite perſons of both ſexes, for the ſake of converſation, dancing, and play.

Assembly is alſo uſed in the *Military Art*, for the ſecond beat of the drum, being that before the march. On hearing this, the ſoldiers ſtrike their tents, roll them up, and then ſtand to their arms.—The third beating is called the *march*, as the firſt is called the *general*.

ASSEMON, Azmon, or Jeshimon, in *Ancient Geography*, a city in the wilderneſs of Meon, ſouth of the tribe of Judah, 1 Sam. xxiii. 25. Joſh. xv. 4. Alſo, an encampment of Iſrael in the deſert. Azmon was the neareſt city to Egypt, ſouth. Numb. xxxiii. 29. xxxiv. 4, 5.

ASSENA, in *Geography*. See Esné.

ASSENEDE, a town of Flanders, one mile ſouth-weſt of Sas de Ghent.

ASSENEPOWALS, a lake of America, weſtward of Chriſtianaux lake, through which its waters run into Albany river, in New South Wales.

ASSENHEIM, a town of Germany, in the circle of the Upper Rhine, and county of Solms Rodelheim, at the conflux

conflux of the Wetter and Nidda, eleven miles north-east of Frankfort on the Mayne. N. lat. 50° 11'. E. long. 8° 50'.

ASSENS, a sea-port town of Denmark, situate on the west coast of the island of Funen, with a good harbour on the Little Belt, chiefly inhabited by fishermen. The passage from hence, across the Little Belt, to Arroa sound, in the duchy of Sleswick, is nine miles. N. lat. 55° 21'. E. long. 9° 54.

ASSENSU, *fac, Capituli*, in *Law*. See SINE, &c.

ASSENSU *Regis*. See REGIO.

ASSENSU *Patris, Dower ex*. See DOWER.

ASSENT, ASSENSUS, an agreement or acquiescence of the mind to something proposed or affirmed.—Thus, to assent to any proposition, is to allow it to be true, or to perceive its truth.

Assent is distinguished, like faith, into *implicit*, or *blind*; and *explicit*, or *seeing*, &c.—Others distinguish it into *actual* and *habitual*.

ASSENT, *actual*, is a determination of the mind, arising from the perception of the truth of any proposition.

ASSENT, *habitual*, consists in certain habits of believing or acquiescing, induced in the mind by repeated acts.

To this belongs faith, which is an assent arising from the authority of the person who speaks.—Such also is opinion, which is defined an assent of the mind, *cum formidine oppositi*, &c.

Father Malebranche lays it down as an axiom, or principle of method, never to allow any thing for truth, from which we can forbear our assent without some secret reproach of our own reason.

Mr. Hume, in his Treatise of Human Nature (vol. i. p. 172, &c.), has given us a new theory of assent or belief in general; a theory, which suits very well with his hypothesis of ideas, and seems to be a natural consequence of it, and which at the same time reconciles all the belief that we find in human nature to perfect scepticism. According to this writer, "an opinion or belief may be most accurately defined, a lively idea related to or associated with a present impression." Upon this notion of belief a great part of his theory is formed; and hence he deduces what he calls his hypothesis, "that belief is more properly an act of the sensitive than of the cogitative part of our natures." Dr. Reid has justly observed, in his examination of this theory (Ess. on the Intellectual Powers of Man, p. 353.), that the belief of a proposition is an operation of the mind, of which every man is conscious, and what it is he understands perfectly, though, on account of its simplicity, he cannot give a logical definition of it. If he compares it with the strength or vivacity of his ideas, or with any modification of ideas, they are so far from appearing to be one and the same, that they have not the least similitude. That a strong belief and a weak belief differ only in degree, we may easily comprehend; but that belief and no belief should differ only in degree, no man can admit who understands what he speaks; for this in reality is to say, that something and nothing differ only in degree, or that nothing is a degree of something. Every proposition that may be the object of belief, has a contrary proposition that may be the object of a contrary belief. The ideas of both, according to Mr. Hume, are the same, and differ only in degrees of vivacity: that is, contraries differ only in degree; and so pleasure may be a degree of pain, and hatred a degree of love. Such are the absurdities that follow from this doctrine; but it is needless to trace them, as none of them can be more absurd than the doctrine itself. Mr. Hume, in the third volume of his "Treatise of Human Nature," sensible that his theory of belief is very objectionable, seems in some measure to retract it; but he still appears to be of opinion, that belief is only a modification of the idea, though vivacity is not a proper term by which to express that modification. He chooses a happy metaphorical phrase to explain that modification; such as "giving to the idea more strength, or taking faster hold of it." But this is merely a change of terms which have no precise distinct sense; and whatever modification of the idea he makes belief to be, whether in vivacity or in a stronger apprehension of it, the hypothesis, which makes perception, memory, and imagination to be different degrees of that modification, is chargeable with the same absurdities already mentioned. Dr. Hartley's theory on this subject, though not very intelligibly expressed, is not very different from that of Mr. Hume; and it is liable to similar objections. "Assent and dissent," says this writer (Observations on Man, p. 191. ed. 4to. 1791.), "whatever their precise and particular nature may be, must come under the notion of ideas, being only those very complex internal feelings, which adhere by association to such clusters of words as are called propositions in general, or affirmations and negations in particular." Accordingly, he distinguishes assent, and of course its opposite, dissent, into two kinds, *rational* and *practical*. *Rational assent* to any proposition may be defined a readiness to affirm it to be true, proceeding from a close association of the ideas suggested by the proposition with the idea, or internal feeling, belonging to the word truth; or of the terms of the proposition with the word truth. *Rational dissent* is the opposite to this. This assent, he adds, might be called *verbal*; but as every person supposes himself always to have sufficient reason for such readiness to affirm or deny, he prefers the term *rational*. *Practical assent* is a readiness to act in such manner as the frequent vivid recurrency of the rational assent, disposes us to act; and *practical dissent* the contrary. *Practical assent* is therefore the natural and necessary consequence of rational, when sufficiently impressed. For his mode of investigating the causes of both kinds of assent, and of accounting for them on the principles of association, we must refer to his work *ubi supra*.

For a farther account of this subject, with regard to the reasons or principles upon which assent is founded, and the various measures and degrees of it, see DEMONSTRATION, EVIDENCE, FAITH, JUDGMENT, KNOWLEDGE, PROBABILITY, and TESTIMONY. See also AXIOMS, MAXIMS, and PRINCIPLES.

ASSENT *Royal*, See ROYAL.

ASSER, or ASSERIUS MENEVENSIS, in *Biography*, an English divine of the ninth century, was a native of St. David's in Wales, where he assumed the monastic habit among the Benedictines. According to Dr. Cave, he was a relation, and Hearne says, nephew, to Asserius, archbishop of St. David's. Having made a considerable progress in learning under John Scotus Erigena, he was invited to court by king Alfred, and amongst other preferments, obtained the bishopric of Sherburn. Dr. Cave informs us, that Alfred, by his advice, founded the university of Oxford; but the time of its establishment has been a subject of dispute. Asser wrote "The Life of Alfred," first published by archbishop Parker in the old Saxon character in his edition of Walsingham's History, printed at London, in folio, in 1574; and republished in a collection of English historians by Cambden, at Frankfort, in folio, in 1602; and again by Mr. Wise, at Oxford, in 8vo., in 1722. Nicholson, in his "Historical Library," observes, that Alfred's Life, by Asserius, reaches no farther than the 45th year of his age, coinciding by his computation with the

year of our Lord 892; and therefore the continuation to the king's death muſt have been ſupplied by later authors. This work has been aſcribed by Hearne to the archbiſhop Aſſerius. Another work, under the title of "Aſſerius's Annals," has been aſcribed to him, and was publiſhed by Dr. Gale in his "Decem Scriptores, &c." at Oxford, in 1691, folio; but it has been doubted whether the name of Aſſer has not been prefixed to an anonymous collection of unqueſtionable authenticity, though the real author was not certainly known. Theſe "Annals," it has been alleged, extend to the year 914, whereas Aſſer died in 909, and there is no trace of any appendix to the work. Dr. Gale aſcribes it to Aſſer, and his notion is favoured by its inſiſting chiefly upon the fortunes of king Alfred. Aſſerius has the reputation of a faithful hiſtorian. Some other works have been aſcribed to him; and ſome have ſaid that he was the tranſlator of "Boethius de Conſolatione," and not king Alfred, commonly reputed as ſuch. Aſſer died, according to Godwin and Hearne, in 883; but according to Du-Pin, Cave, Olearius, and Oudin, in 909. Cave's H. L. vol. ii. p. 66. Gen. Dict.

ASSERA, in *Geography*, a town of European Turkey, in Macedonia, upon the river Vera, near Salonichi.

ASSERAC, among the *Turks*. See Assis.

ASSERADOES, in *Geography*, a ſmall iſland near the weſt coaſt of North America, at the mouth of the bay Realejo, in the province of Nicaragua.

ASSERIDA, in *Botany*, a name given by the people of Guinea to a kind of ſhrub, the leaves of which being chewed are a cure for the colic, to which that people are very ſubject. Phil. Tranſ. N° 232.

ASSERIGO, in *Geography*, a town of Italy, in the kingdom of Naples and province of Abruzzo ultra, ſeven miles north-eaſt of Aquila.

ASSERTION, in the *Language of the Schools*, a propoſition which a perſon advances, and which he avows to be true, and is ready to maintain in public.

ASSES, Order of, *Aſinorum Ordo*, in *Eccleſiaſtical Hiſtory*, a denomination given to the Mathurins or Trinitarians, becauſe they were anciently obliged, in travelling, to ride on aſſes, not horſes. This obligation was ſet aſide by a new rule given the order by pope Clement, in 1267. Du-Cange.

ASSES, in *Geography*, a people of Africa, in Guinea, on the Gold Coaſt, in the interior part of the country, to the weſt of Rio de Volta.

ASSESSMENTS, in *Law*, denote taxes levied on the inhabitants of a pariſh or diſtrict for ſome ſpecial purpoſe, or on thoſe of the country for the ſupport of government. The term *aſſeſs* is derived by Johnſon from the Italian *aſſeſtare*, to make an equilibrium or balance, and ſignifying to charge with a certain ſum. In the beginning of the civil wars between Charles I. and his parliament, the latter having no other ſufficient revenue to ſupport themſelves and their meaſures, introduced the practice of laying weekly and monthly aſſeſſments of a ſpecific ſum upon the ſeveral counties of the kingdom, to be levied by a pound rate on lands and perſonal eſtates; which were occaſionally continued during the whole uſurpation, ſometimes at the rate of 120,000l. a month, ſometimes at inferior rates. After the reſtoration, the ancient method of granting ſubſidies, inſtead of ſuch monthly aſſeſſments, was twice, and twice only, renewed; viz. in 1663, when four ſubſidies were granted by the temporalty, and four by the clergy; and in 1670, when 800,000l. was raiſed by way of ſubſidy, which was the laſt time of raiſing ſupplies in that way. For, the monthly aſſeſſments being now eſtabliſhed by cuſtom, being raiſed by commiſſioners named by parliament, and producing a more certain revenue; from that time forwards we hear no more of ſubſidies, but occaſional aſſeſſments were granted as the national emergencies required. Theſe periodical aſſeſſments, the ſubſidies which preceded them, and the more ancient ſcutage, hydage, and talliage, were to all intents and purpoſes a land-tax; and the aſſeſſments were ſometimes expreſsly ſo called. See Land-tax, and Subsidy.

Assessment, in a *Military Senſe*, ſignifies a certain rate which is paid by the county-treaſurer to the receiver-general of the land-tax, to indemnify any place for not having raiſed the militia; which ſum is to be paid by the receiver-general into the exchequer. The ſum to be aſſeſſed is four pounds for each man, where no annual certificate of the ſtate of the militia has been tranſmitted to the clerk of the peace: if not paid before June yearly, it may be levied on the pariſh officers. Such aſſeſſment, where there is no county rate, is to be raiſed in the ſame manner with the poor's rate.

ASSESSOR, formed of *ad*, *to*, and *ſedeo*, *I ſit*, an inferior or ſubordinate officer of juſtice, chiefly appointed to aſſiſt the ordinary judge with his opinion and advice. In this ſenſe, the maſters in chancery are aſſeſſors of the lord chancellor. There are two kinds of aſſeſſors in the imperial chamber, *ordinary* and *extraordinary*.—The ordinary are now in number forty-one, whereof five are elected by the emperor, viz. three counts or barons, and two *juriſconſulti*, or civil lawyers. The electors appoint ten, the ſix circles eighteen, &c. They act in quality of counſellors of the chamber, and have ſalaries accordingly.

Assessor is alſo uſed for a perſon who aſſeſſes or lays aſſeſſments of taxes and other public duties.

In this ſenſe, aſſeſſors, among us, are inhabitants of a town or village elected by the community to aſſeſs or ſettle the taxes and other impoſitions of the year, to fix the proportion which each perſon is to bear, according to his eſtate, and to ſee the collection made. Theſe are alſo called in our law *aſſeſſores*. By the ſtat. 16 & 17 Car. II. two inhabitants in every pariſh were made aſſeſſors for the royal aid.

ASSESUS, in *Ancient Geography*, a town of the Mileſians, in which was a temple of Minerva Aſſeſienſis, which was burned by the flames which were driven thither by the wind. Herodot. l. i. c. 19.

ASSETS (Fr. *aſſez*, i. e. *ſatis*, *enough*), in *Law*, ſignify goods enough to diſcharge that burden which is caſt upon the executor or heir, in ſatisfying the debts and legacies of the teſtator or anceſtor. Bro. tit. *Aſſets*. Aſſets are *real* or *perſonal*; where a man hath lands in fee-ſimple, and dies ſeiſed thereof, the lands which come to his heir are aſſets *real*; and where he dies poſſeſſed of any perſonal eſtate, the goods which come to the executor are aſſets *perſonal*. Aſſets are alſo divided into aſſets *per deſcent*, and aſſets *inter maines*: aſſets by deſcent is where a perſon is bound in an obligation, and dies ſeiſed of lands which deſcend to the heir, the land ſhall be aſſets, and the heir ſhall be charged as far as the land to him deſcended will extend: aſſets *inter maines* is when a man indebted makes executors, and leaves them ſufficient to pay his debts and legacies; or where ſome commodity or profit ariſeth to them in right of the teſtator, which are called aſſets in their hands. Terms de Ley, 56, 57.

As to aſſets by deſcent, it is to be obſerved, that by the common law, if the heir had ſold or aliened the lands which were aſſets before the obligation of his anceſtor was put in ſuit, he was to be diſcharged, and the debt was loſt; but by ſtat. 3 W. & M. c. 14. made perpetual by 6 Will. III. c. 14. the heir is made liable to the value of the land by him ſold, in action of debt brought againſt him by the obligee, who ſhall recover to the value of the ſaid land, as if the debt was the proper debt of the heir; but the land which is ſold or aliened.

aliened *bonâ fide* before the action brought, ſhall not be liable to execution upon a judgment recovered againſt the heir in any ſuch action. And by ſtat. 29 Car. II. c. 3. § 10. lands of *eſtate que trust* ſhall be aſſets by deſcent; and by the ſame ſtat. § 12. eſtates *pur autre vie* ſhall be aſſets in the hands of the heir, if they come to him by reaſon of a ſpecial occupancy; and where there is no ſpecial occupant, they ſhall go to the executors and adminiſtrators of the party that had them by virtue of the grant, and ſhall be aſſets in their hands. When a man binds himſelf and his heirs in a bond, and dies leaving iſſue two ſons, if the eldeſt ſon enters on the lands by deſcent as heir to the father, and die without iſſue; and then the youngeſt ſon enters, he ſhall be charged with aſſets as heir to the father. Dyer. 368. Lands which come to the heir by purchaſe ſhall not be aſſets. 1 Danv. Abr. 577. A reverſion in an eſtate for life or years ſhall be aſſets, and a reverſion expectant upon the determination of an eſtate for life is aſſets, and ought to be pleaded ſpecially by the heir. An advowſon is aſſets, but not a preſentation to a church actually void, which may not be ſold. Co. Lit. 374. Lands by deſcent in ancient demeſne will be aſſets in debt; but a copyhold eſtate deſcending to an heir is not aſſets; nor is any right to an eſtate aſſets, without poſſeſſion. Danv. 577. An annuity is no aſſets, for it is only a *choſe in action*. Equity of redemption of an eſtate mortgaged, and a term for years to attend the inheritance, are aſſets.

Leaſes are aſſets to pay debts, notwithſtanding the aſſent of the executor to the deviſe of them. 1 Lill. Abr. 99. Aſſets in the hands of one executor, are aſſets in the hands of others; and if an executor hath goods of the teſtator in any part of the world, he ſhall be charged in reſpect of them. 6. Rep. 47. In actions againſt executors, the jury muſt find the value of the aſſets; for the plaintiff ſhall recover only according to the value of the aſſets found. 1 Rol. Rep. 58. A ſpecial judgment againſt aſſets only ſhall have relation to, and bind the lands from the time of filing the original writ or bill. Carth. Rep. 245.

ASSEVERATION, an earneſt affirmation, or avouching.

ASSHETON, William, in *Biography*, an Engliſh epiſcopalian divine, was born at Middleton in Lancaſhire, in 1641, and educated at Brazen-noſe college in the univerſity of Oxford. Diſtinguiſhedby his application and proficiencyin various parts of learning, he became a fellow of that college in 1663, and in 1673 was honoured with the degree of doctor in divinity. Beſides other preferments to which he was advanced, he was preſented to the rectory of Beckenham in Kent, in 1676. He was conſcientiouſly and zealouſly attached to the church in which he officiated, and faithful and exemplary in the diſcharge of the duties of his profeſſion. Whilſt he was an upright and able advocate for the eſtabliſhed religion, he was no leſs aſſiduous in inculcating, from the preſs as well as from the pulpit, the indiſpenſable obligations of morality and practical religion. In the preſent age, however, his "Treatiſe againſt Toleration," and his "Poſſibility of Apparitions," written in defence of them, will not be regarded as evidences of the liberality of his ſpirit, and the ſoundneſs of his judgment. The former, under the title of "Toleration diſapproved and condemned, &c." was publiſhed at Oxford, in 1670, 4to.; and his book intitled, "Caſes of Scandal and Perſecution, &c." to the ſame purpoſe, was publiſhed at London, in 1674; and his "Poſſibility of Apparitions" was occaſioned by the ſtory of Mrs. Veale, who died at Dover, and was ſaid to have appeared to her friend Mrs. Bargrave at Canterbury, and publiſhed in 1706. This ſtory has been ſince prefixed to "Drelincourt on Death." In 1685, Dr. Aſheton, who was a ſtrenuous advocate for monarchy, wrote "The Royal Apology," in defence of the doctrine of abſolute ſubmiſſion to kings; and after the revolution, he wrote a piece in defence of king William and queen Mary, intitled, "A ſeaſonable Vindication of their preſent Majeſties," in which he declared to the public the reaſons which induced him to ſwear allegiance to them. He alſo wrote ſeveral tracts againſt popery, and in vindication of the Trinity; and various pieces of a practical nature. Dr. Aſheton claims peculiar commemoration and reſpect as the firſt projector of the ſcheme for providing a maintenance for clergymens' widows and others, by a jointure payable out of the mercers' company. To this ſcheme he devoted much attention, and after contending with many difficulties and diſcouragements, he had the pleaſure of ſucceeding. An "Account of the Riſe, Progreſs, and Advantages of the Propoſal, &c." was printed in 1713. The plan, however, was not founded on a ſufficient acquaintance with the doctrine of annuities; and the ſociety of courſe failed in making good its propoſals. Aſheton having employed his time and talents in promoting the intereſts of truth, according to his views of it, and the cauſe of virtue and humanity, died at Beckenham, in 1711, in the 70th year of his age. Gen. Dict. Biog. Brit.

ASSIDEANS, or rather Hasideans, in *Antiquity*, a ſect among the Jews; thus called from the Hebrew חסידים, *hhaſidim*, *merciful*, *righteous*. 1 Mac. ii. 42. vii. 16. Eccleſiaſticus, xliv. 10.

Dr. Prideaux ſays (Comm. p. ii. book iii. vol. iii. p. 257.), that after the ſettling of the Jewiſh church in Judæa, on the return from the Babyloniſh captivity, there were two ſorts of men among the members of it: the one contented themſelves with the written law of Moſes, and were called *Zadikim*, or *the righteous*; and the others ſuperadded to the law the conſtitutions and traditions of the Elders, and other religious obſervances, which they voluntarily regarded by way of ſupererogation, and being conſidered as poſſeſſing a degree of holineſs ſuperior to that of the others, they were denominated *Chaſideans*, or *the pious*. From the former were derived the ſects of the Samaritans, Sadducees, and Karaites; and from the latter, the Phariſees, and Eſſenes. Theſe Aſſideans, who were men of great valour as well as eminently zealous for the law, joined Mattathias and his company in the faſtneſſes of the mountains, as ſoon as Antiochus was returned to Antioch, and determined to fight with him for the law of their god and the liberties of their country.

ASSIDENT Sign, *Signum Aſſidens*, in *Medicine*, a ſymptom which uſually attends a diſeaſe, but not always. Thus a dry rough tongue, thirſt, and watching, are *aſſident ſigns* in an ardent fever. In this ſenſe, *aſſidents* differ from *pathognomonics*, which are inſeperable from the diſeaſe.

ASSIDUUS, or Adsiduus, among the Romans, denoted a rich or wealthy perſon.

The word in this ſenſe is derived from *as*, *aſſis*, q. d. a monied man.

Hence we meet with *aſſiduous* ſureties, *aſſidui fidejuſſores*, anſwering to what the French now call city ſureties or ſecurities, *cautions bourgeoiſe*.

When Servius Tullius divided the Roman people into five claſſes, according as they were aſſeſſed or taxed to the public, the richer ſort who contributed aſſes, were denominated *aſſidui*; and as theſe were the chief people of buſineſs, who attended all the public concerns: thoſe who are diligent in attendances came to be denominated *aſſidui*.

Assidui was alſo uſed for volunteers, or thoſe who ſerved in the army at their own expence.

ASSIENTO,

ASSIENTO, or ASSIENTA, in matters of *Commerce*, a contract or convention between the king of Spain and other powers for furnishing the Spanish dominions in America with negro slaves.

The term is originally Spanish, and signifies a bargain: accordingly the first assiento was a treaty or contract made with the French Guinea company whereby they were put in possession of that privilege, in consideration of a certain duty which they were to pay to the king of Spain's farms, for every negro thus imported.

The Spaniards, having almost destroyed the natural inhabitants of Spanish America, have been many years, and still are obliged to perform the work of their mines, and other laborious business, by negroes, of which they could scarce ever obtain the number they have wanted: and it is certain, if they were fully supplied, they would get yearly above twice the silver perhaps they now do, or have done for many years past. It must be concluded, they have used variety of measures to obtain them. The Genoese undertook to supply them at a concerted price between them; for which end they formed a company called the assiento, who had their factors at Jamaica, Curaçoa, and Brasil; but by their ill management made nothing of this contract; nor did their successors the Portuguese. After them it fell into the hands of the French, who made so much of it, that they were enabled, by a computation made from the registers of Spain, to import into the French dominions, no less than 204,000,000 of pieces of eight. Yet they at length overglutted the market, and became sufferers towards the conclusion.

By the treaty of Utrecht, Philip V. being declared king of Spain by the allies, it was one of the articles of the peace between England and France, that the assiento contract should be transferred to the English. Accordingly a new instrument was signed in May 1713, to last thirty years; and the furnishing of negroes to Spanish America was committed to the South-sea Company, just then erected; though the first convention for this purpose was made in or about the year 1689.

In virtue whereof they were yearly to furnish 4800 negroes; for which they were to pay at the same rate as the French, with this condition, that during the first twenty-five years, only half the duty shall be paid for such as they shall import beyond the stated number.

The last article gives them a farther privilege not enjoyed by the French; which is, that the English assientists shall be allowed, every year, to send to the Spanish America a ship of five hundred tons, loaden with the same commodities as the Spaniards usually carry thither; with a licence to sell the same concurrently with them, at the fairs of Porto Bello, Carthagena, and Vera Cruz. This additional article was supposed as advantageous to the company, as the whole contract besides; being granted contrary to the usual Spanish policy, which has ever solicitously preserved the commerce of their America to themselves.

Some new articles were afterwards added to the ancient assiento; as, that the English should send their register-ship yearly, even though the Spanish flota and galleons did not go; and that, for the first ten years, the said ship might be of 650 tons.

Finally, as the South-sea company had on the whole been losers by their trade, and at the time of the treaty of Aix-la Chapelle, in 1748, they had only four years more of their assiento term remaining (the war between Spain and England having commenced in 1739, and interrupted the continuance of it), which Spain was determined not to renew, at least not on any promising terms; for these and other reasons, it was concluded by the British court to instruct her minister at Madrid, to obtain the best equivalent that could be procured for the remaining short time of the company's assiento contract.

By the treaty of Madrid, concluded on the 5th of October 1750, it was agreed that his Britannic majesty should yield to his Catholic majesty his right to the enjoyment of the assiento of negroes, and of the annual ship, during the four years stipulated by the treaty of Aix-la-Chapelle; and in consideration of a compensation of 100,000 l. sterling to be paid by his Catholic majesty to the South-sea company within three months, his Britannic majesty agreed to surrender to him all that might be due to that company for balance of accounts, or in any manner arising from the said assiento: thus all claims, in consequence of this contract, were finally abolished, and a period was put to all the foreign commerce of the South-sea company.

In consequence of the assiento conveyed to Great Britain by Philip V., British factories were established at Carthagena, Panama, Vera Cruz, Buenos Ayres, and other Spanish settlements. The veil with which Spain had before this time covered the state and transactions of her colonies, was removed. The agents of a rival nation, residing in the towns of most extensive trade, and of chief resort, had the best opportunities of becoming acquainted with the interior condition of the American provinces, of observing their stated and occasional wants, and of knowing what commodities might be imported into them with the greatest advantage. In consequence of information so authentic and expeditious, the merchants of Jamaica, and other English colonies who traded to the Spanish main, were enabled to assort and proportion their cargoes so exactly to the demands of the merchants, that the contraband commerce was carried on with a facility, and to an extent, unknown in any former period. Besides, the agents of the British South-sea company, under cover of the importation which they were authorised to make by the ship annually sent to Porto Bello, poured in their commodities on the Spanish continent, without limitation or restraint. Instead of a ship of 500 tons as stipulated in the treaty, they usually employed one which exceeded 900 tons in burden. She was accompanied by two or three smaller vessels, which mooring in some neighbouring creek, supplied her clandestinely with fresh bales of goods, to replace such as were sold. The inspectors of the fair, and officers of the revenue gained by exorbitant presents, connived at the fraud. The company itself, however, sustained a considerable loss by the assiento trade; whilst many of its servants acquired immense fortunes. Thus, partly by the operations of the company, and partly by the activity of private interlopers, almost the whole trade of Spanish America was ingrossed by foreigners. The immense commerce of the galleons, formerly the pride of Spain, and the envy of other nations, sunk to nothing; and the squadron itself reduced from 15000 to 2000 tons served hardly any purpose, about the year 1737, but to fetch home the royal revenue arising from the fifth, or silver. In order to prevent these encroachments, Spain stationed ships of force, under the appellation of "Guarda Costas," on the coasts of those provinces which were most frequented by interlopers. The captains of these guarda costas, by several unjustifiable acts of violence, precipitated Great Britain into a war with Spain; in consequence of which the latter obtained a final release from the assiento, as we have above related, and was left at liberty to regulate the commerce of her colonies, without being restrained by any engagement with a foreign power. Anderson's Commerce, vol. iii. p. 378. Robertson's Hist. Amer. vol. iii. p. 378, &c.

ASSIENTO, in *Geography*, a country of Africa, on the Gold Coaſt, bordered on the north by the unknown regions, on the eaſt by Achem, and on the ſouth by Akanni or Little Achan. Aſſiento is imperfectly known, as its inhabitants maintain little or no correſpondence with the maritime negroes. It is ſaid, however, to be rich in gold, which the Achaneſe ſometimes bring to the coaſt. Its ſituation, near the ſource of Rio Sacro de Coſta, is very advantageous for trade, if the natives were more diſpoſed for commerce, and better acquainted with their own intereſt.

ASSIGN, To, in *Common Law*, hath various ſignifications: one general, viz. to ſet over a right to another, or appoint a deputy, &c.; another ſpecial, viz. to ſet forth or point out, as to aſſign error, aſſign falſe judgment, waſte, &c. In aſſigning of error, it muſt be when the error is committed; in falſe judgment, wherein the judgment is unjuſt; in waſte, wherein eſpecially the waſte is committed. Juſtices are alſo ſaid to be aſſigned to take aſſiſes. Stat. 11. Hen. VI. c. 2.

ASSIGNABLE *Magnitude*, in *Geometry*, is uſed for any finite magnitude that can be expreſſed or denoted, and *Aſſignable Ratio*, for any expreſſible ratio.

ASSIGNEE, or ASSIGN, in *Law*, a perſon to whom a thing is appointed, or aſſigned by the act of the party, or the operation of law, to be occupied, paid, or done.

An aſſignee differs from a deputy in this, that the aſſignee poſſeſſes or enjoys a thing in his own right; and a deputy acts in right of another.

Aſſignee may be ſo either by deed or by law.

ASSIGNEE *by Deed* is when a leſſee of a term, &c. ſells and aſſigns the ſame to another: the other is his aſſignee by deed.

ASSIGNEE *by Law*, is he whom the law ſo makes, without any appointment of the perſon. Thus, an executor is aſſignee by law to the teſtator, who dies poſſeſſed of a leaſe made to him and his aſſigns.

ASSIGNEES under a commiſſion of bankruptcy, are perſons to whom the bankrupt's eſtate is aſſigned, for the benefit of the creditors: they are choſen at one of the three meetings appointed by the commiſſioners, and publiſhed in the Gazette, by the major part in value of the creditors who ſhall then have proved their debts; but they may be originally appointed by the commiſſioners, and afterwards approved or rejected by the creditors: and no creditor ſhall be admitted to vote in the choice of aſſignees, whoſe debt does not amount to ten pounds. By virtue of the ſtatutes 1 Jac. I. c. 15. 21 Jac. I. c. 19. all the perſonal eſtate and effects of the bankrupt are conſidered as veſted by the act of bankruptcy in the future aſſignees of his commiſſioners, whether they be goods in actual poſſeſſion, or debts, contracts, and other choſes in action; and when the aſſignees are choſen or approved by the creditors, the commiſſioners are to aſſign every thing over to them; and the property of every part of the eſtate is thereby as fully veſted in them, as it was in the bankrupt himſelf, and they have the ſame remedies to recover it. 12 Mod. 324.

The aſſignees may purſue any legal method of recovering the property veſted in them, by their own authority: but cannot commence a ſuit in equity, nor compound any debts owing to the bankrupt, nor refer any matters to arbitration, without the conſent of the creditors, or a major part of them in value, obtained at a Gazette meeting.

The aſſignees muſt, after four, and within twelve months after the commiſſion iſſued, give one and twenty days notice to the creditors of a meeting for a DIVIDEND; and within eighteen months, a ſecond and final dividend ſhall be made, unleſs all the effects were exhauſted by the firſt.

ASSIGNING. See ASSIGN.

ASSIGNMENT, the act of aſſigning or transferring the intereſt or property a man has in any thing; or of appointing or ſetting over a right to another. Aſſignments may be made of lands in fee, for life or years; of an annuity, rent-charge, judgment, ſtatute, &c.: as to lands, they are uſually of leaſes and eſtates for years: and an aſſignment differs from a leaſe only in this; that by a leaſe one grants an intereſt leſs than his own, reſerving to himſelf a reverſion: whereas in aſſignments he parts with the whole property, and the aſſignee ſtands to all intents and purpoſes in the place of the aſſignor.

No eſtate of freehold or term of years ſhall be aſſigned, but by deed in writing ſigned by the parties, except by operation of law. Stat. 29 Car. II. cap. 3. If leſſee for years aſſign all his term in his leaſe to another, he cannot reſerve the rent in the aſſignment; for he hath no intereſt in the thing by reaſon of which the rent reſerved ſhould be paid; and where there is no reverſion, there can be no diſtreſs: but debt may lie on it as on a contract. 1 Lill. Abr. 99. If the executor of a leſſee aſſigns the term, debt will not lie againſt him for rent incurred after the aſſignment; becauſe there is neither privity of contract nor eſtate between the leſſor and executor; but if the leſſee himſelf aſſign his leaſe, the privity of contract remains between him and the leſſor, although the privity of eſtate is gone by the aſſignment, and he ſhall be chargeable during his life; but after his death, the privity of contract is likewiſe determined. 3 Rep. 14. 24. Although a leſſee make an aſſignment even of his term, yet debt is againſt him by the leſſor or his heir (not having accepted rent from the aſſignee); but where a leſſee aſſigns his term, and the leſſor his reverſion, the privity is determined, and debt doth not lie for the reverſioner againſt the firſt leſſee. Moor 472. If an aſſignment is made by an aſſignee, the firſt aſſignee is not ſuable for the rent; for if he be accepted by the leſſor, the admiſſion of one aſſignee is the admiſſion of twenty. Comp. Attorn. 491. Where a tenant for years aſſigns his eſtate, no conſideration is neceſſary; for the tenant being ſubject to payment of rent, &c. is ſufficient to veſt an eſtate in the aſſignees; in other caſes, ſome conſideration muſt be paid. 1 Mod. 263. The words required in aſſignments are, *grant*, *aſſign*, and *ſet over*, which may amount to a grant, feoffment, leaſe, releaſe, confirmation, &c. 1 Inſt. 301. In theſe deeds the aſſignee is to covenant to ſave harmleſs from former grants, &c. that he is owner of the land, and has power to aſſign; that the aſſignee ſhall quietly enjoy, and to make further aſſurance; and the aſſignee covenants to pay the rent, and perform the covenants, &c.

The ſtat. 32 Hen. VIII. c. 34. gives the aſſignee of a reverſion (after notice of ſuch aſſignment), the ſame remedies againſt the particular tenant, by entry or action, for waſte or other forfeitures, non-payment of rent, and non-performance of conditions, covenants, and agreements, as the aſſignee himſelf might have had; and makes him equally liable on the other hand, for acts agreed to be performed by the aſſignee, except in the caſe of warranty. A bond, being a choſe in action, cannot be aſſigned over ſo as to enable the aſſignee to ſue in his own name; and therefore, the form of aſſigning a *choſe* in action is in the nature of a declaration of truſt, and an agreement to permit the aſſignee to make uſe of the name of the aſſignee, in order to recover the poſſeſſion. Accordingly, when in common acceptation a debt or bond is ſaid to be aſſigned over, it muſt ſtill be ſued in the name of the original creditor; the perſon, to whom it is transferred, being rather an attorney than an aſſignee. But the king is an exception to this general rule; for

for he might always either grant or receive a *chose* in action by assignment; and our courts of equity, considering that in a commercial country almost all personal property must necessarily lie in contract, will protect the assignment of a *chose* in action, as much as the law will that of a *chose* in possession. 3 P. Wms. 109. In equity, therefore, a bond is assignable for a valuable consideration paid, and the assignee alone becomes entitled to the money, so that if the obligor, after notice of the assignment, pays the money to the obligee, he will be compelled to pay it over again. 2 Vern. 295.

Several things are assignable by acts of parliament, which seem not to be assignable in their own nature; as promissory notes and bills of exchange, by stat. 3 & 4 Ann. c. 9.; bail-bonds by the sheriff, by 4 & 5 Ann. c. 16.; a judge's certificate for taking and prosecuting a felon to conviction, by 10 & 11 W. 3. c. 23.; and a bankrupt's effects, by the several statutes of bankruptcy.

The *assignment of dower* is the setting out of a woman's marriage-portion by the king. By the old law, grounded on the feudal exactions, a woman could not be endowed without a fine paid to the lord; neither could she marry again without his license; but she could contract herself, and so convey part of the feud, to the lord's enemy. Mirr. c. 1. § 3. This license the lords took care to be well paid for; and as it seems, would sometimes force the dowager to a second marriage, in order to gain the fine. But, to remedy these oppressions, it was provided, first by the charter of Henry I. and afterwards by Magna Charta (cap. 7.), that the widow should pay nothing for her marriage, nor be distrained to marry again, if she chose to live without a husband; but should not, however, marry against the consent of the lord: and farther, that nothing should be taken for assignment of the widow's dower, but that she should remain in her husband's capital mansion-house for forty days after his death, during which time, called the widow's "quarantine," her dower should be assigned. The particular lands to be held in dower, must be assigned by the heir of the husband, or his guardian; Co. Litt. 34, 35. not only for the sake of notoriety, but also to entitle the lord of the fee to demand his services of the heir, in respect of the lands so holden. For the heir by this entry becomes tenant thereof to the lord, and the widow is immediate tenant to the heir, by a kind of subinfeudation or undertenancy, completed by this investiture or assignment; which tenure may still be created, notwithstanding the statute of *quia emptores*, because the heir parts not with the fee simple, but only with an estate for life. If the heir or his guardian do not assign her dower within the time of quarantine, or do assign it unfairly, she has her remedy at law, and the sheriff is appointed to assign it. Co. Litt. 34, 35. Or, if the heir, being under age, or his guardian assign more than she ought to have, it may be afterwards remedied by writ of Admeasurement *of dower*. Bl. Com. vol. ii. 135. &c. The assignment of the lands is for the life of the woman; and if lands are assigned to a woman for years, in recompence of dower, this is no bar of dower. 2 Danv. Abr. 168; When other land is assigned, that is no part of the lands in which the woman claims dower, that assignment will not be good or binding; and there must be certainty in that which is assigned; otherwise, though it be by agreement, it may be void. 4 Rep. 2. 1 Inst. 34. If a wife accept and enter upon less land than the third of the whole, on the sheriff's assignment, she is barred to demand more. Moor. 679. But if a wife is entitled to dower of the lands of her first husband, and her second husband accepts of this dower less than her third part, she may, after his death, refuse the same, and have her full third part. Fitz. Dower, 121. By provision of law, the wife may take a third part of the husband's lands, and hold them discharged. 2 Danv. 672. The sheriff may also assign a rent out of the land in lieu of dower; and her acceptance of it will bar dower out of the same land, but not of other lands. 2 And. 31. Dyer, 31. 1 Nelson Abr. 680. None can assign dower but those who have a freehold, or against whom a writ of dower lies; and therefore a tenant by statute-merchant, statute-staple, or elegit, or lessee for years, cannot assign dower; for none of these have an estate large enough to answer the plaintiff's demand. Park. 403, 404. Co. Litt. 35. Bro. 63. 94. 1 Rol. Abr. 681. 6 Co. 57. If the heir within age assign to the wife more land in dower than she ought to have, he himself shall have a writ of admeasurement of dower at full age by the common law. F. N. B. 148. 332. Co. Litt. 39 a. 2 Inst. 367. 7 H. II. c. 4. 13 Edw. I. c. 7 & 8. If the heir within age, before the guardian enters, assigns too much in dower, the guardian shall have a writ of admeasurement, by stat. W. II. c. 7. 2 Inst. 317. If a wife after assignment of dower improves the lands, so that they then become of greater value than the other two parts, no writ of admeasurement lies, &c. F. N. B. 149. 2 Inst. 368. 5 W. 12.

Assignment, *Novel.* See Novel.

ASSIMILATION, compounded of *ad*, *to*, and *similis*, *like*, the act of *assimilating*; an act whereby a thing is rendered similar, and like to another.

Assimilation, Assimilatio, in *Physics*, is properly a motion whereby bodies convert other duly disposed bodies into a nature like, or homogeneous to their own. Instances of this assimilation we see in flame, which converts the oily or other particles of fuel into its own fiery and luminous nature. The like also appears in air, smoke, and spirits of all kinds.

The like we see in vegetables, where the watery juices imbibed from the earth, being farther prepared and digested in the vessels of the plant, become of a vegetable nature, and augment the wood, leaves, fruit, &c.

So also, in animal bodies, we see the food assimilated or changed into animal substance, by digestion, chylification, and the other operations necessary to nutrition.

Assimilation, in *Rhetoric.* See Simile.

ASSIMILATOR, in *Entomology*, a species of Ichneumon, found in North America. The general colour is scarlet; anterior part of the thorax black; wings brown; base and band yellowish, with a sanguineous dot. Swederus Nov. Act. Stockh. &c.

ASSIMILIS, a species of Brentus, a native of New Zealand, and first described by Fabricius in his *Species Insectorum*, under the name of Curculio assimilis. It is of a cylindrical form, with the apex of the beak glabrous and black; and the wing-cases somewhat fasciated with ferruginous. Fab. Gmel. &c.—*Obs.* The snout is shorter than the body; antennæ black, brown at the tip; thorax black, and caniculated; wing-cases pointed, and marked with four or five dots.

Assimilis, a species of Gryllus (*Acheta* section). The wings are tailed, and longer than the wing-cases; abdomen with two styles, which are cleft at the end.

Assimilis, a species of Sphex, that inhabits Tranquebar. It is black; antennæ, tail, and legs rufous; wings blue, white at the base and tip. Fabr. Mant. Inf.

Assimilis, a species of Oniscus, found in the European seas. It is oval; the tail obtuse and unarmed; body cinereous. Fabricius. This is asellus marinus vulgari brevior

vior et latior of Ray; and it is conjectured is the ſame kind as Pallas calls oniſcus globator.

ASSIMILIS, a ſpecies of ONISCUS, called by Pallas oniſcus globator; and by Ray aſellus marinus vulgari brevior et latior. It inhabits the European ſeas; is oval, cinereous, with an obtuſe, unarmed tail.

ASSINI, in *Geography*. See ISSINI.

ASSINIBOIN, or RED RIVER, ſometimes called *Aſſiniboils*, and *Aſſiniboels*, a river in the north-weſt part of North America, which diſembogues on the ſouth-weſt ſide of the lake Winipic, in N. lat. 50° 20′. W. long. 96° 30′. It alternately receives the two denominations of Aſſiniboin and Red river, from its dividing at the diſtance of about thirty miles from the lake into two large branches. The eaſtern branch, called the Red river, runs in a ſouthern direction to near the head waters of the Miſſiſſipi. On this river are two trading eſtabliſhments. The country, on either ſide, is but partially ſupplied with wood, and conſiſts of plains covered with herds of the buffalo and the elk, eſpecially on the weſtern ſide. On the eaſtern ſide are lakes and rivers, and the whole country is well wooded, level, and abounding with beaver, bears, mooſe-deer, fallow-deer, &c. &c. The inhabitants, who are of the Algonquin tribe, are not very numerous, and are conſidered as the natives of lake Superior. This country is alſo inhabited by the Nadowaſis, who are the natural enemies of the former; and the head of the water being in the war-line, they are in a ſtate of continual hoſtility. Although the Algonquins are equally brave, they are generally outnumbered by the others; and, therefore, if they venture out of the woods, which form their only protection, they will probably be ſoon extirpated. There is not, it is ſaid, a finer country in the world, for the reſidence of unciviliſed man, than that which occupies the ſpace between this river and lake Superior. It abounds in every thing neceſſary to the wants and comfort of ſuch people. Fiſh, veniſon, fowl, and wild rice, are very plentiful; and their ſubſiſtence demands that exerciſe which is eſſential to health and vigour. This country was formerly very populous; but the aggregate of its inhabitants does not now exceed 300 warriors; and the widows appear to be more numerous than the men. The racoon is a native of this country, but is ſeldom found to the northward of it.

The other branch of the river is called after the tribe of the Nadowaſis, who are denominated Aſſiniboins, and who are the principal inhabitants of its environs. It runs from off the N.N.W., and in N lat. 51° 25′, and W. long. 103° 20′, riſes in the ſame mountains with the river DAUPHIN. The country between this and the Red river is almoſt a continual plain to the Miſſiſoury. The ſoil is ſand and gravel, with a ſlight mixture of earth, and produces a ſhort graſs. Trees are very rare, and inſufficient, except in particular ſpots, for building houſes, and ſupplying fire-wood for the trading eſtabliſhments, of which there are four principal ones. Both theſe rivers are navigable for canoes to their ſources, without a fall; though in ſome parts there are rapids, cauſed by occaſional beds of limeſtone and gravel; but the bottom in general is ſandy.

The *Aſſiniboins*, and ſome of the Fall, or big-bellied Indians, are the principal inhabitants of this country, and border on the river, occupying the central part of it; that next lake Winipic, and about its ſource, being the ſtation of the Algonquins and Kniſteneaux, who have made choice of it in preference to their own country. They do not exceed 500 families. They are not beaver-hunters, which accounts for their allowing the diviſion juſt mentioned, as the lower and upper parts of this river have thoſe animals, which are not found in the intermediate diſtrict. They confine themſelves to hunting the buffalo, and trapping wolves, which cover the country. What they do not want of the former, for raiment or food, they ſometimes make into pemmican, or pounded meat, while they melt the fat, and prepare the ſkins in their hair, for winter uſe. The wolves they never eat; but produce a tallow from their fat, and prepare their ſkins; all which they exchange for arms or ammunition, gum, tobacco, knives, and various baubles, with thoſe who go to traffic in their country. Theſe Nadowaſis, or Aſſiniboins, called alſo *Stone Indians*, who inhabit the plains on and about the ſource and banks of the Saſkatchiwine and Aſſiniboin rivers, are ſuppoſed to have migrated from the ſouthward, being detached tribes from the Nadowaſis, who inhabit the weſtern ſide of the Miſſiſſipi, and lower part of the Miſſiſoury, and their progreſs is north-weſt. Mackenzie's Voyages from Montreal, &c. Introd. p. 62, &c. p. 407.

ASSINOIS, a nation of Indians, inhabiting the foreſts of Canada.

ASSIRATUM, in *Antiquity*, a bloody draught, wherewith treaties were ratified. It was made of wine and blood, called by the ancient Romans, *aſſir*.

ASSIS, in *Phyſiology*, either denotes opium, or a powder made of hemp-ſeed, which being formed into boles about the bigneſs of cheſnuts, is ſwallowed by the Egyptians, who are hereby intoxicated, and become ecſtatic, and full of the moſt agreeable viſions.

This is alſo called by the Turks *aſſerac*.

ASSISA, or ASSISIA. See the articles ASSISE, and TALLIAGE.

ASSISA, *cadere, to fall from the aſſiſe*, in *Law*, is to be nonſuited. Fleta, l. iv. c. 15. Bracton, l. ii. c. 7.

ASSISA *cadit in juratam*, is where the thing in controverſy is ſo doubtful, that it muſt neceſſarily be tried by a JURY. Fleta, l. iv. c. 15.

ASSISA *capi in medium aſſiſæ*, is when the defendant pleads directly to the aſſiſe, without taking any exception to the count, declaration, or WRIT.

ASSISA *continuanda*, is a WRIT directed to the juſtices, to take an aſſiſe for the continuance of the cauſe, where certain records alleged cannot in time be procured by the party. Reg. Orig. 217.

ASSISA *nocumenti*, is an *aſſiſe of* NUSANCE. See the article.

ASSISA *panis & cereviſiæ*, denotes the power or privilege of aſſigning and adjuſting the weight and meaſure of bread and beer.

ASSISÆ *judicium*, in *Law*, ſignifies a judgment of the court, given either againſt the plaintiff or defendant, for default.

ASSISA *proroganda*, is a WRIT directed to the juſtices of aſſiſe, for the ſtay of proceedings, on account of the king's buſineſs wherein the party is employed. Reg. Orig. 208.

ASSISE, or ASSIZE, *aſſiſa*, in *Law*, a ſitting of judges or juſtices, for the hearing or determining of cauſes. The word is French, *aſſiſe*, or *aſſis*, *ſeated;* formed of the Latin *aſſideo, to ſit together*, which is compounded of *ad, to*, and *ſedeo, I ſit*.

Such is the etymology of the word *aſſiſe*, given by ſir Edward Coke; ſo that it ſignifies, originally, the jury who try the cauſe, and ſit together for that purpoſe. By a figure, it is now made to ſignify the court or juriſdiction, which ſummons this jury together by a commiſſion of aſſiſe, or "ad aſſiſas capiendas;" whence the judicial aſſemblies held by the king's commiſſion in every county, as well to take theſe writs of aſſiſe, as to try cauſes at "Niſi Prius," are termed in common ſpeech, the *aſſiſes*.

ASSISE, *Clerk of.* See CLERK.

ASSISE, or ASSISES, was anciently uſed for certain extraordinary ſittings of ſuperior judges, in the inferior courts depending on their juriſdiction, to inquire whether the ſubaltern judges and officers did their duty; to receive the complaints preferred againſt them; and take cogniſance of appeals from them. Theſe are alſo called *mercurial aſſiſes.*

ASSISE was alſo a court or aſſembly, compoſed of ſeveral great perſons of the realm; held occaſionally in the king's palace, for the final deciſion of all affairs of importance.

This is more uſually called, among our writers, *placita malla publica*, or *curiæ generales.* Yet there is ſome difference been *aſſiſes* and *placita.*—The viſcounts or ſheriffs, who originally were only lieutenants of the *comites*, or counts, and rendered juſtice in their place, held two kinds of courts, the one ordinary, held every day, and called *placitum;* the other extraordinary, called *aſſiſe*, or *placitum generale;* at which the count himſelf aſſiſted, for the diſpatch of the more weighty affairs. Hence the term aſſiſe came to be extended to all grand days of judgment, at which the trials and pleadings were to be ſolemn and extraordinary.

The modern conſtitution of aſſiſes is different from that above mentioned.—Our aſſiſe may be defined a court, place, or time, where and when writs and proceſſes, either civil or criminal, or both, are conſidered, diſpatched, decided, &c. by judges and jury.

In this ſenſe we have two kinds of aſſiſes; *general* and *ſpecial.*

ASSISES, or ASSIZES, *general*, are thoſe held by the judges twice a year, in their ſeveral circuits.

The nature of the aſſiſes is explained by lord Bacon, who obſerves, that all the counties of the kingdom are divided into ſix circuits; to each of which two learned men, aſſigned by the king's commiſſion, are ſent twice a year, except London and Middleſex, where courts of niſi prius are holden in and after every term, before the chief or other judge of the ſeveral ſuperior courts; and except the four northern counties, where the aſſiſes are holden only once a year. Theſe are called JUSTICES, or *judges of aſſiſe*, and have ſeveral commiſſions by which they ſit; viz.

1. *A commiſſion of oyer and terminer*, directed to them, and many others of the beſt account in their reſpective circuits. In this commiſſion, the judges of aſſiſe, or ſerjeants at law, are only of the *quorum*; ſo that without them there can be no proceeding. This commiſſion, which is the largeſt they have, gives them power to tranſact matters relating to treaſons, murders, felonies, and other miſdemeanors. See OYER *and Terminer.*

2. The ſecond is of *gaol-delivery*, which is only to the judges themſelves, and the clerk of the aſſiſe aſſociate.—By this commiſſion, they have concern with every priſoner in gaol, for every offence whatſoever. See GAOL-*Delivery.*

3. The third is of *aſſiſe*, directed to themſelves and the clerk of the aſſiſe, to take writs of poſſeſſion, called alſo aſſiſes, in the ſeveral counties; that is, to take the verdict of a peculiar ſpecies of jury, called an *aſſiſe*, and ſummoned for the trial of landed diſputes. Theſe writs were formerly frequent; but now men's poſſeſſions are ſooner recovered by ejectments, &c.

4. The fourth is to take the niſi prius, directed to the juſtices, and the clerks of aſſiſes; whence they are alſo called *juſtices of niſi prius.* See NISI PRIUS.

5. The fifth is a *commiſſion of peace*, in every county of their circuit; and all the juſtices of the peace, having no lawful impediment, are bound to be preſent at the aſſiſes, to attend the judges.

The ſheriff of every ſhire is alſo to attend in perſon, or by a ſufficient deputy allowed by the judges, who may fine him if he fail.

Theſe commiſſions are conſtantly accompanied by writs of aſſociation, in purſuance of the ſtatutes 27 Edw. I. c. 4. 12 Edw. II. c. 3.; by which certain perſons (uſually the clerk of the aſſiſe and his ſubordinate officers) are directed to aſſociate themſelves with the juſtices and ſerjeants, and they are required to admit the ſaid perſons into their ſociety, in order to take the aſſiſes, &c. that a ſufficient ſupply of commiſſioners may never be wanting. But to prevent the delay of juſtice by the abſence of any of them, there is alſo iſſued of courſe a writ of "*ſi non omnes*," directing, that if all cannot be preſent, any two of them (a juſtice or ſerjeant being one) may proceed to execute the commiſſion.

There is a commiſſion of the peace, oyer and terminer, and gaol-delivery of Newgate, held eight times in every year, for the city of London and county of Middleſex, at juſtice-hall in the Old Bailey, where the lord mayor is chief judge. In Wales there are but two circuits, North and South Wales; for each of which the king appoints two perſons learned in the law to be judges. Stat. 18 Eliz. c. 8.

This excellent conſtitution of judges, circuits, and aſſiſes, was begun in the time of Henry II. though ſomewhat different from what it is now.

The *grand aſſiſe*, or trial by jury, inſtituted by Henry II. as an alternative inſtead of judicial combats, is particularly deſcribed by Glanvil, who was probably the adviſer of the meaſure.

For this purpoſe a writ, *De magna aſſiſa eligenda*, was directed to the ſheriff, to return four knights, who were to elect twelve others to be joined with them: all theſe together formed the grand aſſiſe, ordained to try the matter of right.

The judges of aſſiſe came into uſe in the room of the ancient juſtices in eyre, *juſtitiarii in itinere;* who were regularly eſtabliſhed, if not firſt appointed, by the parliament of Northampton, A.D. 1176, 22 Hen. II. with a delegated power from the king's great court; and they afterwards made their circuit round the kingdom once in ſeven years, for the purpoſe of trying cauſes. They were afterwards directed by Magna Charta, c. 12. to be ſent into every county once a year. Blackſtone's Com. vol. iii. See JUSTICES *of Aſſiſe.*

ASSISE *Special*, is a particular commiſſion granted to certain perſons, to take cogniſance of ſome one or two cauſes, as a diſſeiſin, or the like. This was very frequently practiſed among our anceſtors. Bracton, lib. iii. c. 12.

ASSISE is alſo uſed for a writ directed to the ſheriff, for the recovery of poſſeſſion of things immoveable, whereof a man's ſelf, or anceſtors, have been diſſeiſed.

Lyttleton, and others, ſuppoſe theſe writs of aſſiſe, in which the ſheriff is ordered to ſummon a jury or aſſiſe, to have given the denomination to the aſſiſes, or courts ſo called; and they aſſign ſeveral reaſons of the name of the writ: as,

1. Becauſe ſuch writs ſettle the poſſeſſion and right, in him that obtains by them. 2. Becauſe originally they were executed at a certain time and place appointed; for by the Norman law, the time and place muſt be known forty days before the judges ſit; and by our law there muſt be fifteen days preparation, except they be tried in the ſtanding courts at Weſtminſter. But it is more natural to ſuppoſe the writs denominated from the courts; and that they were called aſſiſes, becauſe anciently tried at ſpecial courts of aſſiſes, ſet and appointed for that purpoſe. Though of latter days,

theſe are diſpatched at the general aſſiſes, along with the commiſſion of oyer and terminer, &c.

This writ of aſſiſe is ſaid to have been invented by Glanvil, chief juſtice to Henry II; and if ſo, it ſeems to owe its introduction to the parliament held at Northampton, in the twenty-ſecond year of that prince's reign; when juſtices in oyer were appointed to go round the kingdom, in order take theſe aſſiſes; and the aſſiſes themſelves (particularly thoſe of *mort d'anceſtor* and *novel diſſeiſin*) were clearly pointed out and deſcribed. As a writ of entry is a real action, which *diſproves* the title of the tenant, by ſhewing the unlawful commencement of his poſſeſſion, ſo an aſſiſe is a real action, which *proves* the title of the demandant, merely by ſhewing his or his anceſtor's poſſeſſion; and theſe two remedies are in all other reſpects ſo totally alike, that a judgment on recovery in one is a bar againſt the other; ſo that when a man's poſſeſſion is once eſtabliſhed by either of theſe poſſeſſory actions, it can never be diſturbed by the ſame antagoniſt, in any other of them.

This remedy by writ of aſſiſe was called by ſtat. Weſtm. 2. 13 Edw. I. c. 24. *feſtinum remedium*, in compariſon with that by a writ of entry; as it did not admit of many dilatory pleas and proceedings, to which other real actions are ſubject; and it is only applicable to two ſpecies of injury by ouſter, viz. *abatement*, and a recent or *novel diſſeiſin*.

Assise *of Mort d'Anceſtor*, or death of one's anceſtor, is a writ that lies when father or mother, brother or ſiſter, uncle or aunt, nephew or niece, dies ſeiſed of lands, tenements, rents, &c. held in fee ſimple; and after their death, a ſtranger abates. It is good as well againſt the abator, as any other in poſſeſſion; but it lies not againſt brothers or ſiſters, &c. where there is privity of blood between the perſon proſecuting and them. Co. Litt. 242. It muſt alſo be brought within the time limited by the ſtatute of limitations, in fifty years; or the right may be loſt by negligence.

This writ directs the ſheriff to ſummon a jury or aſſiſe, who ſhall view the land in queſtion, and recogniſe whether ſuch anceſtor were ſeiſed thereof on the day of his death, and whether the demandant be the next heir; ſoon after which, the judges come down by the king's commiſſion to take the recognition of aſſiſe; when, if theſe points are found in the affirmative, the law immediately transfers the poſſeſſion from the tenant to the demandant. F. N. B. 195. Finch. L. 290. If the abatement happened on the death of one's grandfather or grandmother, then an aſſiſe of mort d'anceſtor no longer lies, but a writ of "*ayle*," or "*de avo*;" if on the death of the great grandfather or great grandmother, then a writ of "*beſayle*," or "*de proavo*;" but if it mounts one degree higher, to the "*triſayle*" or grandfather's grandfather; or if the abatement happened upon the death of any collateral relation, other than thoſe before mentioned, the writ is called a writ of "*coſinage*," or "*de conſanguineo*." Finch. L. 266, 267. And the ſame points ſhall be inquired of in all theſe actions "*anceſtrel*," as in an aſſiſe of mort d'anceſtor, as they are of the ſame nature (ſtat. Weſtm. 2. 13 Edw. I. c. 20.); though they differ in this point of form, that theſe anceſtrel writs (like all other writs of "*præcipe*") expreſsly aſſert a title in the demandant (viz. the ſeiſin of the anceſtor at his death, and his own right of inheritance); the aſſiſe aſſerts nothing directly, but only prays an inquiry whether theſe points be ſo. 2 Inſt. 399. There is alſo another anceſtrel writ, denominated a "*nuper obiit*," to eſtabliſh an equal diviſion of the land in queſtion, where, on the death of an anceſtor, who has ſeveral heirs, one enters, and holds the others out of poſſeſſion. F. N. B. 197. Finch. L. 293. But a man is not allowed to have any of theſe actions and writs for an abatement conſequent on the death of any collateral relation, beyond the fourth degree (Hale on F. N. B. 221.), though in the lineal aſcent he may proceed *in infinitum*. It was always held to be law (Bracton, l. 4. c. 13. § 3. F. N. B. 196.), that where lands were deviſable in a man's will by the cuſtom of the place, there an aſſiſe of mort d'anceſtor did not lie. For where lands were ſo deviſable, the right of poſſeſſion could never be determined by a proceſs, which merely inquired concerning the ſeiſin of the anceſtor, and the heirſhip of the demandant. Hence it may be reaſonable to conclude, that when the ſtatute of wills, 32 Hen. VIII. c. 1. made all ſocage lands deviſable, an aſſiſe of mort d'anceſtor no longer could be brought of lands held in ſocage (1 Leon. 267.); and that now, ſince the ſtatute 12 Car. II. c. 24. which converts all tenures, a few only excepted, into free and common ſocage, no aſſiſe of mort d'anceſtor can be brought of any lands in the kingdom; but that, in caſe of abatements, recourſe muſt be properly had to the writs of entry. Bl. Com. vol. iii. p. 187.

Theſe writs, however, are now almoſt obſolete, being in a great meaſure ſuperſeded by the action of ejectment, which anſwers almoſt all the purpoſes of real actions, ſome very peculiar caſes excepted.

Assise *of Novel Diſſeiſin* is an action of the ſame nature with the "*aſſiſe of mort d'anceſtor*," as in this the demandant's poſſeſſion muſt be ſhewn. But in other points it is different, particularly as it recites a complaint by the demandant of the diſſeiſin committed in terms of direct averment; whereupon the ſheriff is commanded to reſeiſe the land, and all the chattels thereon, and keep the ſame in his cuſtody till the arrival of the juſtices of aſſiſe (which, in fact, hath been uſually omitted); and in the mean time to ſummon a jury to view the premiſes, and make recognition of the aſſiſe before the juſtices. F. N. B. 177. At which time the tenant may plead either the general iſſues, "*nul tort*," "*nul diſſeiſin*," or any ſpecial plea. And if, upon the general iſſue, the recognitors find an actual ſeiſin in the demandant, and his ſubſequent diſſeiſin by the preſent tenant, he ſhall have judgment to recover his ſeiſin, and damages for the injury ſuſtained.

This is called "*novel diſſeiſin*," becauſe the juſtices in eyre went their circuits from ſeven years to ſeven years; and no aſſiſe was allowed before them, which commenced before the laſt circuit, called an *ancient* aſſiſe; and that which was upon a diſſeiſin ſince the laſt circuit, an aſſiſe of *novel* or recent diſſeiſin. Co. Litt. 153. *b*.

This remedy lies where a tenant in fee-ſimple, fee-tail, or for term of life, is put out and diſſeiſed of his lands or tenements, rents, common of paſture, common way, or of an office of profit, toll, &c. Glanv. l. 10. Reg. Orig. 197. Aſſiſe lies for tithes, by ſtat. 32 Hen. VIII. c. 7. Cro. Eliz. 559.; but not for an annuity, penſion, &c.

For preventing frequent and vexatious diſſeiſins, it is enacted by the ſtatute of Merton, 20 Hen. III. c. 3. that if a perſon diſſeiſed recover ſeiſin of the land again by aſſiſe of *novel diſſeiſin*, and be again diſſeiſed of the ſame tenements by the ſame diſſeiſor, he ſhall have a writ of "*re-diſſeiſin*;" and if he recover therein, the re-diſſeiſor ſhall be impriſoned. And by the ſtatute of Marlberge, 52 Hen. VIII. c. 8. ſhall alſo pay a fine to the king; to which the ſtatute Weſtm. 2. 13 Edw. I. c. 26. hath ſuperadded double damages to the party aggrieved. In like manner, by the ſame ſtatute of Merton, when any lands or tenements are recovered by aſſiſe of "*mort d'anceſtor*," or other jury, or any judgment of the court, if the party be afterwards diſſeiſed by the ſame perſon againſt whom judgment was obtained, he ſhall have

a writ of "*postea diffeisin.*" againſt him; which ſubjects the poſt-diſſeiſor to the ſame penalties as a re-diſſeiſor. The reaſon of which, given by ſir Edward Coke, 2 Inſt. 83, 84. is, becauſe ſuch proceeding is a contempt of the king's courts, and in deſpite of the law. Bracton, l. 4. c. 49. Bl. Comm. vol. iii. p. 188.

The court of Common Pleas, or King's Bench, may hold plea of aſſiſes of land in the county of Middleſex, by writ out of Chancery. 1 Litt. Abr. 105. And in cities and corporations an "*aſſiſe of fresh force*" lies for recovery of poſſeſſion of lands, within forty days after the diſſeiſin, as the ordinary aſſiſe is in the county. F. N. B. 7.

ASSISE *of Darrein Preſentment*, or laſt preſentation, lies when a man, or his anceſtors, under whom he claims, have preſented a clerk to a benefice, who is inſtituted; and afterwards upon the next avoidance, a ſtranger preſents a clerk, and thereby diſturbs him that is the real patron. In this caſe the patron ſhall have this writ directed to the ſheriff to ſummon an aſſiſe or jury, to inquire who was the laſt patron that preſented to the church now vacant, of which the plaintiff complains that he is deforced by the defendant; and, according as the aſſiſe determines that queſtion, a writ ſhall iſſue to the biſhop, to inſtitute the clerk of that patron in whoſe favour the determination is made, and alſo to give damages, in purſuance of ſtatute Weſtm. 2. 13 Edw. I. c. 5. The ſtatute of 7 Ann. c. 18. having given a right to any perſon to bring a writ of "*quare impedit*," and to recover (if his title be good), notwithſtanding the laſt preſentation, by whomſoever made; aſſiſes of darrein preſentment now not being in any wiſe concluſive, have been totally diſuſed, as indeed they began to be before; a "*quare impedit*," being a more general, and therefore a more uſual action. For the aſſiſe of darrein preſentment lies only where a man has an advowſon by deſcent from his anceſtors; but the writ of "*quare impedit*" is equally remedial, whether a man claims title by deſcent or purchaſe. 2 Inſt. 355. Bl. Com. vol. iii. p. 246.

ASSISE *of Juris utrum*, ſometimes ſtyled the parſon's writ of right, being the higheſt writ which he can have, lies for a parſon or prebendary at common law, and for a vicar by ſtat. 14 Edw. III. c. 17. and is in the nature of an aſſiſe, to inquire whether the tenements in queſtion are frankalmoign belonging to the church of the demandant, or elſe the lay-fee or the tenant. By this the demandant may recover lands and tenements, belonging to the church, which were aliened by the predeceſſor; or of which he was diſſeiſed; or which were recovered againſt him by verdict, confeſſion, or default, without praying in aid of the patron and ordinary; or on which any perſon has intruded ſince the predeceſſor's death. F. N. B. 48, 49. But ſince the reſtraining ſtatute of 13 Eliz. c. 10. whereby the alienation of the predeceſſor, or a recovery ſuffered by him of the lands of the church, is declared to be abſolutely void, this remedy is of very little uſe, unleſs where the parſon himſelf has been deforced for more than twenty years; for the ſucceſſor, at any competent time after his acceſſion to the benefice, may enter, or bring an ejectment. Bl. Com. vol. iii. p. 253.

ASSISE is alſo uſed, according to Lyttleton, for a jury. This that author ſuppoſes to be by a *metonymia effecti*, the jury being ſo called, becauſe ſummoned by virtue of the writ of aſſiſe.

Yet it muſt be obſerved that the JURY ſummoned upon a writ of right is likewiſe called the aſſiſe; but this may be ſaid to be καταχρησικως, or abuſively ſo termed. Aſſiſe, in this ſignification, is divided into *magna & parva*.

ASSISE is farther uſed, according to Lyttleton, for an ordinance or ſtatute, regulating the weight, ſize, or diſmerſions of certain commodities. Thus the ancient ſtatute of bread and ale, anno 51 Hen. III. is termed the *aſſiſe of bread and ale*, *aſſiſa panis & cervisiæ*. See *Aſſiſe of* BREAD.

ASSISE is farther uſed for the ſeaſoning or quantity itſelf preſcribed by the ſtatute. When wheat is of ſuch or ſuch price, bread ſhall be of ſuch aſſiſe. See BREAD.

We have divers ſtatutes for fixing the aſſiſe of fiſh, cloths, wood, billets, faggots, and the like. Vide 34 & 35 Hen. VIII. c. 3. 2 Ann, c. 15. 12 Ann, c. 6. 19 Car. II. c. 3. 4 Jac. I. c. 9. 1 Geo. I. ſtat. 2. c. 18.

Fixing any aſſiſe of cloth, or preſcribing what length, breadth, weight, &c. it ſhall have, ſir Joſiah Child thinks, does more hurt than good. As the faſhions and humours of mankind are variable, to ſupply all markets at all times, we muſt have all ſorts, cheap and light, as well as heavier and better. Stretching with tenters is eſſential to our drapery, and the preciſe degree or quantity of it cannot without injury be preſcribed by any law; but muſt be left to the vender's or exporter's diſcretion.

ASSISE *of the Foreſt*, is a ſtatute or condition containing orders to be obſerved in the king's foreſt. It is called an aſſiſe, becauſe it ſets down and appoints a certain meaſure, rate, or order, in the things it concerns.

ASSISE, again, is uſed for the whole proceſs in court, founded on a writ of aſſiſe; and ſometimes for a part of it, viz. the iſſue, or verdict of the jury.

Thus we read, that "aſſiſes of novel diſſeiſin ſhall not be taken but in their ſhires; and after this manner, &c." Mag. Chart. cap. 12. So in Merton, cap. 4. Hen. III. we meet with, "certified by aſſiſe, quitted by aſſiſe, &c."

ASSISE *of the King*, a name given to the ſtatute of view of frank-pledge, 18 Ed. II.

ASSISE *at large* is brought by an infant to inquire of a diſſeiſin, and whether his anceſtor were of full age, good memory, &c. when he made the deed pleaded, whereby he claims his right.

ASSISE *in Point of Aſſiſe, aſſiſa in modum aſſiſæ*, is when the tenant, as it were, ſetting foot to foot with the demandant, without any thing further, pleads directly the writ, no wrong, no diſſeiſin.

ASSISE *out of the Point of Aſſiſe*, is when the tenant pleadeth ſomething by exception, as a foreign releaſe, or foreign matter triable in a foreign country; which muſt be tried by a jury, before the principal cauſe can proceed.

ASSISE *of Right of Damages* is where the tenant confeſſeth an ouſter, and referring it to a demurrer in law, whether it were rightly done or not, is adjudged to have done wrong; whereupon the demandant ſhall have a writ of aſſiſe to recover damages. Bracton, l. 4. F. N. B. 105.

ASSISE *of Arms*, a name given to an act of 27 Hen. II. which provided that every man's armour ſhould deſcend to his heir, for defence of the realm; and which, together with the ſtatute of Wincheſter, 13 Edw. I. c. 6. obliged every man, according to his eſtate and degree, to provide a determinate quantity of ſuch arms as were then in uſe, in order to keep the peace.

ASSISE, *Black*, in *Hiſtory*, an aſſiſe held at Oxford, in July, A.D. 1577, ſo called on account of a ſudden "damp" which is ſaid to have ariſen, and after nearly ſmothering the whole court and audience, occaſioned the death of the judge, high ſheriff, moſt of the jury, and above 500 of the ſpectators. This fatality was aſcribed by the vulgar to magic; but the diſcernment of lord Bacon ſaw through the miſt of ſuperſtition. The ſymptoms of this diſorder, which ſeems to have been the firſt appearance of the gaol-fever in England, marked the moſt extreme putridity.

ASSISE, *Certificate of*, in *Law*, a writ granted by ſtat. Weſtm. 2. c. 25. to a party aggrieved, by a verdict or judgment given againſt him in an aſſiſe, when he had ſomething to plead, as a record or releaſe, which could not have been pleaded by his bailiff, or when the aſſiſe was taken againſt himſelf by default, to have the deed tried, and the record brought in before the juſtices, and the former jury ſummoned to appear before them at a certain day and place, for a further examination and trial of the matter. This, in reality, was neither more nor leſs than a ſecond trial of the ſame cauſe by the ſame jury. Bracton, l. 4. tr. 5. c. 6. § 2. F. N. B. 181. 2 Inſt. 415.

ASSISE, *Continuance of*. See CONTINUANCE.

ASSISE, *Juſtices of*. See JUSTICES.

ASSISE, *Limitation of*. See LIMITATION.

ASSISE, *Rents of*. See RENT.

ASSISER, or ASSIZER, *of weights and meaſures*, is an officer who has the care and overſight of thoſe matters.

ASSISI, in *Geography*, a town of Italy, belonging to the ſtates of the church and duchy of Spoleto; it is the ſee of a biſhop, and famous for being the native place of St. Francis, and for the beautiful church belonging to the order inſtituted by that ſaint, in which ſome ſay he is buried; as well as for the great number of pilgrims reſorting to it. It is fifteen miles weſt of Nocera.

ASSISII, in *Eccleſiaſtical Writers*, denote perſons beneficed in a cathedral church, not in a rank below that of canons. The aſſiſii perhaps anſwered to our minor canons. They were thus called, either becauſe they were allowed an aſſiſia or penſion; or from *aſſiduus*, *diligent*.

ASSISOR, the ſame with aſſeſſor. In Scotland, aſſiſors are the ſame with our jurors.

ASSISTANCE. See AID.

ASSISTANT is uſed for a perſon or officer appointed to attend another principal officer, for the more eaſy and regular diſcharge of his function.—Such a biſhop or prieſt had ſeven or eight aſſiſtants.

ASSISTANT, in Roman Catholic countries, is particularly applied to a kind of counſellors, or comptrollers, added to the generals or ſuperiors of monaſteries, &c. to take care of the affairs of the community.

The general of the Jeſuits has five aſſiſtants, of conſummate experience, choſen by him out of all the provinces of the order, and denominated from the kingdoms or countries to which they belong, i. e. Italy, Spain, Germany, France, and Portugal. In a like ſenſe, moſt of our trading companies have their courts of aſſiſtants.

ASSISTANTS are alſo thoſe condemned to aſſiſt in the execution of a criminal.

ASSISUS, in *Ancient Law Writers*, denotes a thing demiſed or farmed out for ſuch an aſſiſe or certain rent, in money or proviſions. Hence *terra aſſiſa* was commonly oppoſed to *terra dominica*; this laſt being held in demeine, or occupied by the lord, whereas the former was let out to tenants. Hence alſo *redditus aſſiſus* denotes the ſet or ſtanding rent.

ASSITHMENT, or ASSYTHMENT, in the *Law of Scotland*, is a compenſation for a man ſlain.

Aſſithment is the ſame with what, in the *Engliſh Law*, is called *Man*-BOTE.

ASSIUS LAPIS, in *Phyſiology*. See LAPIS *Aſſius*.

ASSO, in *Ancient Geography*, a town of Hiſpania Tarragonenſis, in the country of the Baſtitani. Ptolemy.

ASSOCIATE, compounded of *ad*, and *ſocius*, *companion*, an adjunct, partner, or member.

ASSOCIATION, ASSOCIATIO, the act of aſſociating, or forming a ſociety or company.

Aſſociation is properly a contract or treaty of partnerſhip, whereby two or more perſons unite together, either for their mutual aſſiſtance, or for the joint carrying on of an affair; or even for a more commodious manner of life.

In a military ſenſe, it denotes any number of men embodied in arms for mutual defence in their diſtrict, and for preſerving the public tranquillity againſt foreign and domeſtic enemies.

The cloſeſt of all aſſociations is that made by the band of matrimony. See SOCIETY.

ASSOCIATION *of Ideas*, is where two or more ideas conſtantly and immediately follow or ſucceed one another in the mind, ſo that one ſhall almoſt infallibly produce the other; whether there be any natural relation between them or not. Or, it is that principle or faculty by which two or more ſenſations, ideas, or motions, are ſo united together, that any one impreſſed alone ſhall excite all the reſt.

Where there is a real affinity or connection in ideas, it is the excellency of the mind to be able to collect, compare, and range them in order, in its inquiries: but where there is none, nor any cauſe to be aſſigned for their accompanying each other, but what is owing to mere accident or habit, this unnatural aſſociation becomes a great imperfection, and is, generally ſpeaking, a main cauſe of error or wrong deductions in reaſoning. Thus, the idea of goblins and ſprights has really no more affinity with darkneſs than with light; and yet let a fooliſh maid inculcate theſe ideas often on the mind of a child, and raiſe them there together, it is poſſible he ſhall never be able to ſeparate them again ſo long as he lives, but darkneſs ſhall ever bring with it thoſe frightful ideas.—Let cuſtom, from the very childhood, have joined the idea of figure and ſhape to the idea of God, and what abſurdities will that mind be liable to about the Deity!

Such wrong combinations of ideas, Mr. Locke ſhews, are a great cauſe of the irreconcileable oppoſition between the different ſects of philoſophy and religion: for we cannot imagine, that all who hold tenets different from, and ſometimes even contradictory to one another, ſhould wilfully and knowingly impoſe upon themſelves, and refuſe truth offered by plain reaſon: but ſome looſe and independent ideas are by education, cuſtom, and the conſtant din of their party, ſo coupled in their minds, that they always appear there together: theſe they can no more ſeparate in their thoughts, than if they were but one idea, and they operate as if they were ſo. This gives ſenſe to jargon, demonſtration to abſurdities, conſiſtency to nonſenſe, and is the foundation of the greateſt, and almoſt of all, the errors in the world.

Mr. Hume obſerves (Eſſays, vol. i. p. 73.), that there is a principle of connection between the different thoughts or ideas of the mind; and that, in their appearances to the memory or imagination, they introduce each other with a certain degree of method and regularity. Of this connection he alleges evidence from our more ſerious thinking or diſcourſe, from our wildeſt and moſt wandering reveries, and even our dreams, and from our looſeſt and fineſt converſation. Among different languages alſo, words expreſſive of ideas the moſt compounded, nearly correſpond to each other; and hence it is inferred, that the ſimple ideas comprehended in the compound ones are bound together by ſome univerſal principle, which has an equal influence on all mankind. This writer aſcribes the aſſociation or connection of ideas to three principles; viz. "reſemblance," "contiguity" in time or place, and "cauſe" or "effect." Theſe, he ſays (p. 54.), are the only bonds that unite our thoughts

thoughts together, and beget that regular train of reflection or diſcourſe, which, in a greater or leſs degree, takes place among all mankind. Although it ſhould be allowed, that theſe are real principles of aſſociation or connection in our ideas, it may be urged that ideas ſucceed one other without reſemblance or contiguity as to time and place, and without the mutual correſpondence or relation of cauſe and effect; and that there are other aſſociations beſides thoſe of ideas, which are aſſociated with paſſions and emotions, and paſſions and emotions are aſſociated together. A particular idea is aſſociated together with a proper name, and often with the general name of the ſpecies; general conceptions, or mixed modes, as they are denominated by Mr. Locke, are aſſociated with ſigns both audible and viſible, and ſigns are aſſociated with one another. Virtue, as it conſiſts in action and intention, does not reſemble the ſound virtue, is not contiguous to it in time or place, and is neither its cauſe nor its effect; nor can it be imagined that the arbitrary ſigns of various objects ſhould have any natural relation to one another. But if there were no other principles of aſſociation beſides thoſe of Mr. Hume, the author himſelf has not ſhewn how they account for the phenomena.

Dr. Hartley, whatever may be thought of his general ſyſtem, has attempted to form a mechanical theory of the human mind and its various operations by means of "aſſociation." The principle or law of aſſociation ſeems to have been firſt noticed by Mr. Locke; but he applies it to the ſolution of very few phenomena. Mr. Gay, in a "Diſſertation upon Virtue," prefixed to "Law's tranſlation of King's Origin of Evil," deduces the moral feelings from aſſociation; and Dr. Hartley traces all, or at leaſt moſt of the other phenomena of mind to the ſame cauſe. This law of aſſociation extends to Sensations, to Ideas, and to Muscular *Motions*; which ſee reſpectively.

Accordingly he diſtinguiſhes it into ſynchronous and ſucceſſive; and aſcribes our ſimple and complex ideas to the influence of this principle or habit. Particular ſenſations reſult from previous vibrations conveyed through the nerves to the medullary ſubſtance of the brain; and theſe are ſo intimately aſſociated together, that any one of them, when impreſſed alone, ſhall be able to excite in the mind the ideas of all the reſt. Thus we derive the ideas of natural bodies from the aſſociation of the ſeveral ſenſible qualities with the names that expreſs them, and with each other. The ſight of part of a large building ſuggeſts the idea of the reſt inſtantaneouſly, by a ſynchronous aſſociation of the parts; and the ſound of the words, which begin a familiar ſentence, brings to remembrance the remaining parts in order by ſucceſſive aſſociation. Dr. Hartley maintains that ſimple ideas run into complex ideas by aſſociation; and apprehends that by purſuing and perfecting this doctrine, we may ſome time or other be enabled to analyſe thoſe complex ideas that are commonly called the ideas of reflection, or intellectual ideas, into their ſeveral component parts, i. e. into the ſimple ideas of ſenſation of which they conſiſt; and that this doctrine may be of conſiderable uſe in the art of logic, and in explaining the various phenomena of the human mind. For a further explication of Dr. Hartley's doctrine of aſſociation, the philoſophical principles upon which it depends, and the mode of its application, the reader muſt be referred to his "Obſervations on Man," vol. i. or part i. paſſim; and alſo to Prieſtleys "Abridgment of Hartley," 8vo. & Stewart's "Elements of the Philoſophy of the Human Mind," 4to. 1792. ch. v.; Darwin's Zoonomia, vol. i. § 5—10.

A late writer obſerves, that the doctrine of aſſociation is to be very carefully diſtinguiſhed from the theory of vibrations, being eſtabliſhed upon independent evidence and undeniable facts. This therefore, he adds, muſt ſtand, though the other ſhould be regarded only as a plauſible hypotheſis, deſtitute of ſatisfactory proof. It was to prevent the confuſion of the nature and evidence of aſſociation and vibration, ſays this writer, that Dr. Prieſtley publiſhed his edition of Hartley's work, from which the theory of vibrations is entirely excluded. Belſham's Elements of the Philoſophy of the Mind, and of Moral Philoſophy, 8vo. 1801. p. 54. See alſo Æther, Idea, Memory, Sensation, Vibrations, and Vibratiuncles.

Association, in *Law*, is a writ or patent ſent by the king, either of his own motion, or at the ſuit of a party plaintiff, to the juſtices of aſſiſe, to have other perſons aſſociated to them, in order to take the aſſiſe.

Upon this patent of aſſociation, the king ſends his writ to the juſtices of the aſſiſe, thereby commanding them to admit ſuch as are ſo ſent.

The clerk of the aſſiſe is uſually aſſociate of courſe; in other caſes ſome learned ſerjeants at law are appointed. See Assise.

Association *of Parliament*. In the reign of king William III. the parliament entered into a ſolemn aſſociation to defend his majeſty's perſon and government againſt all plots and conſpiracies: and all perſons bearing offices civil or military were enjoined to ſubſcribe the aſſociation to ſtand by king William, on pain of forfeitures and penalties, &c. by ſtat. 7. and 8 W. III. c. 27.

Association, *Feathers Tavern*, conſiſted of a number of clergymen, and of gentlemen in the profeſſions of civil law and phyſic, who, wiſhing to be exempted from the obligation of ſubſcribing the thirty-nine articles of religion, applied in the year 1772, by petition to parliament for this purpoſe. Their ſociety was ſo called from the place where they met. The object at which they aimed was to be permitted to hold their preferments, upon condition of merely ſubſcribing to the holy ſcriptures, agreeably to the grand Proteſtant principle; which is, that every thing neceſſary to ſalvation is fully contained in theſe ſcriptures, and that they are the ſole rule of faith and manners. The requeſt, however, was not thought to comport with the nature of a civil eſtabliſhment in religion; and principally on this ground, it was ſtrenouſly oppoſed by many diſtinguiſhed members of parliament, and as ſtrenuouſly defended by ſome of the firſt perſons in the houſe of commons. After a long and intereſting debate, the admiſſion of the petition was rejected by a large majority. It was the general opinion, that thoſe who propoſe to reap the benefits of the eſtabliſhed church, ought to comply with the terms on which they are offered.

Association, *Proteſtant*, took its riſe from an act paſſed in 1778, for relieving his majeſty's ſubjects, profeſſing the Romiſh religion, from certain penalties and diſabilities impoſed upon them in the eleventh and twelfth years of the reign of king William III. The act was paſſed unanimouſly; nor did it at firſt appear to excite any great alarm among perſons of any claſs. The papiſts, as they now thought the government inclined to be more indulgent to them than it had formerly been, began to take ſomewhat greater liberties in the exerciſe of their religion than thoſe to which they had been accuſtomed. By degrees, a number of perſons in London, and in ſome other parts of the kingdom, began to expreſs great apprehenſions of the increaſe of popery, and to exclaim againſt the late act, by which they thought it was countenanced and ſupported. Meetings of theſe zealous perſons were held from time to time in London; and they formed themſelves into a body under the

the title of the "Proteſtant Aſſocation," and at length lord George Gordon became their preſident. The object of their aſſociation was to procure a repeal of the late act in favour of the papiſts. The perſons who attended theſe meetings were, many of them, honeſt and well-intentioned people, who had a juſt averſion to popery, but who did not duly conſider that, an intolerant ſpirit was at leaſt as cenſurable in a proteſtant as in a papiſt. In a little while, however, their number, conſiſting of perſons in the lower ranks of life, became very conſiderable. A petition to parliament was framed, for a repeal of the late act, and the utmoſt pains were employed to procure ſubſcriptions to it. The number of ſubſcribers is ſaid to have amounted to 120,000 perſons. In order to give weight to their petition, it was determined that it ſhould be attended by great numbers of the petitioners in perſon; and a public advertiſement was iſſued for that purpoſe, ſigned by lord George Gordon. Accordingly it is ſuppoſed that at leaſt 50,000 perſons aſſembled on the ſecond of June in St. George's Fields, and proceeded in great order to the houſe of commons, where their petition was preſented by their preſident. Several members of both houſes of parliament were groſsly inſulted and ill-treated by the populace, and in the evening a mob aſſembled which demoliſhed two Romiſh chapels. The metropolis, for ſeveral ſubſequent days, became an unexampled ſcene of alarm, terror, and devaſtation; and for ſome time the magiſtrates in general manifeſted little activity. At length, when the rioters were making a formidable attack upon all property, and every man's perſonal ſecurity was endangered, the military interpoſed, and, after conſiderable exertions, reſtored the capital of the kingdom to order and tranquillity, after a devaſtation that had continued for ſix days, and not without the loſs of many lives. The number of perſons killed and wounded by the military in the ſuppreſſion of theſe riots, is ſaid to have amounted to 458 perſons. It would be unjuſt, however, to impute to the proteſtant aſſociation, as the firſt agents in this buſineſs thought proper to ſtyle themſelves, the whole of the miſchief that enſued, or to ſuppoſe that they foreſaw the calamities to which they gave occaſion. Yet it muſt be allowed, that theſe unhappy ſcenes owed their origin to their bigotry and deluſion; and that the members of that aſſociation manifeſted a ſpirit the very reverſe of that which diſtinguiſhes real and enlightened proteſtants, and very diſgraceful to the national character. It has been ſaid, that no member of the proteſtant aſſociation was executed or tried for any ſhare in the riots; and it is moſt probable, that thoſe who engaged in this diſaſtrous buſineſs from religious bigotry, would have the diſcretion to retire before the laſt exceſſes, and before the intervention of the military. Several of the rioters were afterwards apprehended, tried, and executed. Lord George Gordon was committed to the Tower on the tenth of June, arraigned on the twenty-fifth of January, 1781; and on the fifth of February, tried under a charge of conſtructive treaſon, and acquitted.

ASSOILE, in our *Ancient Law-Books*, ſignifies to abſolve, deliver, or ſet free from an excommunication. See ABSOLUTION.

ASSOKO, in *Geography*, a town of Africa, the capital of Iſſini, in an iſland of the ſame name, formed by the river Iſſini; which is the ordinary reſidence of the king and his attendants.

ASSOM. See ASSEM.

ASSONANCE, in *Rhetoric* and *Poetry*, a term uſed where the words of a phraſe, or verſe, have the ſame ſound or termination, and yet make no proper rhyme.

Theſe are uſually vicious in Engliſh; the Romans ſometimes uſed them with elegancy: "Militem comparavit, exercitum ordinavit, aciem luſtravit."

The Latins call it *ſimiliter deſinens*; and the Greeks ὁμοιοτέλευτον.

ASSONANT *Rhymes*, is a term particularly applied to a kind of verſes common among the Spaniards, where a reſemblance of ſound ſerves inſtead of a natural rhyme.

Thus *ligera*, *cubierta*, *tierra*, *meſa*, may anſwer each other in a kind of aſſonant rhyme, becauſe they have each an *e* in the penultimate ſyllable, and an *a* in the laſt.

ASSONGSONG, in *Geography*. See *Iſland of* ASSUMPTION.

ASSONIA, in *Botany*, a genus of plants, ſo named in honour of Ignatius de Aſſo, a Spaniſh botaniſt. Lin. gen. Schreb. n. 1123. Cavanill. Diſſ. 3. p. 120. Dombeya, ib. p. 121. Claſs, *monadelphia dodecandria*. Nat. Ord. *columniferæ*. *Malvaceæ*, Juſſ. Gen. Char. *Cal.* perianth double; outer three-leaved, unilateral, deciduous; inner one-leafed, five-parted; parts lanceolate, acute, reflex. *Cor.* petals five, roundiſh, narrowed at the baſe, ſpreading, withering, affixed to the pitcher of the ſtamens. *Stam.* filaments fifteen, filiform, upright, ſhorter than the corolla, conjoined at the baſe in the form of a pitcher; anthers oblong, ſubſagittate, erect; five linear-lanceolate, ſomewhat erect, coloured, petal-formed ſtraps between the ſtamens, proceeding from the pitcher. *Piſt.* germ roundiſh, five-furrowed; ſtyle ſimple, longer than the ſtamens, permanent; ſtigmas five, recurved. *Per.* capſule ſubgloboſe, or turbinate, five-celled; cells ſeparable, bivalve. *Seeds*, ſolitary or in pairs, ſubovate. Obſ. aſſonia cav. with the outer perianth one-leafed, three-toothed, and with five ſtyles, does not ſeem ſeparable from Dombeya cav. with the outer perianth three-leaved, and a ſingle ſtyle, any more than the hibiſcus tiliaceus from the other hibiſci; or the one ſtyled ſidas, from the reſt; eſpecially as Dombeya ovate cav. has the ſtyle divided almoſt to the baſe. We have therefore followed Schreber and Martyn in uniting Dombeya with aſſonia.

Species, 1. A. *populnea*. Cavan. Diſſ. 120. t. 42 f. 1. "Leaves cordate, ovate-acuminate; flowers corymbed." A ſmall tree reſembling hibiſcus populneus. The French call it bois de ſenteur bleu ou galeux, becauſe the wood is ſweet-ſcented, and blue in the centre, and when old it becomes very hard. Leaves alternately ſcattered, large, entire, and hang obliquely; outer calyx ſo ſmall as ſcarcely to be obſerved; petals ſmall, oblong, obliquely ſickle-ſhaped, firſt white, afterwards ferruginous. A native of the iſle of Bourbon, in hilly woods. 2. A. *palmata*, Dombeya palmata, Cavan. l. c. "Leaves cordate, palmate, ſmoothiſh, lobes ſeven, acute, ſerrate-crenate; flowers corymbed." Stem arboreous; leaves alternate, on long footſtalks; lobes oblong-acuminate; ſtipules lanceolate, tomentoſe, deciduous; flowers in ſolitary peduncles, at the ends of the branches, tomentoſe; corolla an inch and a half wide, changing from white to a ſulphur colour, and laſtly ferruginous. A native of the iſle of Bourbon, where it is called by the natives mahot-tantan. 3. A. *acutangula*. Cavan. l. c. "Leaves cordate, roundiſh, three-cuſped, crenate; flowers racemed." Stem arboreous; leaves alternate, of the length of the footſtalks, ſeven-nerved, and commonly with an angular tooth between the baſe and lateral diviſions; racemes ſolitary, axillary; calyxes extremely tomentoſe; corolla as that of the A. palmata (2), but veined and coriaceous; fruit pear-ſhaped. A native of the iſle of Bourbon. 4. A *angulata*, Dombeya angulata. Cavan. l. c. "Leaves cordate, roundiſh, angular at top, ſerrate-toothed tomentoſe; umbels numerous; common peduncles ſhorter than the petiole." Arboreous; branches tomentoſe; leaves with three angles at the tip, ſeven-nerved; ſtipules embracing

the

the flowers; peduncles axillary, ſolitary; fruit globular, with two [illegible]. A native of the iſle of Bourbon. 5. A. *tiliæfolia*, Dombeya tiliæfolia. Cav. l. c. "Leaves cordate, [illegible]; flowers racemed-corymbed, arboreous." All the [illegible] very tomentoſe; leaves ſhaped like thoſe of the common lime-tree, ſeven-nerved, tomentoſe; peduncles axillary, ſolitary, divided at the end into oppoſite horizontal racemes. A native of the iſle of Bourbon. 6. A. [illegible], Dombeya tomentoſa. Cavan. l. c. "Leaves cordate, roundiſh, crenate, tomentoſe, with almoſt circular veins; flowers umbelled." Stem arboreous branched; the whole tree very tomentoſe; ſtipules coriaceous, broad-ovate, acuminate, ciliate, half-ſtem claſping; common peduncle very long, forked at the top, and terminated by two umbels; petals roundiſh, ſickle-ſhaped. A native of Madagaſcar. 7. A. *punctata*, Dombeya punctata. Cavan. l. c. "Leaves ovate-lanceolate, long, quite entire, tomentoſe underneath, rugged with dots on the upper ſurface." Trunk about the thickneſs of the human leg or thigh, covered with dark-brown bark; branches alternate, tomentoſe; leaves three or four inches long (ſometimes crenulate or ſinuate), rounded at the baſe; flowers on a long axillary common peduncle, umbelled, white, but becoming ferruginous by age; pedicels twenty or thirty, one-flowered. A native of the iſle of Bourbon. 8. A. *decanthera*, Dombeya decanthera. Cavan. l. c. "Leaves ovate-acuminate, repand-crenate, ſmooth; ſtamens five, two-anthered; flowers ſmall, umbelled." Stem arboreſcent, with a brown furrowed bark; leaves alternate, ſcattered, four times as long as the petioles; the outer calyx conſiſts of three very ſmall briſtles; corolla ſcarcely three lines in diameter; filaments ten, five barren, five fertile; germ five cornered, one ſeed in each cell of the fruit. A native of Madagaſcar. 9. A. *umbellata*, Dombeya umbellata. Cavan. l. c. "Leaves cordate, ovate-oblong, acuminate, repand ſmooth; flowers umbelled, globular." A tree entirely ſmooth, with a brown bark; leaves longer than the petioles, either repand about the edge, or obſoletely and broadly crenate; common peduncles ſolitary, axillary, on the tops of the branches reddiſh, very ſmooth, terminated by a ſingle globoſe umbel. A native of the iſle of Bourbon, where ropes are made of the bark. 10. A. *ovata*, Dombeya ovata. Cavan. l. c. "Leaves ovate, toothed, five-nerved, tomentoſe; ſtyle very ſmall." Stem ſhrubby, branched, covered with a ferruginous nap; leaves alternate, white underneath, rugged on the upper ſurface, double the length of the petioles; ſtipules capillary, tomentoſe; peduncles forked at the top, with a corymb at each diviſion; corolla ſmall; petals narrow, roundiſh at the end, not ſickle-ſhaped; their claws are permanent, and deeply ferruginous. Fruit globular, five-cornered, within the ſegments of the calyx. A native of the iſle of Bourbon. 11. A. *ferruginea*, Dombeya ferruginea. Cavan. l. c. "Leaves ovate-oblong, ſeven-nerved, ferruginous beneath; petioles, peduncles, and calyxes tomentoſe." Stem arboreſcent, from eight to ten feet high; branches covered with a rufous nap; leaves on the extreme twigs, ſcattered alternately, acuminate, tooth-ſerrulate, tomentoſe on the under ſurface; peduncles double the length of the petiole, forked at the top, with a many-flowered corymb on each diviſion. This, perhaps, may be a variety of the A. ovata; the leaves, however, are much broader at the baſe, acuminate, ſeven-nerved, and very much toothed; whereas in that they are ſtrictly ovate, five-nerved, and the teeth are diſtant. A native of the iſle of Mauritius, and firſt diſcovered by Commerſon in 1769.

Propagation and Culture. See HIBISCUS and PENTAPETES.

ASSONIA, or DOMBEYA *Phœnicea*. See PENTAPETES.

ASSORUS, in *Ancient Geography*, a town of Macedonia, in Mygdonia. Ptolemy. Alſo, a town of Sicily, ſeated on a hill to the left of the river Chryſus. Diod. Sic.

ASSOS, or ASSUM, a ſea-port town of Aſia Minor, in the Troas, fortified both by art and nature, according to Strabo. Acts, xx. 13.

Assos, or Asso, is now a ſea-port of Aſiatic Turkey, in Natolia, on a gulf of the Ægean ſea, to which it gives name, four leagues S. E. from Troas, and eleven leagues weſt of Adramiti. N. lat. 39° 38'. E. long. 26° 1'.

Assos, Asos, or ASUM, a ſmall town of Crete.—*Aſſos*, a ſmall river of Greece, in the diſtrict of Phocis, which ran from N. to S. at the foot of the mountain Edyleon, and joined the Cephiſus.

ASSOUAN, in *Geography*, near the ancient SYENE, a poor village on the eaſt ſide of the Nile, with a ſmall fort commanded by an aga of the janizaries, N. lat. 24° 0' 45". E. long. 33° 30. This place is called by the Arabs *Aſſouan*, which ſignifies *enlightened*, in alluſion as Bruce ſuppoſes, to the circumſtance of the well mentioned by Pliny (H. N. l. ii. c. 73.), enlightened within by the ſun's being directly over it in June. Bruce's Travels, vol. i. p. 158. See SYENE.

ASSRUMINA, in *Botany*, the name given by the people of Guinea to the ſhrub whoſe leaves they uſe as a cure for the long worms which are found in their fleſh in thoſe parts of the world; they only bruiſe the leaves, and apply a large lump of the maſs to the part where the worm is, and they are eaſed at once, without the pain and hazard of drawing it out. Phil. Tranſ. N° 232.

ASSULATUS, in *Natural Hiſtory*, a ſpecies of ECHINUS. The ſhell is ſcutellate, the ſcutels united by tranſverſe ſutures. Klein, p. 15. 26. β. Cidaris teſſulata of Klein, p. 16. 27. is ſuppoſed to be a variety of this kind.

ASSUMPSIT, in *Law*, denotes a voluntary promiſe by which a man aſſumes and takes upon him to perform, or to pay any thing to another.

This term comprehends any verbal promiſe made upon conſideration, and is variouſly expreſſed by the civilians, according to the nature of the promiſe: ſometimes by pactum; ſometimes by promiſſio, pollicitatio, or conſtitutum.

If the promiſe be to do any explicit act, it is an expreſs contract, as much as any covenant; and the breach of it is an equal injury. However, the remedy is not exactly the ſame. Since, inſtead of an action of covenant, there only lies an action upon the caſe, for which it is called the aſſumpſit or undertaking of the defendant; the failure of performing which is the wrong or injury done to the plaintiff, the damages of which the jury are to eſtimate and ſettle. As if a builder promiſes, undertakes, or aſſumes to Caius, that he will build and cover his houſe within a time limited, and fails to do it; Caius has an action on the caſe againſt the builder for this breach of his expreſs promiſe, undertaking, or *aſſumpſit*; and ſhall recover a pecuniary ſatisfaction for the injury ſuſtained by ſuch delay. So alſo in caſe of a debt by ſimple contract, if the debtor promiſes to pay it and does not, this breach of promiſe entitles the creditor to his action on the caſe, inſtead of being driven to an action of debt, 4 Rep. 92. Thus likewiſe a promiſſory note, or note of hand not under ſeal, to pay money at a day certain, is an *expreſs aſſumpſit*; and the payee at common law, or by cuſtom and act of parliament the indorſee, may recover the value of the note in damages, if it remains unpaid. Action on the caſe on aſſumpſit lies, for not making a good eſtate of land ſold, according to promiſe; not paying money upon a bargain and ſale, according to agreement; not delivering goods promiſed on demand; this is by *expreſs aſſumpſit*.

assumpsit. When one becomes legally indebted to another for goods sold, the law implies a promise that he will pay the debt; and if it be not paid, *indebitatus assumpsit* lies: and the same lies for goods sold and delivered to a stranger "ad requisitionem" of the defendant; the price being agreed upon and proved. 1 Danv. Abr. 26, 27. If a tenant, being in arrear for rent, settles an account of arrears with his landlord, and promises to pay him the sum in arrear, an assumpsit lies on this promise. 1 Rol. Abr. 9. If a man and woman, being unmarried, mutually promise to marry each other, and afterwards the man marries another woman, by which he renders himself incapable of performing his contract, an assumpsit lies, in which the woman shall recover damages. Carter, 233. There are, however, five cases, specified by the statute of frauds and perjuries, 29 Car. II. c. 3. in which no verbal promise will be sufficient ground of action, without some note or memorandum in writing, signed by the party who is to become chargeable. 1. Where an executor or administrator promises to answer damages out of his own estate. 2. Where a man undertakes to answer for the debt, default, or miscarriage of another. 3. Where any agreement is made, upon consideration of marriage. 4. Where any contract or sale is made of lands, tenements, or hereditaments, or any interest therein. 5. Where there is any agreement that is not to be performed within a year from the time of its being made. In all these cases a mere verbal assumpsit is void. The consideration is the ground of the common action on the case; and no such action lies against a man for a promise, where there is no consideration why he should make the promise.

Besides *express* contracts, there are others implied by law: and these are such as reason and justice dictate, and which, therefore, the law presumes that every man has contracted to perform: and, upon this presumption, to become answerable to such persons as suffer by his non-performance. Of this nature are, *first*, such as are necessarily implied by the fundamental constitution of government, to which every man is a contracting party. Thus it is that every person is bound and hath virtually agreed to pay such particular sums of money, as are charged on him by the sentence, or assessed by the interpretation of the law. By the same principle of an implied original contract to submit to the rules of the community of which we are members, a forfeiture imposed by the bye laws and private ordinances of a corporation upon any that belong to the body, or an amercement set in a court-leet or court-baron upon any of the suitors to the court, create a debt in the eye of the law; and such forfeiture or amercement, unpaid, works an injury to the party or parties entitled to receive it, for which the remedy is by action of debt. The same reason may with equal justice be applied to all penal statutes, or such acts of parliament that inflict a forfeiture for transgressing the provisions enacted by them. A *second* class of implied contracts are such as arise from natural reason, and the just construction of law; and this class extends to all presumptive undertakings or assumpsits, which, though never perhaps actually made, yet constantly arise from this general implication and intendment of the courts of judicature, that every man hath engaged to perform what his duty or justice requires. Thus, if I employ a person to transact any business for me, or to perform any work, the law implies that I undertook or assumed to pay him so much as his labour deserved. If I neglect to make him amends, he has a remedy by an action on the case upon this implied assumpsit. The valuation of his trouble is submitted to the judgment of a jury, who will assess such a sum in damages as they think he really merited. This is called an assumpsit on a "*quantum meruit*." There is also an implied assumpsit, on a "*quantum valebat*," similar to the former; where one takes up goods or wares of a tradesman, without expressly agreeing for the price. Here the law concludes, that both parties did mutually agree, that the real value of the goods should be paid: and the action on the case may be brought as soon as the taker refuses to pay that value. Another species of implied assumpsits is when one has had and received money belonging to another, without any valuable consideration given on the receiver's part; for the law construes this to be money had and received for the use of the owner only; and implies that the person so receiving promised and undertook to account for it to the true proprietor. And if he detain it, an action on the case lies against him for the breach of such implied promise, and undertaking; and he will be made to repair the owner in damages, equivalent to what he has detained in violation of such promise. This is applicable to almost every case where the defendant has received money, which "ex æquo et bono" he ought to refund. 1 Peer. 1012. Moreover, when a person has laid out and expended his own money for the use of another at his request, the law implies a promise of repayment, and an action will lie on this assumpsit. Carth. 446. 2 Keb. 99. Also, upon a stated account between two merchants, or other persons, the law implies that he against whom the balance appears has engaged to pay it to the other; though there be no actual promise. From this implication, actions on the case are frequently brought, declaring that the plaintiff and defendant had settled their accounts together, "*insimul computassent*," which gives name to this species of assumpsit, and that the defendant engaged to pay the plaintiff the balance, but has since neglected to do it. The last class of contracts, implied by reason and construction of law, arises upon the supposition, that any one who undertakes any office, employment, trust, or duty, contracts with those who employ or entrust him to perform it with integrity, diligence, and skill; and, if by his wanting either of these qualities, any injury accrues to individuals, they have their remedy in damages by a special action on the case. If a sheriff does not execute a writ sent to him, or wilfully makes a false return, the party aggrieved shall in both cases have an action on the case for damages, to be assessed by a jury. Moor, 431. 2 Rep. 99. If a sheriff or gaoler suffers a prisoner, taken upon mesne process, or during the pendency of a suit, to escape, he is liable to an action on the case; but if, after judgment, a debtor charged in execution for a certain sum be permitted to escape, a goaler or sheriff is compellable by action of debt for a sum liquidated and ascertained, to satisfy the creditor his whole demand. Stat. Westm. 2. 13 Edw. I. c. 11. and 1 Ric. II. c. 12. 2 Inst. 382. An advocate or attorney betraying the cause of their client, or, being retained, neglecting to appear at the trial, by which the cause miscarries, are liable to an action on the case, for a reparation to their injured client. Heth L. 188. There is also in law an implied contract with a common innkeeper, to secure the goods of his guest; with a common carrier or barge-master, to be answerable for the goods he carries; with a common farrier, that he shoes a horse well, without laming him; with a common taylor, or other workman, that he performs his business in a workman-like manner; in which if they fail, an action on the case lies for the recovery of damages for such breach of their general undertaking. 11 Rep. 54. 1 Saund. 324. If an innkeeper, or other victualler, hangs out a sign, and opens his house for travellers, it is an implied engagement to entertain all persons who travel that way; and upon this universal assumpsit an action on the case will lie against him

for damages, if he without good reaſon refuſes to admit a traveller. 1 Ventr. 333. If one cheats with falſe cards or dice, or by falſe weights and meaſures, or by felling one commodity for another, an action on the caſe lies againſt him for damages, upon the contract which the law always implies, that every tranſaction is fair and honeſt. 10 Rep. 56. In contracts for proviſions, it is always implied, that that they are wholeſome, and if they be not, the ſame remedy may be had. If cloth is warranted to be of ſuch a length, when it is not, an action on the caſe lies for damages. Finch L. 189. Alſo, if a horſe be warranted ſound, and he wants the ſight of an eye, it has been held that an action on the caſe lies to recover damages for this impoſition. Salk. 611. Bl. Com. vol. iii. p. 158, &c. See CONTRACT, and PROMISE.

ASSUMPTION, in *Antiquity*, a feaſt celebrated in the Romiſh church, in honour of the miraculous aſcent of the Holy Virgin, as they deſcribe it, body and ſoul into heaven.

ASSUMPTION, was alſo, among our anceſtors, uſed for the day of the death of any ſaint: "quia ejus anima in cœlum aſſumitur." See ANNIVERSARY.

ASSUMPTION, in *Geography*, an epiſcopal city of South America, in the province of Paraguay, ſituate in the eaſtern diviſion of the province, on a river of the ſame name, a little above the place where it is joined by the river Picolmaga. It was built by the Spaniards in 1538, and is diſtinguiſhed by the ſalubrity of its ſituation, by the fertility of the territory in which it ſtands, producing a great variety of native and exotic fruits in the higheſt perfection, and alſo by the number of its inhabitants, who are partly deſcendants of Spaniſh families that ſettled in the place, and partly Meſtizos and Mulattoes. This city lies about fifty leagues above the confluence of the Paraguay and Paraná, where the former begins to be called the river de la Plata. It is the reſidence of a governor appointed by the king of Spain, under the viceroy of Peru. Near the city is a lake, remarkable for having in the middle of it a rock, which riſes to a prodigious height like an obeliſk. S. lat. 25° 30'. W. long. 57° 40'.

ASSUMPTION, or *Aſſonſong*, one of the Marianne or Ladrones iſlands, ſituate according to La Perouſe's chart in N. lat. 19° 45'. and W. long. 145° 35'. It is a volcanic iſland, about three leagues in circumference; and its higheſt point is about 200 toiſes above the level of the ſea. Its form is that of a perfect cone, whoſe ſurface, as far as forty toiſes above the level of the ſea, is as black as coal. Some cocoa-nut trees occupy nearly a fifteenth part of the circumference of the iſland, for a depth of forty toiſes, which are in ſome meaſure ſheltered from the eaſt wind; and this is the only part of the iſland where it is poſſible to anchor, in a depth of water of thirty fathoms over a bottom of black ſand, extending nearly a quarter of a league. The lava, flowing from the iſland, has formed precipices and hollows, bordered with a few ſtinted cocoa-nut trees, thinly ſcattered and mixed with limes and a ſmall number of plants; and it has covered the whole circumference as far as a border of about forty toiſes towards the ſea. The ſummit appeared to be vitrified, reſembling black glaſs, and its termination was concealed by clouds. Although no ſmoke was viſible, the ſulphureous ſmell which extended half a league out to ſea, induced a ſuſpicion that the fire of the volcano was not extinguiſhed, and that its laſt eruption was not very ancient; more eſpecially as there appeared no trace of decompoſition in the lava, on the middle of the mountain. The iſland exhibits no appearance of having been ever inhabited, even by quadrupeds, much leſs by human beings. Some very large crabs were found here; and theſe, it is apprehended, have driven away the ſea-birds, who lay on ſhore, and whoſe eggs they would devour. Some very fine ſhells were found in the hollows of the rocks; and three or four new ſpecies of the banana-tree were collected. No fiſh was perceived, beſides a red ray, ſome ſmall ſharks, and a ſea-ſerpent, which might be three feet long and three inches thick. No water could be procured in this deſolate iſland, except ſome ſmall quantity lodged in the hollows of the rocks. The ſea glides along the ſhore and forms, at every point, a ſurf which renders debarkation extremely dangerous. Voyage of La Perouſe, vol. i. p. 24. Eng. Tranſl. Lond. 1798.

ASSUMPTION, is alſo an iſland lying on the ſouth-weſt coaſt of California, forming with a projecting point of land a bay, both on its north-eaſt and ſouth-eaſt ſides. N. lat. 28°. W. long. 120°.

ASSUMPTION, a river of North America, in New York, which falls in from the eaſt into the lake Ontario, after a N. W. and W. courſe of about 28 miles; 5 miles S. E. from Pl. Gaverſe.

ASSUMPTION, a name ſometimes given to the iſland ANTICOSTI.

ASSUMPTION, in *Logic*, is the minor or ſecond propoſition, in a categorical ſyllogiſm.

ASSUMPTION is ſometimes alſo uſed for a conſequence drawn from the propoſitions whereof an argument is compoſed. Thus we ſay, the premiſes are true, but the *aſſumption* is captious.

ASSUMPTIVE ARMS, in *Heraldry*. See ARMS.

ASSURÆ, in *Ancient Geography*, an epiſcopal town of Africa, in the proconſular province, placed by Antonine (Itiner.), on the road from Carthage to Sufatulæ, 108 miles from the former, and 42 from the latter.

ASSURANCE, POLICY OF. See POLICY.

ASSURANCE, in *Commerce*. See INSURANCE.

We have alſo offices of *aſſurance for life*, where policies are granted for ſecuring a ſum of money on the extinction of any given life, in conſideration of an adequate compenſation either paid down in one ſum, or by annual inſtalments during the continuance of ſuch life.

ASSURANCES *on Lives*. By *aſſuring* a life is meant, obtaining ſecurity for a ſum of money to be received ſhould the life drop, in conſideration of ſuch a payment made to the *aſſurer*, as ſhall be a ſufficient compenſation for the loſs and hazard to which he expoſes himſelf. In eſtimating this compenſation, the amount of it will depend entirely on the rate of intereſt at which money is improved, and the probability of the duration of the life to be aſſured. If the intereſt be high, and alſo the probability high of the duration of the life, this compenſation or premium of aſſurance will be proportionably low; on the contary, if the rate of intereſt be low, and the probability of living be alſo low, the premium will be proportionably high. In order to explain this, let 100l. be ſuppoſed to be aſſured on a life for a year to come; that is, let 100l. be ſuppoſed payable a year hence, provided a life of a given age fails in that time. Were the intereſt of money at 5 *per cent.*, and the life ſure of failing, the value of the aſſurance would be the ſame with the preſent value of 100l. payable at the end of a year, reckoning intereſt at 5 *per cent.*, that is, it would be that ſum, which being now put out to intereſt at 5 *per cent.* would produce 100l. at the end of the year, or 95l. 4s. 8d. See ANNUITIES, Tab. II.

On the contrary, if it be an even chance, or the odds be equal, whether the life does or does not fail in the year, the value of the *aſſurance* will be half the former value, or

47l. 12s. 4d. If the odds *against* its failing be two to one, that is, if it may be expected that ſome one of three lives, at the age of the given life, will fail in the year, the value of the *aſſurance* will be a *third* of the firſt value, reckoning the ſame intereſt, or 31l. 14s. 11d. If the odds be nineteen to one, or if it may be expected that ſome one out of twenty lives, at the age of the given life, will fail in a year, the value of the *aſſurance* will be a *twentieth* part of the firſt value, or 4l. 15s. 3d. If the odds be forty-nine to one, or only one out of fifty ſuch lives as the given life can be expected to fail in the year, the value of the *aſſurance* will be a *fiftieth* part of the firſt value; that is, it will be 1l. 18s. 1d. Now the odds of three to one are, according to the *Northampton* Table of Obſervations (ſee MORTALITY), the odds that a life aged 92 will not drop in a year. The odds of 19 to 1 are the odds, according to the ſame table, that a life aged 65 will not drop in a year; and the odds of 49 to 1 are the odds that a life aged 39 will not drop in a year. It follows, therefore, that the value of the *aſſurance* of 100l. for a year on a life aged 92 is 31l. 14s. 11d.; on a life aged 65, 4l. 15s. 3d. on a life aged 39, 1l. 18s. 1d., reckoning intereſt at 5 *per cent.* If intereſt be reckoned at 3 *per cent.* theſe values will be 32l. 7s. 3d.; 4l. 17s.; 1l. 18s. 10d.

The aſſurances moſt commonly practiſed are thoſe on ſingle lives, either for a given term, or during their whole continuance. When a life is aſſured for a given term or number of years, the value may be paid either in one *ſingle preſent payment*, or in *annual* payments, to be continued till the failure of the life, ſhould that happen within the term; or if not, till the determination of the term.

The method of finding theſe values cannot be eaſily underſtood by thoſe who are unacquainted with the doctrine of life-annuities, as it has been taught by mathematicians; but the following obſervations may be of uſe to give ſome general idea of the ſubject.—Let us ſuppoſe that a perſon aged 39 years wants to aſſure 100l. on his life for 27 years, or till he is 66 years of age, and that he chuſes to advance the proper compenſation for it in a *fixed annual* payment, the firſt to be made immediately, and the following payments to be continued till either the term ends, or his life drops. The value of the *aſſurance* for the *firſt* year, is by what has been already ſhewn, 1l. 18s. 1d. reckoning intereſt at 5 *per cent.* The value of the aſſurance for the *laſt* year of the term, ſuppoſing him to have lived to the beginning of it, or to have compleated 65, is likewiſe, by what has been already ſhewn, 4l. 15s. 3d., reckoning all along at the ſame intereſt. If, therefore, the value of the aſſurance for the whole 27 years is to be one conſtant ſum payable at the beginning of every year, that ſum, it is obvious, ought to be *greater* than the *firſt*, and *leſs* than the *laſt*; or a ſum which is ſome *mean* between 1l. 18s. 1d. and 4l. 15s. 3d. The rule for finding this mean in all caſes is the following.

"From the value of an annuity *certain* for the given term, found by Tab. III. under the article ANNUITIES, ſubſtract the value of the life for the given term, found by the method explained under the article LIFE-*Annuities*, and reſerve the remainder. Multiply the value of 1l. due at the end of the given term (found by Tab. I. under the article *Annuities*), by the *perpetuity* (ſee REMARK II.), and alſo by the *probability* (ſee MORTALITY), that the given life ſhall fail in the given term. This product being added to the *reſerved remainder*, let the total be multiplied by the ſum to be aſſured, and afterwards divided by the perpetuity increaſed by unity, then let this *quotient* be *reſerved*. Find next the value of an annuity on the given life for one year leſs than the given term, and the *reſerved quotient* being divided by this laſt value, increaſed by unity, will give the required value of the aſſurance in a *fixed annual* payment, till either the life fails, or the term ends."

EXAMPLE.

Let the term be 27 years, the life aged 39, the ſum 100l., and the intereſt 5 *per cent.*

SOLUTION.

The value of the life of a perſon whoſe age is 39, for 27 years, is (reckoning intereſt at 5 *per cent.* and by the *Northampton* Table of LIFE *Annuities*) 11.171. This value ſubtracted from 14.643 (the value of an annuity certain for 27 years, ſee Tab. III. ANNUITIES), leaves 3.452, the remainder to be *reſerved*. The value of 1l. to be received at the end of 27 years is .26785, by Tab. II. under the article ANNUITIES. The probability that the life of a perſon aged 39 ſhall fail in 27 years, is, by the *Northampton* Table, (ſee MORTALITY) $\frac{1}{21}\frac{5}{6}$; and the *perpetuity* is 20. Theſe numbers multiplied by one another, and 3.452 added to the product, make 6.568, which multiplied into 100l. the given ſum, and divided by 21, the perpetuity increaſed by unity, gives 31.276 for the *quotient* to be *reſerved*.

The value of an annuity on a life of 39 for 26 years, is 11.019. Dividing therefore 31.276 (the reſerved quotient) by 12.019, or the value of the above annuity, with unity added, we have 2.60l., or 2l. 12s., which is the required value, in *fixed annual* payments, of the aſſurance of 100l. on the given life for 27 years, reckoning intereſt at 5 *per cent.*

The value of the ſame aſſurance in *one preſent payment* is the *quotient reſerved* above, or 31l. 5s. 6d.; in other words, it is the value of an annuity of 2l. 12s. for 26 years on a life of 39; the firſt payment of which is to be made immediately, and the remaining ones at the *beginning* of each year; or, it is the ſum ariſing in the foregoing operation *before* the diviſion by the value of the life for the term of 26 years.

If the *aſſurance* is to be made for the whole poſſible duration of the life, the method of finding the value will be more ſimple, and the rule for this purpoſe is as follows. "From the perpetuity ſubtract the value of the given life, and multiply the remainder by the given ſum, and this laſt product divided by the perpetuity, increaſed by unity, will give the value in a *ſingle preſent payment*. And this payment, divided by the value of the life, will give the value of the *aſſurance* in *annual payments* during the continuance of the life."

EXAMPLE.

Let the age of the life be, as in the laſt example, 39; the ſum to be aſſured for its whole duration 100l.; and the rate of intereſt 5 *per cent.* The value of the life, according to the *Northampton* Table (ſee LIFE *Annuities*), is 11.979. The value of the life ſubtracted from 20 (the *perpetuity*) is 8.021, which multiplied by 100, the given ſum, and divided by 21, the perpetuity increaſed by unity, gives 38.195l. or 38l. 4s. for the value in a *ſingle payment* of the *aſſurance* of 100l. for the whole duration of a life aged 39, reckoning intereſt at 5 *per cent.* And this payment divided by 11.979 is 3.188l. or 3l. 3s. 9d. the value of the ſame *aſſurance* in *annual payments* during the continuance of the life.

REMARK I.

If the value of the *aſſurance* is deſired in annual payments, the firſt of which, inſtead of being made at the *end* of the year as the preceding rule ſuppoſes, is to be made *immediately*, the value in a ſingle payment (found as directed above) muſt be divided by the value of the life *increaſed by unity*;

that is, in the preſent inſtance, by 12.6"9, which will make the required value of the aſſurance 2.941 l. inſtead of 3.1881. or 2 l. 18s. 12"1. inſtead of 3 l. 3s. 9d.

The reaſon of adding unity to the values of lives taken from the tables is, that in all the tables the values of annuities on lives are given on the ſuppoſition that the firſt payment is not to be made till the end of a year. If therefore the firſt yearly payment is to be made immediately, the value muſt exceed that in the tables by one year's purchaſe.

Remark II.

The *perpetuity* means the value of the fee-ſimple of an eſtate, which is found by dividing 100 l. by its intereſt for a year. For example, if the rate of intereſt be 5 l. *per cent.* 100 l. divided by 5 gives 20 for the perpetuity; if the rate of intereſt be 4, 3·5, or 3 *per cent.* 100 l. divided by 4, 3·5 or 3, will give 25, 28·571, or 33·333 for the perpetuity.

Remark III.

If inſtead of a *gre's ſum*, an *eſtate* or a *perpetual annuity* is to be aſſured during the whole duration of a life, the value in a *ſingle payment* will be "the value of the life ſubtracted from the perpetuity, and the remainder multiplied by the annuity, or by the rent of the eſtate." And the value in *annual payments beginning immediately*, will be "the ſingle payment divided by the value of the life increaſed by unity."—Univerſally, it ought to be remembered that the *aſſurance* of an *eſtate* or *annuity* after any given life or lives, is worth as much more than the *reverſion* of a correſponding ſum, as 100 l. increaſed by its intereſt for a year is greater than 100 l.—Thus the preſent values, in *ſingle and annual payments*, of the *aſſurance* of an eſtate of 5 l. *per ann.* for ever, and of a 100 l. in money on the whole duration, or on any part of an aſſigned life, are to one another (intereſt being at 5 *per cent.*) as 105 l. to 100 l. The reaſon of the difference is, that the algebraical calculations, by which theſe values are determined, ſuppoſe that the *gre's ſum* and the firſt yearly payment of the *annuity* are to be received at the ſame time after the extinction of the lives. It is eaſy to ſee, that this is a circumſtance which muſt make the latter of more value.

This ſpecimen is ſufficient to explain the general nature and principles of aſſurances on ſingle lives, and to teach in all caſes the method of finding the values of ſuch aſſurances. To thoſe who wiſh to be further informed on this ſubject, it may not be improper to add the following mathematical demonſtrations of the rules which have been given above. Let a be the number of perſons living at the age of any given life A; let a', a'', a''', &c. be the number of perſons who have died in the 1ſt, 2d, 3d, &c. year after the age of A; let r be 1 l. increaſed by its intereſt for a year, and S the ſum to be aſſured. The probability that A dies in the 1ſt year is $\frac{a'}{a}$, the value therefore of the aſſurance in that year is $\frac{S.a'}{ar}$. The probability that A dies in the 2d, after having ſurvived the 1ſt year, is $\frac{a''}{a}$, and conſequently the value of the aſſurance in the 2d year is $\frac{S.a''}{ar^2}$. In like manner, the value of the aſſurance in the 3d, 4th, 5th, - - - - - n^{th} year, ſuppoſing m to denote the number of perſons who have died in the nth or laſt year, is $\frac{S.a'''}{ar^3}$, $\frac{S.a^{iv}}{ar^4}$, $\frac{S.a^{v}}{ar^5}$ - - - and $\frac{S.m}{ar^n}$ reſpectively. The whole value, therefore, of the aſſurance for n years is $S \times \overline{\frac{a'}{ar} + \frac{a''}{ar^2} + \frac{a'''}{ar^3} + \dots \frac{m}{ar^n}}$. But the ſeries $\frac{a'}{ar} + \frac{a''}{ar^2} + \frac{a'''}{ar^3}$, &c. is $= \frac{1}{r} - \frac{a-a'}{ar} + \frac{1}{r^2} - \frac{a-a'+a''}{ar^2} + \frac{1}{r^3} - \frac{a-a'+a''+a'''}{ar^3} + \frac{1}{r^4} - \frac{a-m}{ar^n} - \frac{1}{r^n} + \frac{a-a'}{ar^2} - \frac{1}{r^3} + \frac{a-a'+a''}{ar^3} - \frac{1}{r^4} + \dots \frac{a-a'+a''+a'''}{ar^4}$ - - - - $- \frac{1}{r^n} + \frac{a-l}{ar^n}$ (ſuppoſing l to be the number of perſons who have died in the $n-1^{th}$ year). The ſeries $\frac{a-a'}{ar} + \frac{a-a'+a''}{ar^2}$, &c. - - $+ \frac{a-n}{ar^n}$ is known to expreſs the value of an annuity on the life of A for n years, and the ſeries $\frac{1}{r} + \frac{1}{r^2} + \frac{1}{r^3}$ - - - - - $+ \frac{1}{r^n}$ to expreſs the value of an annuity certain for n years. Call the firſt of theſe ſeries A, and the ſecond N, then will the whole of the above ſeries be $= N - A - \frac{N}{r} + \frac{A}{r} + \frac{1}{r^{n+1}} - \frac{a}{ar^{n+1}} - \frac{m}{ar^{n+1}} = \frac{r-1}{r} \times \overline{N-A} + \frac{1}{r} \times \frac{m}{ar^n}$. Now ſince $\frac{1}{r-1}$ is equal to the perpetuity (or p), $\frac{r-1}{r}$ will be $= \frac{1}{p+1}$ and $\frac{1}{r} = \frac{p}{p+1}$; hence the whole value of the aſſurance of S for n years will be $\frac{S.}{p+1} \times \overline{N-A} + \frac{mp}{ar^n}$ agreeable to the rule given above.

If the aſſurance be for the whole continuance of life, the fraction $\frac{mp}{ar^n}$ vaniſhes, N becomes equal to the perpetuity, and A to the value of an annuity for the whole life of A, ſo that in this caſe the expreſſion becomes ſimply $= \frac{S}{p+1} \times \overline{f-A}$, which is the rule given in words for finding the value of an aſſurance on the whole poſſible duration of the life of A.

If the aſſurance be that of an *eſtate* or a *perpetual annuity*, the value of each payment of ſuch annuity depending on the failure of the life of A in one, two, three, &c. years to n years will be $\frac{1}{r} - \frac{a-a'}{ar}$, $\frac{1}{r^2} - \frac{a-a'+a''}{ar^2}$, $\frac{1}{r^3} - \frac{a-a'+a''+a'''}{ar^3}$ - - - - - $\frac{1}{r^n} - \frac{a-m}{ar^n}$, and the value of the fee-ſimple after n years, depending on the contingency of A having died in the mean time, will be $\frac{m.p}{ar^n}$; the whole value, therefore, of the aſſurance will be $\overline{N-A} + \frac{m.p}{ar^n}$ multiplied into the annuity; or ſimply $\overline{p-A}$ multiplied into ſuch annuity, if the aſſurance is to be continued during the whole duration of A's life. For the more ample diſcuſſion of this ſubject, the reader is referred to Mr. Simpſon's "Select Exerciſes," Dr. Price's "Treatiſe on Reverſionary Payments," and Mr. Morgan's "Doctrine of Annuities and Aſſurances ſtated and explained."

Aſſurances may be made on any number of *joint* lives, or on the *longeſt* of any lives. Rules for finding the values of ſuch aſſurances

aſſurances are given in the books juſt referred to.—There are further *aſſurances* on ſurvivorſhips; by which is meant an obligation for the value received, to pay a given ſum or annuity, provided a given life ſhall ſurvive any other given life or lives. The method of finding theſe values is given under the article SURVIVORSHIP.

All theſe different kinds of *aſſurances* are of the greateſt uſe; and the offices for making them are a particular advantage to the public. The principal of their offices in England are, the Amicable Society, incorporated for a perpetual aſſurance; the Society for Equitable Aſſurances on Lives and Survivorſhips; the Royal Exchange Aſſurance; the Weſtminſter and the Pelican Life-Offices. The Amicable Society requires an annual payment of 5l. from every member payable quarterly during life. The whole annual income hence ariſing is equally divided among the repreſentatives of ſuch members as die every year; and this renders the dividends among the claimants in different years more or leſs according to the number of members who have happened to die in thoſe years. But this ſociety engages that the dividends ſhall not be *leſs* than 150l. to each claimant, though they may be *more*.—None are admitted whoſe ages are *greater* than 45, or *leſs* than 12; nor is there any difference of contributions allowed on account of difference of age. This ſociety has ſubſiſted ever ſince 1706, and its credit and uſefulneſs are well eſtabliſhed.—Its plan, however, is liable to ſeveral objections.—Firſt, it is evident that regulating the dividends among the *repreſentatives* by the number of members who die every year, is not equitable; becauſe it makes the benefit which is to accrue from the aſſurance, to depend, not on the value of the contribution, but on a *contingency*; that is, on the number of members who have happened to die in the year. Secondly, its requiring the ſame payments from all perſons under 45, is alſo not equitable, for the payment of a perſon admitted at 12 ought not to be more than *half* the payment of a perſon admitted at 45. Thirdly, by limiting the ſums aſſured on one and the ſame life to 450l. it is but ill adapted to make a competent proviſion for the families of its members; nor can it be of any ſervice to perſons whoſe age exceeds 45 years; a period of life, which it has been found from experience that many, if not moſt perſons, have exceeded before they have begun to provide for their families by aſſuring their lives. It is likewiſe by no means fitted to the circumſtances of perſons who want to make aſſurances on their lives for only one year, or for a ſhort term of years. Thus, the true value of the aſſurance of 150l. for five years on the life of a perſon whoſe age is 29, may be found by the firſt rule to be nearly three guineas *per ann.* ſuppoſing intereſt at 3 *per cent.* and the probabilities of the duration of human life as they are given in the *Northampton* Table of Obſervations. But ſuch an aſſurance could not be made in this ſociety without an annual payment of 5l.

Neither is the plan of this ſociety at all adapted to the circumſtances of perſons who want to make *aſſurances* on particular ſurvivorſhips. For example, a perſon poſſeſſed of an eſtate or ſalary, which muſt be loſt with his life, has a perſon dependent upon him, for whom he deſires to ſecure a ſum of money payable at his death. But he deſires this only as a ſecurity againſt the danger of his dying *firſt*. In theſe circumſtances he enters into this ſociety; and by an annual payment of 5l. entitles his *nominee* at his death to 150l. In a few years, perhaps, his *nominee* happens to die, and the object of his *aſſurance* having thus ceaſed, he determines to give up the advantage ariſing from his former payments and to withdraw from the ſociety. The right method in this caſe would have been to have taken from ſuch a perſon the true value of the ſum aſſured "on the ſuppoſition of non-payment, provided he ſhould ſurvive." Had this been done, he would have paid for the *aſſurance* (ſuppoſing intereſt at 3 *per cent.* his age 30, the age of his *nominee* alſo 30, and the values of lives as given by Dr. *Price* from the *Northampton* Table) 3l. 6s. 8d. in annual payments, to begin immediately and to be continued during the joint duration of his own life and the life of his *nominee*.

None of theſe objections, however, are applicable to the other offices juſt mentioned. In all of them aſſurances may be made for any term and at any age between eight and ſixty-ſeven years, either at ſingle or annual premiums, proportioned to the age of the perſon aſſured, and to the riſk or hazard attending the aſſurance. The buſineſs tranſacted in theſe offices is very extenſive, and ſo far as relates to the *premiums* they require, is founded on ſtrict calculation. Theſe *premiums*, which are now indiſcriminately adopted by all of them, were originally computed in the year 1781 for the uſe of the Equitable Society,—an inſtitution ſo entirely guided by computation in all its practice, that in aſcertaining its profits at fixed periods, and diſtributing them among its members, it has never failed to proceed on the ſame ſure principles, and by this means to render itſelf one of the greateſt public benefits to this country. In conſequence of its immenſe capital, and the very wide extent of its buſineſs, it certainly far exceeds any other office of the ſame kind; and therefore by giving an account of its riſe and progreſs, a proper idea will be obtained of the nature of life-aſſurances, as well as of the important benefits which are derived from them.

This ſociety was eſtabliſhed in the year 1762, in conſequence of propoſals which had been made, and lectures recommending ſuch a deſign, which had been read by Mr. Thomas Simpſon; and the premiums then adopted for its practice were computed by Mr. James Dodſon, the author of the Mathematical Repoſitory. It aſſures any ſums or reverſionary annuities on any life or lives, for any number of years, as well as for the whole continuance of the lives, and in any manner that may be beſt adapted to the views of the perſons aſſured; that is, either by making the aſſured ſums payable *certainly* at the failure of any given lives, or on condition of *ſurvivorſhip*; and alſo, either by taking the price of the aſſurance in *one preſent payment*, or in *annual payments* during any ſingle or joint lives, or any terms leſs than the whole poſſible duration of the lives. Any perſons, for inſtance, who depend on incomes which muſt be loſt when they die, or who are only tenants for life in eſtates, may, by aſſuring an equivalent on their own lives, guard their families or repreſentatives againſt the loſs which would accrue by their death. Hence, clergymen, counſellors, perſons holding any places of profit, traders, and others who have families whoſe ſubſiſtence depends on the continuance of their lives, may be enabled to make proviſion for their families after their deceaſe. All perſons likewiſe who enjoy annuities for the lives of others, may here ſecure themſelves againſt the loſs they would ſuſtain, ſhould they ſurvive the perſons on whoſe lives the annuities depend, by making *aſſurances* which would entitle them to any ſums payable on condition their ſurvivorſhip ſhould take place. Any perſon entitled to an eſtate, annuity, legacy, or office after another perſon provided he ſurvives, may here ſecure an equivalent for his family at his deceaſe, provided he does *not* ſurvive. Huſbands may in this ſociety ſecure annuities for their wives, provided they ſhould leave them widows. Parents, by aſſuring the lives of their children, when infants, till they attain a given age, may ſecure for them, ſhould they live to that age, ſuch ſums as may be neceſſary to put them out to apprenticeſhips, or to make capitals or fortunes for them, with which to ſet out in buſineſs, or to marry. Any perſons, apprehenſive of being left without ſupport in old age, when

incapable

incapable of labour, may purchaſe an annuity to commence at any future year of his life and to continue during the remainder of his life, and he may do this at a ſmall expence if he is young, and willing to wait for the commencement of his annuity, till he is fifty-five or ſixty years of age. In ſhort there are no kinds of *aſſurance* on lives or ſurvivorſhips which this ſociety does not make. In doing this, while it proceeds on mathematical principles in computing its premiums, it takes advantage of making theſe computations at ſo low an intereſt as 3 *per cent.* in order to gain ſuch a profit as ſhall enable it to bear the expences of management, and render it a *permanent* benefit to the public. In the infancy of the inſtitution alſo, it adopted tables of the values and probabilities of lives in *London*, where, as in all great towns, the rate of human mortality is much greater than it is among mankind in general. But after an experience of twenty years, it found that tables giving higher probabilities of life might be ſafely uſed, and therefore it made choice of thoſe more correct tables which were publiſhed by Dr. Price from obſervations at *Northampton*: and it appears, from comparing the decrements of life in the ſociety with thoſe in the table juſt mentioned that, during a term of thirty-four years, the ratio of mortality in the former is to that in the latter between the ages of 10 and 20 as 1 to 2
20 and 30 as 1 to 2
30 and 40 as 3 to 5
40 and 50 as 3 to 5
50 and 60 as 5 to 7
60 and 80 as 3 to 4,
or that in all ages between 10 and 80, fewer deaths have happened in the ſociety than ſhould have happened according to the tables from which its premiums have been computed in the proportion of *two* to *three*. In conſequence of this and of other ſtill leſs equivocal proofs of its proſperity, the ſociety has been enabled ſince its firſt eſtabliſhment not only to reduce its premiums above *one half*, but to make ſuch additions to the claims in the years 1782, 1786, 1791, 1793, 1795, and 1800, as amount at preſent to the ſums ſpecified below:

			£.	s.
For every 100l. aſſured in	1762,	an addition over and above the ſum aſſured of	258	
	1763,	ditto	249	10
	1764,	ditto	241	
	1765,	ditto	232	10
	1766,	ditto	224	
	1767,	ditto	215	10
	1768,	ditto	207	
	1769,	ditto	198	10
	1770,	ditto	190	
	1771,	ditto	181	10
	1772,	ditto	173	
	1773,	ditto	164	10
	1774,	ditto	156	
	1775,	ditto	147	10
	1776,	ditto	139	
	1777,	ditto	130	10
	1778,	ditto	122	
	1779,	ditto	113	10
	1780,	ditto	105	
	1781,	ditto	96	10
	1782,	ditto	88	
	1783,	ditto	81	
	1784,	ditto	74	
	1785,	ditto	67	
	1786,	ditto	60	
	1787,	ditto	54	
	1788,	ditto	48	
	1789,	ditto	42	
	1790,	ditto	36	
	1791,	ditto	30	
	1792,	ditto	24	
	1793,	ditto	19	
	1794,	ditto	16	
	1795,	ditto	13	
	1796,	ditto	10	
	1797,	ditto	8	
	1798,	ditto	6	
	1799,	ditto	4	
	1800,	ditto	2	

Theſe are advantages peculiar to this ſociety, and therefore it is no wonder that its buſineſs ſhould ſo far ſurpaſs that of every other inſtitution of the ſame kind. But in the midſt of its proſperity the ſociety has hitherto proceeded with the utmoſt prudence and caution. Aware of the danger of being led aſtray by the dazzling appearance of a large capital, neceſſarily increaſed by an influx of new members, it has provided by a ſpecial law, that, as on former occaſions, ſo in future, no diſtribution of its ſtock ſhall ever be made without a previous inveſtigation of its finances; that this inveſtigation ſhall take place once in ten years; that the diſtribution ſhall never exceed *two-thirds* of the ſurplus ſtock of the ſociety; and that no ſuch diſtribution ſhall be adopted at all without the concurrence of *four-fifths* of its members, attending at three ſucceſſive general courts. As far as human prudence and foreſight can provide againſt danger, theſe precautions are likely to ſecure the ſociety, and to increaſe its uſefulneſs. But there is one danger againſt which no laws can guard it: we mean the danger of employing ignorant perſons to conduct the management of its affairs. It muſt be manifeſt from the preceding account of this ſociety, that none but ſkilful mathematicians are qualified for this buſineſs; and it is to be hoped that on any future vacancies, no other regard will be had in filling them up, than to the ability and integrity of the candidates. The melancholy experience of other ſocieties for the benefit of age, for the benefit of widows, &c. which were eſtabliſhed about thirty years ago, and which have long ſince ended in diſappointment and ruin, ſhould ſerve to guard this ſociety againſt the attempts of ignorance, as much as the preſent proſperous ſtate of its affairs ſhould incite it to perſevere in that wiſe and temperate courſe which has diſplayed ſo much prudence and ſkill in the management of its affairs, and raiſed it ſo high in the opinion of the public.

The following are the rates of *aſſurance* on ſingle lives in this ſociety, and alſo very nearly in the *Royal Exchange*, and other offices, where thoſe premiums have been adopted with little or no variation.

Age	One year.			Seven years at an annual premium.			Whole life at an annual premium.		
	£.	s.	d.	£.	s.	d.	£.	s.	d.
10	0	17	9	1	1	5	1	17	7
15	0	17	11	1	2	11	1	18	7
20	1	7	3	1	9	5	2	3	7
25	1	10	7	1	12	1	2	8	1
30	1	13	3	1	14	11	2	13	5
35	1	16	4	1	18	10	2	19	8
40	2	0	8	2	4	1	3	7	11
45	2	6	8	2	10	10	3	17	11
50	2	15	1	3	0	8	4	10	10
55	3	5	0	3	12	0	5	6	4
60	3	18	1	4	7	1	6	7	4
65	4	15	2	5	10	10	7	16	9
67	5	5	6	6	5	2	8	12	1

ASSURANCE, *Royal Exchange*, is a corporation or company eſtabliſhed by an act 6 Geo. I. c. 18.; and, by their charter, executed June 22, 1720, empowered to aſſure ſhips and goods at ſea, or going to ſea, and to lend money on bottomry; and to raiſe for this purpoſe a capital of 1,500,000l.; on condition that, upon three years' notice being given by parliament, at any time within thirty-one years from the date of the charter, and repayment of the ſum of 300,000l. which the company had agreed to pay to government, the corporation ſhould ceaſe. In the following year they obtained another charter, dated the 29th April 1721, by which they were authoriſed to aſſure lives, and alſo to aſſure houſes and goods from fire, and were empowered to raiſe a farther capital of 500,000l. making, with the former ſum, two millions. It was alſo enacted, that, in conſequence of the company having paid into the exchequer 111,250l. and having covenanted to pay the farther ſum of 38,750l. within three months, they ſhould be releaſed from payment of the remainder of the 300,000l. The whole capital of 2,000,000l. was ſubſcribed, but it was thought neceſſary to call for the payment of only 500,000l.; which, after paying the 150,000 to government, had been found ſufficient for carrying on the extenſive concerns of the company. A new branch was added to their buſineſs, by an act, obtained in 1793, enabling them to grant and purchaſe annuities on lives, either immediate or in reverſion; and, in 1801, the company obtained an act for aſſuring veſſels and their cargoes on canals and inland navigations, in which act the London Aſſurance company are likewiſe included.

The dividend to the proprietors, which has gradually increaſed from 3 to 7½ per cent. becomes due at Chriſtmas and Midſummer, and is uſually paid about the 15th January and July. [At Midſummer 1802, an occaſional dividend was made in ſtock, being 10l. per cents, 1751, for every 100l. of the company's ſtock.] The transfer-days are Tueſdays and Thurſdays, between the hours of eleven and one. The dividends are paid on Mondays, Wedneſdays, Fridays, and Saturdays, from ten to two.

THE TABLE OF RATES OF THE ROYAL EXCHANGE ASSURANCE ANNUITY COMPANY.

September 15th, 1802.

SINGLE LIVES.					
Age.	Years Purchaſe.	per cent. per ann.	Age.	Years Purchaſe.	per cent. per ann.
		£. s.			£. s.
3	17.85	5 12	43	14.92	6 14
4	18.18	5 10	44	14.70	6 16
5	18.18	5 10	45	14.49	6 18
6	18.52	5 8	46	14.28	7 0
7	18.52	5 8	47	14.08	7 2
8	18.52	5 8	48	13.88	7 4
9	18.52	5 8	49	13.70	7 6
10	18.52	5 8	50	13.51	7 8
11	18.52	5 8	51	13.33	7 10
12	18.52	5 8	52	13.15	7 12
13	18.52	5 8	53	12.98	7 14
14	18.18	5 10	54	12.82	7 16
15	18.18	5 10	55	12.65	7 18
16	18.18	5 10	56	12.50	8 0
17	18.18	5 10	57	12.19	8 4
18	17.85	5 12	58	11.90	8 8
19	17.85	5 12	59	11.63	8 12
20	17.85	5 12	60	11.36	8 16
21	17.85	5 12	61	11.11	9 0
22	17.54	5 14	62	10.87	9 4
23	17.54	5 14	63	10.63	9 8
24	17.54	5 14	64	10.41	9 12
25	17.24	5 16	65	10.20	9 16
26	17.24	5 16	66	10.00	10 0
27	17.24	5 16	67	9.80	10 4
28	16.95	5 18	68	9.61	10 8
29	16.95	5 18	69	9.34	10 14
30	16.95	5 18	70	9.09	11 0
31	16.66	6 0	71	8.84	11 6
32	16.66	6 0	72	8.62	11 12
33	16.66	6 0	73	8.40	11 18
34	16.39	6 2	74	8.19	12 4
35	16.39	6 2	75	8.00	12 10
36	16.12	6 4	76	7.81	12 16
37	16.12	6 4	77	7.63	13 2
38	15.87	6 6	78	7.46	13 8
39	15.87	6 6	79	7.29	13 14
40	15.62	6 8	80	7.14	14 0
41	15.38	6 10	upwards	7.14	14 0
42	15.15	6 12			

JOINT LIVES AND THE SURVIVOR.					
Ages.		Years Purchaſe.	per cent. per ann.	Ages.	Years Purchaſe.	per cent. per ann.
			£. s.			£. s.
45 and 45		16.95	5 18	40 and 45	17.85	5 12
46	46	16.66	6 0	50	17.54	5 14
47	47	16.39	6 2	55	17.24	5 16
48	48	16.12	6 4	60	16.95	5 18
49	49	15.87	6 6	65	16.66	6 0
50	50	15.62	6 8	70	16.39	6 2
51	51	15.38	6 10	75	16.12	6 4
52	52	15.15	6 12	80	15.87	6 6
53	53	14.92	6 14	45 and 50	16.39	6 2
54	54	14.70	6 16	55	16.12	6 4
55	55	14.49	6 18	60	15.87	6 6
56	56	14.28	7 0	65	15.62	6 8
57	57	14.08	7 2	70	15.38	6 10
58	58	13.88	7 4	75	15.15	6 12
59	59	13.70	7 6	80	14.92	6 14
60	60	13.51	7 8	50 and 55	15.15	6 12
61	61	13.33	7 10	60	14.92	6 14
62	62	13.15	7 12	65	14.70	6 16
63	63	12.98	7 14	70	14.49	6 18
64	64	12.82	7 16	75	14.28	7 0
65	65	12.65	7 18	80	14.08	7 2
66	66	12.50	8 0	55 and 60	14.08	7 2
67	67	12.34	8 2	65	13.88	7 4
68	68	12.19	8 4	70	13.70	7 6
69	69	11.90	8 8	75	13.51	7 8
70	70	11.63	8 12	80	13.33	7 10
71	71	11.36	8 16	60 and 65	13.15	7 12
72	72	11.11	9 0	70	12.98	7 14
73	73	10.87	9 4	75	12.82	7 16
74	74	10.63	9 8	80	12.50	8 0
75	75	10.41	9 12	65 and 70	12.19	8 4
76	76	10.20	9 16	75	11.90	8 8
77	77	9.90	10 2	80	11.63	8 12
78	78	9.61	10 8	70 and 75	11.11	9 0
79	79	9.34	10 14	80	10.52	9 12
80	80	9.09	11 0	75 and 80	10.00	10 0
85	85	8.33	12 0	80 and 85	8.77	11 8

N. B. The foregoing Annuities are receivable in Quarterly Payments.

The perſon making the aſſurance is to declare the place and date of birth of the perſon whoſe life is to be aſſured; whether he has had the ſmall-pox; whether ſubject to the gout; and whether in the army or navy.

The life aſſured to appear at the office, or to one of the company's agents, or pay

10 s. per cent. or aſſurances for one year.

15 s. per cent. for more than one year, and not exceeding ſeven years, } in the firſt payment only.

20 s. per cent. if for more than ſeven years, } in the firſt payment only.

One quarter per cent. additional, will be taken on the firſt payment as admiſſion-money.

Fifteen days are allowed for payment of the annual premiums after they reſpectively become due, but if the ſame remain unpaid more than the ſaid fifteen days, and not exceeding three calendar months, a fine of ten ſhillings per cent. muſt be paid, and a warrantee given of the health of the life aſſured.

Conditions of Aſſurance made by Perſons on their own Lives.

The aſſurance to be void if the perſon whoſe life is aſſured ſhall depart beyond the limits of Europe, ſhall die upon the ſeas (except in his majeſty's packets paſſing between Great Britain and Ireland); or ſhall enter into or engage in any military or naval ſervice whatever, without the previous conſent of the company; or ſhall die by ſuicide, duelling, or the hand of juſtice; or ſhall not be, at the time the aſſurance is made, in good health.

Conditions of Aſſurance made by Perſons on the Lives of others.

The aſſurance to be void if the perſon whoſe life is aſſured ſhall depart beyond the limits of Europe, ſhall die upon the ſeas (except in his majeſty's packets paſſing between Great Britain and Ireland); or ſhall enter into or engage in any military or naval ſervice whatever, without the previous conſent of the company; or ſhall not be, at the time the aſſurance is made, in good health.—Any perſon making an aſſurance on the life of another, muſt be intereſted therein, agreeable to act 14 Geo. III. c. 48. which prohibits wagering, or ſpeculative inſurances.

N.B. Aſſurances on the lives of perſons engaged in the army or navy, or going beyond the limits of Europe, may be made by ſpecial agreement.

ASSURANCE, *London*. The charters of this company were granted at the ſame time with thoſe of the Royal-Exchange Aſſurance, for the ſame purpoſes, and upon ſimilar conditions; one of which is, that no perſon poſſeſſing ſtock in either company can purchaſe ſtock in the other, under penalty of forfeiting the ſhare ſo purchaſed. The principal difference in the buſineſs of the two offices is, that the London aſſurance confine themſelves to ſea and fire aſſurances, very ſeldom aſſuring lives, and not being empowered to grant annuities. Their ſtock is 1,000,000l. divided into ſhares of 25 l. each, on which 12 l. 10 s. has been paid in, making the whole ſum paid in 500,000 l. The dividend has been raiſed to 18 s. per ſhare per annum, and becomes due at Lady-day and Michaelmas. The transfer-days are Tueſdays and Thurſdays, from eleven to three o'clock. The dividends are paid on Mondays, Wedneſdays, and Fridays, from eleven to three.

ASSURANCE, *Collateral*, in *Law*. See COLLATERAL.

ASSURANCES, *Common*, of the kingdom, expreſs the legal evidences of the conveyance or tranſlation of property; by which every man's eſtate is aſſured to him, and all controverſies, doubts, and difficulties, are either prevented or removed. Theſe common aſſurances are of four kinds: 1. By matter *in pais*, or deed; which is an aſſurance tranſacted between two or more private perſons *in pais*, in the country; that is, according to the old common law, upon the very ſpot to be tranſacted. See DEED. 2. By matter of record, or an aſſurance tranſacted only in the king's public courts of record. See RECORD. 3. By ſpecial cuſtom, obtaining in ſome particular places, and relating only to ſome particular ſpecies of property. See CUSTOM. Theſe three aſſurances are ſuch as take effect during the life of the party conveying or aſſuring. 4. The fourth takes no effect till after his death; and that is by deviſe, contained in his laſt will and teſtament. See DEVISE, and WILL. Bl. Com. vol. ii. p. 254.

ASSURGENT *Leaves*, in *Botany*, denotes ſuch as are firſt bent down, and then riſe erect towards the apex. This term ſcarcely differs from adſcendens or incurvus, and ſeems peculiarly proper for deſcribing the change which takes place in the poſition of the leaves of mimoſæ, and other ſleeping plants.

ASSURGENT, in *Heraldry*, a term uſed for a man or beaſt riſing out of the ſea.

ASSUROR, a merchant or other perſon, who aſſures, or makes out a policy of aſſurance for a ſhip, houſe, life, or the like. Aſſurors are not anſwerable for what damages ariſe through the negligence, or other fault of the maſter or ſeamen; or even thoſe which ariſe from any vice or defect in the thing aſſured. See INSURANCE.

ASSURRITANI, or ASSURRANI, in *Eccleſiaſtical Hiſtory*, a branch of Donatiſts in the middle of the fourth century. The Aſſurritani maintained the ſon to be inferior to the father; they rebaptized their converts from the catholics, and aſſerted that the church is not compoſed of good and bad, but of the good alone.

ASSURUS, or ASSURAS, now *Kiſſer*, in *Ancient Geography*, a town of Africa, ſituate in the inland country of the ancient Bizacium, to the weſt of Adrumetum, and ſouth-eaſt of Sicca Veneria.

ASSY, in *Geography*, a town of France, in the department of the Oiſe, and chief place of a canton in the diſtrict of Creſpy, eight miles ſouth of Creſpy.

ASSYANI, in *Ancient Geography*, an ancient town of the Tauric Cherſoneſus.

ASSYRIA, a kingdom of Aſia, of the extent, origin, and duration of which very different accounts have been given by ancient writers. Cteſias and Diodorus Siculus affirm, that the Aſſyrian monarchy, under Ninus and Semiramis, comprehended the greater part of the known world: but, if this had been the caſe, it is not likely that Homer and Herodotus would have omitted a fact ſo remarkable. The ſacred records intimate, that none of the ancient ſtates or kingdoms were of conſiderable extent; for neither Chederlaomer, nor any of the neighbouring princes, were tributary or ſubject to Aſſyria; and we find nothing, ſays Playfair, of the greatneſs or power of this kingdom in the hiſtory of the judges, and ſucceeding kings of Iſrael, though the latter kingdom was oppreſſed and enſlaved by many different powers in that period. It is therefore highly probable, that Aſſyria was originally of ſmall extent. According to Ptolemy, this country was bounded on the north by part of Armenia and mount Niphates; on the weſt by the Tigris; on the ſouth by Suſiana; and on the eaſt by part of Media, and the mountains Choatra and Zagros. The country within theſe limits is called, by ſome of the ancients, ADIABENI, and by others ATURIA or Atyria. It is divided, by Ptolemy, into the following provinces or diſtricts; viz. CALACHENE or Calacine, ARRAPACHITIS, ADIABENE, ARBELITIS, APOLLONIATIS, SITTACENE, and CHALONITIS. Among the rivers of Aſſyria we may reckon the TIGRIS, the LYCUS, the CAPRUS, and the GORGUS.

Gorgus. Of the origin, revolutions, and termination of Aſſyria, properly ſo called, and diſtinguiſhed from the grand monarchy which afterwards bore this appellation, the following account is given by Mr. Playfair, as the moſt probable. The founder of it was Aſhur, the ſecond ſon of Shem, who departed from Shinar, upon the uſurpation of Nimrod, at the head of a large body of adventurers, and laid the foundations of Nineveh, where he reſided, and erected a new kingdom, called Aſſyria after his name. See Ashur. Gen. x. 11. Theſe events happened not long after Nimrod had eſtabliſhed the Chaldean monarchy, and fixed his reſidence at Babylon; but it does not appear that Nimrod reigned in Aſſyria. The kingdoms of Aſſyria and Babylon were originally diſtinct and ſeparate (Micah, v. 6.); and in this ſtate they remained until Ninus conquered Babylon, and made it tributary to the Aſſyrian empire. Ninus, the ſucceſſor of Aſhur (Gen. x. 11. Diod. Sicul. l. i.), ſeized on Chaldæa after the death of Nimrod, and united the kingdoms of Aſſyria and Babylon. This great prince is ſaid to have ſubdued Aſia, Perſia, Media, Egypt, &c. If he did ſo, the effects of his conqueſts were of no long duration; for, in the days of Abraham, we do not find that any of the neighbouring kingdoms were ſubject to Aſſyria. Ninus was ſucceeded by Semiramis, a princeſs bold, enterpriſing, and fortunate; of whoſe adventures and exploits many fabulous relations have been recorded. Playfair is of opinion, that there were two princeſſes of this name who flouriſhed at different periods: one, the conſort of Ninus, and another, who lived five generations before Nitocris, queen of Nebuchadnezzar. Euſeb. Chron. p. 58. Herod. l. i. c. 184. See Semiramis. Of the ſucceſſors of Ninus and Semiramis nothing certain is recorded. The laſt of the ancient Aſſyrian kings was Sardanapalus, who was beſieged in his capital by Arbaces, governor of Media, in concurrence with the Babylonians. Theſe united forces defeated the Aſſyrian army, demoliſhed the capital, and became maſters of the empire, B. C. 821. See Arbaces, and Sardanapalus. Such is the ſubſtance of the account given by Cteſias, and after him by ſeveral ancient Greek and Latin writers; and particularly by Diodorus Siculus. Theſe writers have referred the commencement of the Aſſyrian empire to about ſixty or ſeventy years after Noah's flood; but concerning its beginning, as well as its duration, ancient writers have given very different accounts. Africanus and Euſebius ſuppoſe that Ninus, the ſecond Aſſyrian king, began to reign 309 years after the flood, and 43 years before the birth of Abraham. Beroſus, the Chaldæan hiſtorian, dates the foundation of the empire from the building of the tower of Babel, about 131 years after the flood. Caſſiodorus admits an interval of more than four centuries between theſe two remarkable events. Uſher extends this interval to 1085 years; and Jackſon reduces it to 531. As to the period of the duration of this empire, Cteſias, Diodorus, and others, make it 1360 years; Juſtin, 1300; Caſtor, 1280; Syncellus, 1460; Scaliger, 1306; Euſebius, 1240; Velleius Paterculus, 1070; Herodotus, 520; and Appian makes the whole duration of the Aſſyrian, Median, and Perſian empires, not to exceed 900 years. In Blair's Tables the commencement of the Aſſyrian empire is aſſigned to the year before Chriſt, 2059, and its termination to the year before Chriſt 820; ſo that its whole duration comprehends 1239 years. Goguet refers the conqueſt of Babylon by Ninus, king of Aſſyria, and the conſequent union of the Babylonian throne with that of Nineveh, to the 590th year after the flood, or the 1758th year B. C. In ſettling this date, he places the foundation of the kingdom of Babylon by Nimrod, about the year 150 after the flood. This kingdom, as moſt chronologers allow, had ſubſiſted 449 years, under two diſtinct dynaſties or families, at the time of Babylon's being taken by the Aſſyrians. The firſt of theſe dynaſties, whoſe kings were Chaldæans, poſſeſſed the throne 225 years; and the ſecond, originally from Arabia, reigned 215 years; and the total is 449 years. If to theſe years we add 150 years from the flood to the foundation of Babylon by Nimrod, the capture of Babylon will fall in the 590th year after the flood, and conſequently in the 1758th year B. C. After the capture of Babylon, the two monarchies formed one ſtate, under the name of the Aſſyrian empire. From this time the kingdom of Babylon was no more than a province of the Aſſyrian empire, to the time in which the revolt of the Medes gave the Babylonians an opportunity of ſhaking off the Aſſyrian yoke, about 770 B. C. As moſt of theſe computations are primarily borrowed from Cteſias, it may not be improper to inquire how far his teſtimony is credible. Ariſtotle, who was almoſt his contemporary, declares him to be unworthy of credit; and his hiſtory of India evinces him to be a fabulous writer. Although he gives us the names of the Aſſyrian kings from Belus and his ſon Ninus to Sardanapalus, the laſt king of that monarchy, yet his liſt is a mere medley of Greek, Perſian, Egyptian, and other names; and except in two or three inſtances, they have no affinity with the names of the Aſſyrians mentioned in ſcripture. The true empire of the Aſſyrians, deſcribed in ſcripture, whoſe kings were Pul, Tiglath-pileſer, &c. he does not mention, though much nearer to his own times; and this circumſtance ſhews that he was ignorant of the antiquities of the Aſſyrians.

After the death of Sardanapalus, ſays Mr. Playfair, the Aſſyrian empire was divided into three kingdoms; viz. the Median, Aſſyrian, and Babylonian. Arbaces retained the ſupreme authority, and nominated governors in Aſſyria and Babylon, who were honoured with the title of kings, while they remained ſubject and tributary to the Perſian monarchs. Beleſis, he ſays, a Chaldæan prieſt, who aſſiſted Arbaces in the conqueſt of Sardanapalus, received the government of Babylon as the reward of his ſervices; and Phul was entruſted with that of Aſſyria. The Aſſyrian governor gradually enlarged the boundaries of his kingdom, and was ſucceeded by Tiglath-pileſer, Salmanaſar, and Sennacherib, who aſſerted and maintained their independence. After the death of Aſſar-haddon, the brother and ſucceſſor of Sennacherib, the kingdom of Aſſyria was ſplit, and annexed to the kingdoms of Media and Babylon. Several tributary princes afterwards reigned in Nineveh; but we hear no more of the kings of Aſſyria, but of thoſe of Babylon. Cyaxares, king of Media, aſſiſted Nebuchadnezzar, king of Babylon, in the ſiege of Nineveh, which they took and deſtroyed B. C. 606.

The hiſtory of Aſſyria, deduced from ſcripture, and acknowledged as the only authentic one by ſir Iſaac Newton and many others, aſcribes the foundation of the monarchy to Pul or Phul, about the ſecond year of Menahem, king of Iſrael, twenty-four years before the æra of Nabonnaſſar, 1579 years after the flood, and according to Blair 769, or according to Newton 790, years before Chriſt. Menahem having taken forcible poſſeſſion of the throne of Iſrael by the murder of Shallum (2 Kings, xv. 10.), was attacked by Pul, but prevented the hoſtilities meditated againſt him, by preſenting the invader with a thouſand talents of ſilver. Pul, thus gratified, took the kingdom of Iſrael under his protection, returned to his own country, after having received voluntary homage from ſeveral nations in his march, as he had done from Iſrael, and became the founder of a great empire. As it was in the days of Pul that the Aſſyrians began to afflict the inhabitants of Paleſtine (2 Kings xi. 9. and

1 Chron. v. 26.), this was the time, according to ſir Iſaac Newton, when the Aſſyrian empire aroſe. Thus he interprets the words "ſince the time of the kings of Aſſyria" (Nehem. ix. 32.); i. e. ſince the time of the kingdom of Aſſyria, or ſince the riſe of that empire. But though this was the period in which the Aſſyrians afflicted Iſrael, it is not ſo evident that the time of the kings of Aſſyria muſt neceſſarily be underſtood of the riſe of the Aſſyrian empire. However Newton thus reaſons; and obſerves, "that Pul and his ſucceſſors afflicted Iſrael, and conquered the nations round about them; and upon the ruin of many ſmall and ancient kingdoms erected their empire, conquering the Medes, as well as other nations." It is further argued that God by the prophet Amos, in the reign of Jeroboam, about ten or twenty years before the reign of Pul (ſee ch. vi. 13, 14.), threatened to raiſe up a nation againſt Iſrael; and that as Pul reigned preſently after the prophecy of Amos, and was the firſt upon record who began to fulfil it, he may be juſtly reckoned the firſt conqueror and founder of this empire. See 1 Chron. v. 26. Pul was ſucceeded on the throne of Aſſyria by his elder ſon Tiglath-pileſer, and at the ſame time he left Babylon to his younger ſon Nabonaſſar, B. C. 747. Of the conqueſts of this ſecond king of Aſſyria againſt the kings of Iſrael and Syria, when he took Damaſcus and captivated the Syrians, we have an account in 2 Kings, xv. 29. 37. xvi. 5. 9. 1 Chron. v. 26. Amos, i. 5. Joſeph. Ant. l. 9. c. 13., by which the prophecy of Amos was fulfilled, and from which it appears that the empire of the Aſſyrians was now become great and powerful. The next king of Aſſyria was Shalmaneſer or Salmanaſſar, who ſucceeded Tiglath-pileſer, B. C. 729, and invaded Phœnicia, took the city of Samaria, and B. C. 721 carried the ten tribes into captivity, placing them in Chalach and Chabor, by the river Gazon, and in the cities of the Medes. Joſ. Ant. l. 9. c. 14. 2 Kings, xvii. 6. Shalmaneſer was ſucceeded by Sennacherib, B. C. 719; and in the year B. C. 714 he was put to flight, with great ſlaughter, by the Ethiopians and Egyptians. In the year B. C. 711, the Medes revolted from the Aſſyrians; Sennacherib was ſlain; and he was ſucceeded by his ſon Eſar-Haddon, Aſſerhadon, Aſordan, Aſſaradin, or Sarchedon, by which names he is called by different writers. He began his reign at Nineveh in the year of Nabonaſſar 42; and in the year 68 extended it over Babylon. He then carried the remainder of the Samaritans into captivity, and peopled Samaria with captives brought from ſeveral parts of his kingdom, and in the year of Nabonaſſar 77 or 78, he ſeems to have put an end to the reign of the Ethiopians over Egypt. "In the reign of Sennacherib and Aſſer-Hadon," ſays ſir I. Newton, "the Aſſyrian empire ſeems arrived at its greatneſs; being united under one monarch, and containing Aſſyria, Media, Apolloniatis, Suſiana, Chaldæa, Meſopotamia, Cilicia, Syria, Phœnicia, Egypt, Ethiopia, and part of Arabia; and reaching eaſtward into Elymais, and Parætæene, a province of the Medes, and if Chalach and Chabor be Colchis and Iberia, as ſome think, and as may ſeem probable from the circumciſion uſed by thoſe nations till the days of Herodotus (l. ii. c. 104), we are alſo to add theſe two provinces, with the two Armenias, Pontus, and Cappadocia, as far as to the river Halys. For Herodotus (l. i. c. 72. l. vii. c. 63.) tells us, that the people of Cappadocia, as far as to that river, were called Syrians by the Greeks, both before and after the days of Cyrus; and that the Aſſyrians were alſo called Syrians by the Greeks." Aſſer-Hadon was ſucceeded in the year B. C. 668, by Saoſduchinus. At this time Manaſſeh was allowed to return home and fortify Jeruſalem: and the Egyptians alſo, after the Aſſyrians had haraſſed Egypt and Ethiopia three years (Iſai. xx. 3, 4.), were ſet at liberty. Saoſduchinus, after a reign of twenty years, was ſucceeded at Babylon, and probably at Nineveh alſo, by Chyniladon, in the year B. C. 647. This Chyniladon is ſuppoſed by Newton to be the Nabuchadonoſor mentioned in the book of Judith (i. 1—15.), who made war upon Arphaxad king of the Medes, and though deſerted by his auxiliaries of Cilicia, Damaſcus, Syria, Phœnicia, Moab, Ammon, and Egypt, routed the army of the Medes, and ſlew Arphaxad. This Arphaxad is ſuppoſed to be either Dejoces, or his ſon Phraortes, mentioned by Herodotus (l. i. c. 102.). Soon after the death of Phraortes in the year B. C. 635, the Scythians invaded the Medes and Perſians; and in 625, Nabopalaſſar, the commander of the forces of Chyniladon in Chaldæa, revolted from him, and became king of Babylon. Chyniladon was either then, or ſoon after, ſucceeded at Nineveh by the laſt king of Aſſyria, called Sarac by Polyhiſtor. The authors of the Univerſal Hiſtory ſuppoſe Saoſduchinus to have been the Nabuchadonoſor of Scripture, and Chyniladon or Chynaladan to have been the Sarac of Polyhiſtor. At length Nebuchadnezzar, the ſon of Nabopolaſſar, married Amyite, the daughter of Aſtyages king of the Medes, and ſiſter of Cyaxeres; and by this marriage the two families having contracted affinity, they conſpired againſt the Aſſyrians. Nabopalaſſar being old, and Aſtyages dead, their ſons Nebuchadnezzar and Cyaxeres led the armies of the two nations againſt Nineveh; ſlew Sarac, deſtroyed the city, and ſhared the kingdom of the Aſſyrians. This victory the Jews refer to the Chaldeans; the Greeks, to the Medes; Tobit (xiv. 15.), Polyhiſtor (apud Euſeb. in Chron.), Joſephus (l. x. c. 2. § 2. p. 435.), and Cteſias (apud Diod. Sic. l. ii. c. 24. p. 78.), to both. With this victory commenced the great ſucceſſes of Nebuchadnezzar and Cyaxeres, and it laid the foundation of the two collateral empires of the Babylonians and Medes, which were branches of the Aſſyrian empire; and hence the time of the fall of the Aſſyrian empire is determined, the conquerors being then in their youth. In the reign of Joſiah, when Zephaniah propheſied, Nineveh and the kingdom of Aſſyria were ſtanding, and their fall was predicted by that prophet, Zeph. i. 3. and ii. 13. And in the end of his reign, Pharaoh Necho king of Egypt, the ſucceſſor of Pſammitichus, went up againſt the king of Aſſyria to the river Euphrates, to fight againſt Carchemiſh or Circutium, and in his way thither ſlew Joſiah (2 Kings, xxiii. 29. 2 Chron. xxxv. 20.); and therefore the laſt king of Aſſyria was not yet ſlain. But in the third and fourth year of Jehoiakim, the ſucceſſor of Joſiah, the two conquerors having taken Nineveh and finiſhed their war in Aſſyria, proſecuted their conqueſts weſtward; and leading their forces againſt the king of Egypt, as an invader of their right of conqueſt, they beat him at Carchemiſh, and took from him whatever he had recently taken from the Aſſyrians (2 Kings, xxiv. 7. Jer. xlvi. 2. Eupolemus apud Euſeb. Præp. l. ix. c. 35.); and therefore we cannot err, ſays ſir Iſaac Newton, above a year or two, if we refer the deſtruction of Nineveh, and fall of the Aſſyrian empire, to the third year of Jehoiakim, or the 140th, or according to Blair the 141ſt year of Nabonaſſar, that is the year 607 B. C. Newton ſuggeſts, that the name of the laſt king Sarac might have been contracted from Sarchedon; as this name was from Aſſerhadon, Aſſerhadon-Pul, or Sardanapalus: but how, ſays his learned commentator, biſhop Horſley, is this conſiſtent with what he has ſo fully proved in the preceding diſcuſſion of this ſubject, that Aſſerhadon had two ſucceſſors at Nineveh, Saoſduchinus and Chyniladon; or with his aſſertion, that Sarac, the laſt Aſſyrian king, was the ſucceſſor of Chyniladon?

Blair, in his Chronological Tables, ſtates the commencement of the reign of Phul, in the year 777 B. C.; the

succeſſion of Tiglath-pileſer, in the firſt year of Nabonaſſar, or 747 B. C.; that of Salmanaſar, in 727 B. C.; that of Sennacherib in 712, B. C.; that of Eſarhaddon or Aſaradinus, in 709 B. C.; and the union of Aſſyria and Babylon under Aſſaradinus in 680 B. C.: and upon the ſeparation of Aſſyria and Babylon in 667 B. C. he makes Saofduchinus king of Babylon, who then commenced his reign, and was ſucceeded in 647 B. C. by Chyniladanus; and the king of Aſſyria, who commenced his reign in 667, he calls Nabaſſa II. and his ſucceſſor, in 641, Nabocolaſſar; and the laſt king of Aſſyria, Saracus or Sardanapalus, whoſe reign commenced in the year 621 B. C.; and the union of Aſſyria and Media he refers to the ſixteenth year of this king, and the twentieth of Cyaxares king of Media, or the 606th year B. C.; in which year Nineveh was taken and deſtroyed by the united armies of Cyaxares and Nabocolaſſar.

Of the government, laws, religion, learning, cuſtoms, &c. of the ancient Aſſyrians, nothing abſolutely certain is recorded. Their kingdom was at firſt ſmall, and ſubſiſted for ſeveral ages under hereditary chiefs; and their government was very ſimple. Afterwards when they roſe to the ſublimity of empire, their government ſeems to have been truly deſpotic, and the empire to have been hereditary. Their laws were probably few, and depended upon the arbitrary will of the prince. To Ninus we may aſcribe the diviſion of the Aſſyrian empire into provinces and governments, for we find (Diod. Sic. l. ii.) that this inſtitution was fully eſtabliſhed in the reigns of Semiramis and her ſucceſſors. In this empire the people were diſtributed into a certain number of tribes (Herodot. l. i. Strabo, l. xvi.); and their occupations or profeſſions were hereditary. The Aſſyrians had ſeveral diſtinct councils, and ſeveral tribunals for the regulation of public affairs. Of councils there were three, which were created by the body of the people, and who governed the ſtate in conjunction with the ſovereign. The firſt conſiſted of officers who had retired from military employments; the ſecond of the nobility; and the third of the old men. The ſovereigns alſo had three tribunals, whoſe province it was to watch over the conduct of the people. The firſt was employed in diſpoſing of the young women in marriage, and in puniſhing adultery: the ſecond took cognizance of theft; and the third of all acts of violence. Strabo, l. xvi. As to their religion, they were idolaters, and had their idols and temples. In cuſtoms, arts, and learning, they differed but little, if at all, from the Babylonians. The Aſſyrians are ſaid to have one practice, with reſpect to marriage, that is worthy of attention. All the young girls, who were marriageable, were aſſembled in one place, and a public crier put them up to ſale one after another. The money which was received for thoſe that were handſome and fetched a high price, was beſtowed as a portion with thoſe whoſe perſons were more plain and homely. When the moſt beautiful were diſpoſed of, the more ordinary were offered with a certain ſum, and allotted to thoſe who were willing to take them with the ſmalleſt portion. In this manner all the young women were provided with huſbands. This ingenious and politic method of facilitating and promoting marriages, was alſo practiſed by ſeveral other nations. If at any time it happened that the parties could not agree, the man was obliged to refund the money which he had received. It was likewiſe very expreſsly forbidden to uſe women ill, or to carry them into any foreign country. Herodotus informs us, that this wiſe inſtitution was aboliſhed towards the end of the Aſſyrian monarchy. Herodot. l. i. Ælian. Var. Hiſt. l. iv. c. 1. Strabo, l. xvi. The Aſſyrians have been competitors with the Egyptians for the honour of having invented alphabetic writing. It appears from the few remains now extant of the writing of theſe ancient nations, that their letters had a great affinity with each other. They much reſembled one another in ſhape; and they ranged them in the ſame manner, from right to left. Playfair's Chronology, p. 67—70. Newton's Chron. ch. iv. apud Oper. by Horſley, t. v. p. 193—211. Anc. Un. Hiſt. vol. iii. p. 325—357. Goguet's Orig. of Laws, &c. vol. i. p. 41.

ASSYRIAN *Letters*, *Literæ Aſſyriæ*, a denomination given by ſeveral Rabbins and Talmudiſts to the characters of the preſent Hebrew alphabet, as ſuppoſing them to have been borrowed from the Aſſyrians during the Jewiſh captivity in Babylon. Montfaucon.

ASTA, now *Aſti*, in *Ancient Geography*, a town of Liguria, or Piedmont, which was a Roman colony, upon a river of the ſame name, not far from the Tanarus. The fortifications of this place afforded a temporary ſhelter to the emperor Honorius, when he was purſued by the Goths, A. D. 403.; and he was relieved from the danger of a ſucceſsful ſiege, and the indignity of a capitulation to the Barbarians, by the ſeaſonable arrival of Stilicho, who cut his way through the Gothic camp under the walls of Aſta, and thus revived the hopes and vindicated the honour of Rome. See Asti.—Alſo, a town of Spain, in Bætica, ſouth of Nebriſſa, upon the left arm of the Bætis, which diſcharged itſelf into the bay of Gades.

Asta, in *Geography*, a town of the United Netherlands, in the duchy of Guelderland, four miles ſouth-eaſt of Culemburg.—Alſo, a river of Spain, which empties itſelf into the bay of Biſcay, at Villa Vicioſa.

ASTABAT, a town of Armenia, thirty-three leagues ſouth-eaſt of Erivan.

ASTABENI, in *Ancient Geography*, a people of Aſia, in Hyrcania. Ptolemy.

ASTABORAS, a river of Abyſſinia, forming, as Pliny has ſaid, the left channel of Atbara; or as the Greeks have called it, the iſland or peninſula of Meröe; as Aſtapus forms the right channel. Aſtaboras, is the name given by the natives to the Tacazze, or the Siris of the ancients. It joins the Nile in N. lat. 17° 47′. See Atbara, Meroe, and Tacazze.

ASTACAMPRON, a promontory of Aſia, in the Indian ſea, to the left of the gulf of Baryza. Arrian.

ASTACANA, a town of Aſia, in Bactriana, called *Aſtacia* by Ammianus Marcellinus. Ptolemy.

ASTACANI, a name given by ſome to the Assacani.

ASTACAPRA, a town of India, on this ſide of the Ganges, ſituated between the mouths of the Indus. Ptolemy.

ASTACENA, a country of Aſia, in Pontus, which took its name from the river Aſtaces which traverſed it.

ASTACENUM Æstuarium, *Marſina*, a gulf of Spain in Bætica. Ptolemy.

ASTACENUS Sinus, a gulf of the Propontis, on which was ſituated the town of Nicomedia.

ASTACHAR, in *Geography*, formerly *Aſtacara*, a town of Perſia, near Bendimir and the ruins of Perſepolis. It is now a village, having however a caravanſera, moſques, and the ruins of a palace.

ASTACILICIS, a town of Africa, in Mauritania. Ptolemy.

ASTACILIS, Tessailah, a place of the interior country of Africa, in Mauritania Cæſarienſis, which was a Roman ſtation, ſituate in the mountains ſouth of Pontus Magnus. Ptolemy.

ASTACUS, in *Entomology*, a ſpecies of Cancer, with a ſmooth thorax; probocis toothed along the ſides; and a ſingle tooth on each ſide at the baſe. This is the common craw-fiſh, that inhabits rivers, and lodges itſelf in holes

which it forms in the banks. Very frequent in many countries of Europe.

Astacus is alſo the name of a genus in the Fabrician ſyſtem, formed of thoſe ſpecies of the Linnæan *Cancri*, that have four pedunculate antennæ, the two fore-ones of which are long and filaceous, and the poſterior ones cleft. Among theſe the lobſter and craw-fiſh are included.

Astacus, in *Ancient Geography*, a town of Aſia, in Bithynia, ſituate upon the Aſtacene gulf, according to Strabo. The city was built by the Megarians and Athenians, and deſtroyed by Lyſimachus, and its inhabitants tranſported to Nicomedia, by whom it was founded or reeſtabliſhed. Some have ſaid that Nicomedia was built on the ruins of Aſtacus.—Alſo, a town of Greece, in Acarnania.

ASTÆ, a people of Europe, in Thrace. Steph. Byz.

ASTAGENI, a people of Arabia Felix. Ptolemy.

ASTAGON, in *Geography*, a town of Africa, in Monomotapi, on the confines of Zanguebar.

ASTAMAR, Actamar, or Abaunas, a large lake, with a fortified town of the ſame name, in Armenia. N. lat. 38° 30'. E. long. 44° 14'.

ASTAN, a river of Arabia, in Lahſa, which is probably the ſtream in Neged mentioned by D'Anville, and is repreſented by Niebuhr as only a wali or brook which runs after rains.

ASTANDA, called alſo Astalin, in *Antiquity*, a royal courier or meſſenger, the ſame with Angarus.

King Darius of Perſia is ſaid by Plutarch, in his book on the fortune of Alexander, to have formerly been an aſtanda.

Astanda, in *Ancient Geography*, a town of Aſia, in Aria. Ptolemy.

ASTAPA, Estepa la Vieja, a town of Spain, in Bætica, ſouth-weſt of Singili. It is diſtinguiſhed by the records of its vigorous defence againſt Marius and the Romans, in the year of Rome 546. When they were no longer able to reſiſt the beſiegers, they kindled a fire into which they threw all their effects, and ruſhed with their women and children into the midſt of their enemies, by whom they were vanquiſhed and ſlain; but no trophy of victory remained for their conquerors.

ASTAPÆI, a people of Africa, placed by Steph. Byz. in Libya.

ASTAPUS, a river of Abyſſinia, which with the Astaboras formed the peninſula of Meröe. This river, known now by the name of the "White River," is repreſented by Diodorus Siculus as proceeding from large lakes to the ſouthward, and having thrown itſelf into the Nile, makes with it the right hand channel incloſing Meröe in Atbara. See Astaboras and Meroe.

ASTARA, in *Geography*, a town of Perſia, in Ghilan, on the Caſpian ſea.

ASTARABAT, a town of Perſia, in Segeſtan, 100 miles north of Zareng, and 220 W. N. W. of Candahar.

ASTARAC, a ſmall territory of France, ſituate in the late province of Gaſcony, about eight leagues ſquare, of which the capital is Mirande.

ASTAROTH, in *Ancient Geography*, a town of Paleſtine, in Batanæa, or Baſhan. This was a ſtrong city belonging to the half tribe of Manaſſeh, on the other ſide of Jordan. It was granted to the Levites of the family of Gerſhon, according to Joſhua.

Astaroth-carnaim, another town of Paleſtine, ſouth-weſt of the former, and diſtant from it nine miles, between Adraa and Abila. It is ſuppoſed to have derived its name from Aſtarte, called Aſtaroth, the deity of the Phœnicians, and Carnaim, ſignifying horns or a creſcent, with which ſhe was repreſented.

Astaroth, in *Mythology*, an idol of the Philiſtines, which the Jews deſtroyed at the command of Samuel. It was alſo the name of a deity of the Sidonians, which was worſhipped by Solomon in his idolatrous days. See Astarte.

ASTARTA, in *Ancient Geography*, an iſland of Ethiopia. Steph. Byz.

ASTARTÉ, a deity of the Aſſyrians, under which appellation they worſhipped the moon, and from them that ſpecies of idolatry extended to the Phœnicians, Carthaginians, and other ancient nations. Adonis, who was an Aſſyrian by deſcent, is ſaid to have married Aſtarte; and after their death they were elevated to the rank of gods: and as it was the opinion of ancient times, that the ſouls of diſtinguiſhed perſonages after their death inhabited the ſtars, it has been imagined that thoſe of Adonis and Aſtarte made choice of the ſun and moon for their reſpective reſidence; and hence their worſhip and that of theſe luminaries was the ſame. Aſtarte was called in Hebrew Aſtaroth or Aſhtaroth; which appellation ſome have erroneouſly aſcribed to her having been repreſented in the form of a ſheep. Others have conjectured, from the etymology of the word *Aſhtaroth*, which ſignifies "flocks of ſheep or goats," that in ancient times, when men were chiefly addicted to a paſtoral life, and peculiarly delighted in this occupation, the moſt approved ſimiles of excellence and beauty were deduced from hence; and this has been ſuppoſed to have been the reaſon of the name Aſhtaroth or Aſtarte. Aſtarte was uſually repreſented, like Iſis, with cow's horns on her head, and for the ſame reaſon, namely, for exhibiting the moon's increaſe and decreaſe; as ſhe was conſecrated into that planet, and adored under the denomination of the "queen of heaven." Her principal worſhip was eſtabliſhed at Hierapolis in Syria, where ſhe had a magnificent temple, and more than 300 prieſts employed at her altars.

Cicero, and alſo Suidas, ſuppoſe that the Aſtarte of the Phœnicians was one of the four Venuſes, whom the Roman orator enumerates. Beger and Bochart add, that ſhe was Venus armed, or the goddeſs of war; and Pauſanias, on whoſe authority they rely, ſays, that the Cythereans, who adored her under this form and appellation, had received this worſhip from the Phœnicians. Aſtarte, according to Lucian, was the moon; and Juno among the Carthaginians, according to St. Auguſtin, who, as Bochart imagines, had derived their opinion from Horace, l. ii. od. 1. and Virgil Æn. l. i. 15. This goddeſs was repreſented by her votaries in different nations, under a variety of forms and attributes. The Sidonians repreſented her under the figure of a hen who covered her chickens with her wings. The Aſtarte, mentioned by Cicero, was exhibited in Phœnicia with a quiver and arrows. In her temple on mount Libanus, where ſhe was mourning her loſt Adonis, her head was veiled, and reſted on her left hand, and floods of tears ſtreamed down her cheeks. Among the Aſſyrians, ſhe was ſometimes termed a goddeſs, and ſometimes a god, on account of the ambiguity of gender in the oriental languages, and becauſe the Hebrews knew no diſtinction of ſex in the gods. The mythological writers, in general, have thought that Aſtarte is, under different names, the Venus or Mylitta of the Aſſyrians, the Mithra of the Perſians, the Iſis of the Egyptians, the Io and Venus Urania of the Greeks, the great goddeſs of the Syrians, the Derceto of Aſcalon, and probably Diana, &c. When the black conical ſtone, which was thought to have fallen from heaven at Emeſa, and under the form of the ſun was worſhipped in that place,

and under the appellation of Elagabalus, was brought to Rome by the emperor who assumed this name, and placed in a magnificent temple raised on the Palatine mount, this imperial fanatic made choice of Astarte, under which name the moon was adored by the Africans, for his consort. Accordingly her image, with the rich offerings of her temple as a marriage portion, was transported with solemn pomp from Carthage to Rome; and the day of these mystic nuptials was a general festival in the capital, and throughout the empire. Antiquaries have supposed that she is exhibited as a half-naked female, &c. on the medals of Berytus and Cæsarea; in a chariot, &c. on a medal of Elagabalus at Sidon; and on the medals of Carthage, in the form of a female seated on a lion, with a thunderbolt in her hand. Prostitution was practised by the female worshippers of Astarte at Byblus, in Phœnicia, in Babylon, and in Carthage.

ASTASANA, in *Ancient Geography*, a town of Asia, in Aria. Ptolemy.

ASTATI, in *Ecclesiastical History*, the followers of one Sergius, in the ninth century, who renewed the errors of the Manichees.

The word is derived from the privative α and ἵστημι, *sto*, *to stand*, and signifies any thing unstable and inconstant. They prevailed much under the emperor Nicephorus; but his successor, Michael Curopalates, curbed them with very severe laws.

ASTCHIKCUNIPI, in *Geography*, a large lake in New Britain, abounding with whales, and supposed to communicate with the Northern sea.

ASTEISM, in *Rhetoric*, a genteel way of irony, or handsome way of deriding another. Such is that of Virgil:

"Qui Bavium non odit, amet tua carmina Mævi."

ASTEIXIS, in *Ancient Geography*, a mountain of Africa, part of mount Atlas, to the south of Mauritania Cæsariensis.

ASTELEBE, a town of Asia Minor in Lydia. Steph. Byz.

ASTELEPHUS, a river of Colchis which ran into the Euxine sea. Arrian.

ASTELL, Mary, in *Biography*, the daughter of a merchant at Newcastle-upon-Tyne, was born in the year 1688, and instructed by her uncle, who was a clergyman, in logic, mathematics, and philosophy, as well as in the Latin and French languages. At twenty years of age she removed to London, and devoted the principal part of her time to study. In order to excite emulation and a desire of improvement among her sex, she published "A Serious Proposal to the Ladies, wherein a method is offered for the improvement of their minds," printed in 12mo. at London in 1697. Her proposal, which was the establishment of a seminary for female education, excited so much attention, that a lady, supposed to be the queen, formed a design of giving 10,000*l.* towards erecting a kind of college for the education of the female sex, and as an asylum to such ladies as might wish to retire from the world; but bishop Burnet discouraged the liberal intention, by alleging, that such an institution would too much resemble a nunnery. Mrs. Astell's "Reflections on Marriage," written in consequence of a matrimonial disappointment, were published in 1700 and 1705. Mrs. Astell was orthodox in her religious creed, and in her politics an advocate for the doctrine of non-resistance. Besides some controversial pieces, such as "Moderation truly stated," "A Fair Way with the Dissenters," "An Impartial Inquiry into the Causes of the Rebellion," and "A Vindication of the Royal Martyr," all printed in 4to. in 1704; she also distinguished herself by a more elaborate performance, published in 1705, and intitled, "The Christian Religion as professed by a Daughter of the Church of England," in which she had the resolution to attack Locke and Tillotson. The close of her life was embittered by the anguish of a cancer in her breast, and her bore amputation with fortitude. She died in the year 1731. Her manners were austere, and her principles rigid; and though she attracted notice at the time in which she lived, neither her natural talents nor literary attainments would command attention among the females of the present day. Grudging the waste of time occasioned by trifling visitors, and yet scrupulous of dictating falsehoods to her servants according to the refinement of modern practice, she used to accost such intruders on their approach, and jestingly say to them, "Mrs. Astell is not at home." Ballard's Mem. of British Ladies. Biog. Brit.

ASTENAS, in *Ancient Geography*, a town of Spain in Bætica. Strabo.

ASTENOUS, in *Entomology*, a species of Papilio (Eq. *Achi.*) that inhabits the Cape of Good Hope. The wings are black both above and beneath; a radiated white spot on the anterior pair; disk of the posterior ones yellow. Fabricius. This is *papilio pompeius* of Cramer; and *papilio minor* of the same author is supposed to be a variety (β) of this species.

ASTER, in *Botany*, Starwort (Ἀστὴρ, a star, the flower being radiated). Lin. Gen. 954. Schreb. 1291. Juss. 181. Gærtn. t. 166. Class, *syngenesia polygamia superflua*. Nat. Order, *compositi radiati*. *Corymbiferæ*. Juss. Gen. Char. *Cal.* common imbricate; the inner scales prominent a little at the end, lower ones spreading. *Cor.* compound radiate; corollules hermaphrodite, numerous in the disk; females ligulate, more than ten in the ray; proper of the hermaphrodite, funnel shaped, with a five-cleft spreading border; of the female ligulate, lanceolate, three-toothed, at length rolling back. *Stam.* hermaphrodite; filaments five; capillary very short; anthers cylindric, tubulous. *Pist.* germ oblong. *Style.* filiform, the length of the stamens. *Stigma* bifid, spreading. Females, germ and style the same; stigmas two, oblong revolute. *Per.* none. *Calyx* scarcely changed. *Seeds* solitary, oblong, ovate; down capillary; rec. naked, flattish.

Ess. Gen. Char. Recept. naked; down simple. *Cor.* rays more than ten. *Cal.* imbricate, lower scales spreading.

* *Shrubby.*

Species 1. A. *taxifolius*, yew-leaved star-wort. "Undershrubby; leaves decurrent, subulate, channelled, ciliate; flowers terminal." Stem scarce a foot high; leaves alternate, crowded, linear, revolute; flowers sessile, or subpedunculated, solitary. 2. A. *reflexus*, reflexed starwort. "Shrubby; leaves ovate, subimbricate, recurved, serrate-ciliate; flowers terminal." Stem proliferous; leaves crowded, sessile, little, smooth, lower ones serrate, upper ciliate; flowers solitary, sessile, ray blood-red. 3. A. *crinitus*. "Subshrubby; leaves ovate-oblong, acute, tomentose underneath; calyxes terminated in a hair." Branches with few divisions; leaves sessile, exquisitely pointed, rough about the edges; peduncles terminal, leafy, one-flowered; ray of the flower blue. 4. A. *fruticosus*, shrubby starwort. "Shrubby; leaves linear, dotted; peduncles one-flowered, naked." Stems three feet high; branches woody, furnished with clusters of narrow leaves like those of the larch tree; flowers solitary, upon long slender peduncles; they are of a pale blue colour, and appear in March. Leaves narrow, acute, approximating. Cultivated in 1759 by Mr. Miller. This and the preceding species grow wild at the cape of Good Hope.

** *Herb.*

** *Herbaceous, entire-leaved, peduncles naked.*

5. A. *tardiflorus*, bristly-leaved starwort, Curt. Bot. Mag. 33. "Leaves filiform, pinnate-bifid; calyxes hemispherical, with equal leaflets." Stem annual, seven inches high; leaves scattered, linear, muricated underneath; flowers pedunculed, solitary, terminal; disk of the corolla yellow, ray blue, often rolled back. A native of the Cape. Introduced here by Mafon in 1774. 6. A. *alpinus*, great blue mountain starwort, Curt. Mag. 199. "Leaves subspatulate, rough with hairs, entire; stems simple, one-flowered." With us it rises to near a foot in height; at the top of each stalk is one large blue flower; stem-leaves two, seldom three, they are ovate, ciliate, petiolate next the root, on the stem slender, lanceolate. It flowers in June. A native of the Alps and Pyrenées. Cultivated by Miller in 1759. 7. A. *sibiricus*, Siberian starwort, Gmel. Sib. 2. 180. "Leaves lanceolate, almost stem-clasping, serrate, hairy-scabrous; calyxes lax; leaflets lanceolate acuminate." Stems two feet high; peduncles one-flowered; ray of the corolla blue. A native of Siberia. Flowers in August. Cultivated by Miller in 1768. 8. A. *Tripolium*, sea-starwort, Hudf. With. Lightf. Smith 888. Eng. Bot. 87. "Leaves linear-lanceolate, entire, fleshy, smooth, three-nerved, calycine leaflets submembranaceous, obtuse." Height of the stem very variable; flowers numerous, handsome, yellow in the disk, blue at the ray. There is a variety destitute of rays. A native of muddy sea shores and mouths of rivers in every part of our coast. 9. A. *Amellus*, Italian starwort, Jacq. Auct. 5. 425. "Leaves oblong-lanceolate, entire, scabrous; branches corymbed; calyxes imbricate, subsquarrose; leaflets obtuse, the inner membranaceous, coloured at the end." Stems numerous, branching at the top into eight or ten peduncles, each terminated by a single large flower having blue rays, with a yellow disk. A native of the south of Europe. Cultivated by Gerard in 1596. 10. A. *divaricatus*, divaricate starwort. "Branches divaricate; leaves ovate, serrate; floral leaves quite entire, rather obtuse, stem-clasping." Stems rough, about two feet high, dividing towards the top into many forked branches; flowers grow almost in an umbel. A native of Virginia.

*** *Herbaceous, entire-leaved, peduncles scaly.*

11. A. *hyssopifolius*, hyssop-leaved starwort. "Leaves linear-lanceolate, drawn to a point at the base, entire, stiff; branchlets corymbed, fastigiate; leaflets frequently linear, imbricate; calyxes imbricate." Stem a foot high; eight purple florets in the ray; disk elevated, greenish; stamens testaceous; pistil yellow. A native of North America. Cultivated in 1760 by Miller. 12. A. *dumosus*, bushy-starwort. "Leaves linear, entire, smooth, those on the branchlets very short; branches panicled; calyxes cylindrical, closely imbricated." Stem two feet high, much branched; branchlets filiform; stem-leaves narrow-lanceolate, on the branches linear; flowers small, very white, disk yellow. Cultivated in Chelsea garden in 1725. 13. A. *ericoides*, heath-leaved starwort. "Leaves linear, entire, very smooth, those of the branchlets subulate, approximating, those of the stem elongated; calyxes subsquarrose; leaflets acute, stem smooth." Stalks slender, three feet high; branches numerous, forming a thick bush, and terminated by single flowers. Cultivated by Miller in 1758. 14. A. *tenuifolius*, fine-leaved starwort. "Leaves sublinear, quite entire; peduncles leafy." Stems five feet high, slender, angular, smooth, with few branches; leaves alternate, roughish; flowers terminal, solitary, small, white; peduncles with small subulate leaflets scattered over them. 15. A. *linarifolius*, savory-leaved starwort. "Leaves linear, entire, mucronate, scabrous, stiff, upper ones lax, remote; calyxes imbricate; branches fastigiate." Stems purplish; leaves very rough, sharp, keeled, scattered; peduncles alternate; flowers few, terminal, solitary. Cultivated here in 1712. 16. A. *linifolius*, flax-leaved starwort. "Leaves linear, entire, roughish; branches corymbed, fastigiate with small leaflets; calyxes imbricate; rays about equal to the disk." Leaves lanceolate, gradually narrowing to the end; peduncles with many small subulate scales; stems strong, from two to three feet high, with many branches, terminated by one blue flower. Cultivated in 1739 by Miller. These species are natives of North America. 17. A. *anceps*. "Leaves lanceolate-linear, stiff, entire, flat; flowers corymbed fastigiate; peduncles leafy." Much branched; leaves very narrow; flowers of a pale bluish colour, in large clusters at the top of the plant. A native of the south of Europe. 18. A. *concolor*. "Leaves ovate, sessile, quite entire; stem simple; raceme terminal." Four feet high; flowers of a pale blue colour; the whole plant tomentose; raceme simple, with very short peduncles. A native of Virginia. 19. A. *rigidus*, stiff-leaved starwort. "Leaves linear, alternate; flowers terminal, solitary." Leaves small, stiff, many; stem woody, almost simple, terminated by one specious flower; floscules of the ray purple, long. A native of Virginia. 20. A. *novæ angliæ*, New England starwort. "Leaves lanceolate, entire, cordate, stem-clasping, hairy; calyxes longer than the disk, loose; leaflets linear-lanceolate, nearly equal; stem hispid." Stems many, five feet high, brown, terminated by large purple violet flowers, growing in a loose panicle, and appear in August; peduncles very short. A native of New England and Virginia. Cultivated in 1731 by Miller. There is a variety, with numerous panicled branches. 21. A. *undulatus*, waved starwort. "Leaves serrate, hairy waved, lower cordate; petioles winged, dilated at the base; branchlets virgate; calyxes imbricate; stem hispid." Stems two or three feet high; leaves broad, heart-shaped at bottom; flowers on loose spikes, of a pale blue colour, inclining to white; leaves on the peduncles minute, ovate. A native of North America. Cultivated in 1699, by J. Bobart. 22. A. *grandiflorus*, Catesby's starwort, Mill. fig. t. 282. "Leaves stem-clasping, linear, entire, hispid, ciliate; those of the branches and calyx reflex." Stems many, three or four feet high, stiff, reddish, hairy; leaves of the branches small, lanceolate, rough, about the size of those on common hyssop; branches each terminated by one large blue flower. Mr. Catesby, in 1720, brought this plant from Virginia.

**** *Herbaceous, leaves serrate, peduncles smooth.*

23. A. *cordifolius*, heart-leaved starwort. "Leaves heart-shaped, acute, finely serrate, underneath hairy; petioles almost simple; branches panicled; stem rough with hairs." Stem smoothish, much branched at top; root-leaves cordate, shaply serrate; lower stem leaves ovate, serrate, with edged petioles; upper spatulate-lanceolate, stem-clasping; ray whitish, with twelve floscules. A native of North America. Cultivated in 1759 by Miller. 24. A. *puniceus*, red-stalked starwort. "Leaves stem-clasping, lanceolate-serrate, subscabrous; branches panicled; calyxes surpassing the disk; leaflets linear-lanceolate, nearly equal, stem hispid." Stems purple; more than two feet high; flowers forming a corymb, blue, on single peduncles. A native of North America. Cultivated here in 1739. There are two varieties of this species. 25. A. *annuus*, annual starwort, Flor. Dan. 486. "Leaves somewhat hairy, lower ones subovate, serrate; the upper lanceolate; calyxes hemispheric; leaflets subequal, strigose." Stems about two feet high, terminated by a corymb of white flowers in August; annual. A native of North America. Cultivated here in 1640. 26. A. *vernus*, vernal starwort. "Root-leaves lanceolate, quite entire, obtuse;

obtuſe; ſtem almoſt naked; ſiliform, a little branching; peduncles naked." Stem green, hairy, erect; leaves like thoſe of daiſy; floſcules, ſlender, white. A native of Virginia.

***** *Upper leaves, lower ſerrate, peduncles ſolit.*

27. A. *indicus*, Indian ſtarwort. "Leaves ovate-oblong, ſerrate; ſtem leaves ovate-lanceolate, quite entire; branchlets one-flowered." Stem herbaceous, round, ſtriated, branched, two feet high; lower leaves oblong, remotely and acutely ſerrate; upper lanceolate, entire, gradually diminiſhing towards the top; flowers ſolitary. A native of Japan and China. 28. A. *laevis*, ſmooth after. "Leaves ſtem-claſping, entire, ſhining; root-leaves ſubſerrate; branches ſimple, bearing about one flower; calyxes imbricate, peduncles leafy, ſubdivided; leaflets ſomewhat wedge-ſhaped; acute, thickened at the end; ſtem ſmooth." Ray blue. A native of North America. Cultivated in 1758 by Miller. 29. A. *mutabilis*, variable ſtarwort. "Leaves almoſt ſtem-claſping, lanceolate, ſerrate, gloſſy, drawn to a point below; branchlets virgate; calyxes rather leafy; lax; ſtem ſmooth." Leaves of the peduncles and calyx ſquarroſe and recurved; ray a deep purple; diſk firſt yellow, afterwards purple. Cultivated by Miller in 1731. 30. A. *Tradeſcanti*, Tradeſcant's ſtarwort. "Leaves lanceolate, ſerrate, ſeſſile, ſmooth; middle branches virgate; calyxes cloſely imbricate; ſtem round, ſmooth." Radical leaves four inches long like thoſe of willow; ſtems round, ſmooth, woody, browniſh; ray varies from white to purple, conſiſting of twenty florets. A native of Virginia. Cultivated in 1731 by Miller. There are two varieties, viz. the dwarf and tall ſtarwort. 31. A. *Novi Belgii*, New Holland ſtarwort. "Leaves almoſt ſtem-claſping, lanceolate, ſmooth, but ſcabrous about the edge, the lower ſerrate; branches ſubdivided; calyxes looſely imbricate, leaflets linear-lanceolate; ſtem round, ſmooth." Stem four feet high, having broad leaves at the bottom, diminiſhing gradually to the top; diſk of the corolla yellow; ray pale blue, revolute. It is very like A. mutabilis. Its flowers appear in the latter end of Auguſt. A native of N. America. Cultivated in 1759 by Miller. 32. A. *tardiflorus*, late-flowering ſtarwort. "Leaves ſeſſile, lanceolate, drawn to a point at the baſe, ſerrate, ſmooth; calyxes lax, leaflets lanceolate-linear, ſubequal, ſmooth." Stems two feet high, ſcarcely branching, ſmooth; leaves large, ſmooth, rather ſtiff, ſerrate at the middle, and having a pubeſcent ſtreak; flowers like thoſe of the foregoing. It differs from the 31ſt in having the branches more divaricate, and a knot or joint at the baſe. A native of N. America, introduced here in 1775 by Mr. Cree. 33. A. *miſer*, ſmall white-flowered ſtarwort. "Leaves ſeſſile, lanceolate, ſubſerrate, ſmooth; calyxes imbricate, leaflets acute; diſk equal to the rays." Stem a foot and a half high, thick, green, leſs panicled than the reſt; ſtem-leaves a little ſerrate, nodding, thoſe of the branches lanceolate; ray white, very ſmall, poor, diſk ſmall, convex, pale, with dark yellow ſtyles. A native of N. America. Introduced here in 1776 by Monſ. Thouin. 34. A. *macrophyllus*, broad-leaved blue ſtarwort. "Leaves ſerrate, oblong; the upper ovate, ſeſſile, thoſe on the ſtem cordate, petioled; upper petioles winged." Peduncles crowded at the top, often trifid. A native of N. America. Cultivated in 1739 by Miller. 35. A. *chinenſis*, China aſter or ſtarwort. "Leaves ovate, angular, toothed, petioled; calyxes expanding, leafy, terminal." Height from eighteen inches to two feet, putting out long bending branches from top to bottom; leaves next the ground, and at the origin of the branches reſemble thoſe of common gooſefoot (chenopodium), thoſe on the branches are much ſmaller, and the upper ones narrow and very entire. The flowers are largeſt and handſomeſt of any of this genus. Diſk yellow, floſcules of the ray broad and long. Dillenius and Miller affirm, that this ſpecies came originally to Europe from China; Linnæus doubts of this. Beſides the common varieties, white, blue, purple, and red, both ſingle and double, there is now another in the gardens, with variegated blue and white flowers. 36. A. *tataricus*, Tartarian ſtarwort. "Root leaves lanceolate-ovate, ſerrate, ſcabrous; ſtem few-flowered." Radical leaves large, running into petioles; ſtem rough, ſcarcely twice as long as the radical leaves; flowers large, five or eight in number; the peduncle has two alternate ſlender entire bractes; ray of the corolla blue. A native of Siberia. 37. A. *hiſpidus*, ſhaggy ſtarwort. "Loweſt leaves oblong, crenate, ſcabrous, ſtem leaves lanceolate, entire, ciliate, ſtem ſcabrous." Stem erect, hiſpid, branching, a foot high; lower leaves obtuſe, remotely notched; flowers terminal, ſolitary: ray white; down ferruginous. 38. A. *ſcaber*, rugged ſtarwort. "Leaves oblong, ſerrate, ſcabrous, peduncles panicled." Stem herbaceous, a foot high, at top branched in panicles; leaves alternate, petiolate, pointed, above green, rough, with white cilias, underneath pale, veined, ſmooth; flowers in terminal panicled branchlets. Both the above are natives of Japan.

Species recited by Mr. Miller, &c.

39. A. *glaber*, peach-leaved ſtarwort. "Leaves oblong-lanceolate, acute, ſerrate, ſtem branching, flowers terminal, calyxes linear, erect." Five feet high, bearing large, pale blue flowers. A native of N. America. 40. A. *ſerotinus*, late-flowering blue ſtarwort, or Michaelmas daiſy. "Leaves oblong, acute, broader at the baſe, half ſtem claſping, ſtem branching, flowers terminal, and for the moſt part ſolitary." Stems numerous, three feet high; branches lateral, bearing large pale blue flowers. Brought from Virginia, by Tradeſcant. 41. A. *praecox*, early ſtarwort. "Leaves oblong, acute, ſcabrous, ſharply toothed, half ſtem claſping, ſtem hairy, flowers corymbed, calyxes hairy, erect." Stems a foot and a half high; flowers large, blue, expanding in July. A native of the Alps and Pyrenées. 42. A. *altiſſimus*, lofty ſtarwort. See puniceus (*β*) n. 24. 43. A. *ramoſiſſimus*, branching ſtarwort. "Leaves linear-lanceolate, ſtiff; ſtem very branching, ſpreading; flowers placed regularly one above another; peduncles leafy." Stems ſlender, purpliſh, about three feet high; branches numerous ſpreading; flowers ſmall, pale purple, appearing in November. A native of N. America. 44. A. *umbellatus*, umbelled ſtarwort. "Leaves lanceolate, drawn to a point at the baſe, entire, ſcabrous about the edge, branches corymbed, faſtigiate." Stems ſeveral feet high, channelled; ray of the flower white. A native of N. America, flowering in July and Auguſt. Cultivated by Miller in 1759. 45. A. *nervoſus*, three-nerved ſtarwort. "Leaves linear-lanceolate, acute, nerved; ſtem ſimple, flowers terminal in a kind of umbel." This much reſembles the umbellatus, but the leaves are narrower, whiter on the under ſide, and have three longitudinal veins. The flowers are alſo larger and whiter. Sent from Pennſylvania to P. Collinſon, eſq. who gave it to Miller. 46. A. *paniculatus*, panicled ſtarwort. "Lower leaves ovate, half-ſtem claſping at the baſe; upper leaves lanceolate, ſmall; ſtem panicled, branches one-flowered, peduncles leafy." About four feet high; branches erect, forming a looſe ſpike of large blue flowers. A native of N. America. 47. A. *latifolius*. "Leaves linear-lanceolate, ſmooth, three-nerved, flowers corymbed, terminal." Stems a foot and a half high, terminated by peduncles on every ſide, each ſuſtaining one pale blue flower. A native of Canada. 48. A. *procumbens*, procumbent ſtarwort. Mill. fig. t. 57.

f. 2. " Leaves ovate, toothed ; ſtem procumbent ; peduncles naked, axillary, one flowered." Stems round, inclining to the ground, about four or five inches long, deſtitute of leaves, each ſupporting one flower of the ſhape and ſize of the common daiſy, of a whitiſh purple colour. Diſcovered by Dr. Houſtoun, about Vera Cruz in America. Perhaps ſome of theſe may not be diſtinct from the foregoing ones, as there are certainly many ſpecies recited by authors which have not yet taken their proper place in the ſyſtem, and require a very ſagacious botaniſt to arrange them. In Gordon's Catalogue we find the following names not noticed by Linnæus: 1. A. alienatus, virgatus, ſalicifolius, purpureus, aculeatus, repens, corymboſus. 49. A. *hoſtorius*, Forſt. " Herbaceous, leaves oblong-lanceolate, ſerrate, underneath ſilver-ſilky ; ſcapes one-flowered, leafy." A native of New Zealand. 50. A. *coriaceus*, Forſt. " Herbaceous, leaves ovate, quite entire, furrowed above, woolly underneath, ſcapes one-flowered, leafy, woolly." A native of New Zealand.

Species of Aſter, from Aiton's Hort. Kew.

51. A. *cymbalariæ*, cymbalaria-leaved ſtarwort. " Shrubby, leaves ovate, ſinuate, rough, with hairs, calyxes imbricate, hairy." Found at the Cape, by Maſſon. Introduced here in 1786. It flowers moſt of the ſummer. 52. A. *nemoralis*, wood ſtarwort. " Leaves linear-lanceolate, drawn to a point at the baſe, ſomewhat ſcabrous ; branches filiform, one-flowered ; calyxes lax imbricate, leaflets acute." A foot high, ray of the corolla blue, diſk white. It flowers in Auguſt. A native of Nova Scotia. Introduced in 1778, by W. Malcolm. 53. A. *paludoſus*, marſh ſtarwort. " Leaves linear, ſtem claſping, entire, ſmooth, ſcabrous at the edge ; peduncles almoſt naked, calyxes ſquarroſe." Leaves three or four inches long, remote, ray blue, large, diſk yellow. A native of the ſwamps of Carolina. Introduced by Mr. Fairbairne, in 1784. It puts out flowers in September and October. 54. A. *patens*, ſpreading, hairy-ſtalked, ſtarwort. " Leaves oblong, entire, acute, cordate, almoſt ſtem-claſping, ſcabrous, branches ſpreading, elongated, few-flowered, calyxes imbricate, ſubſquarroſe, ſtem rough with hairs." Three feet high ; branches remote, pubeſcent ; leaves bent obliquely at the baſe ; ray pale blue, diſk tawny. A native of Virginia, flowering in September. Introduced about 1773, by G. Aufrere, eſq. 55. A. *folioſus*, leafy ſtarwort. " Leaves lanceolate-linear, entire, ſmooth ; thoſe on the branchlets ſpreading very much ; calyxes imbricate, leaflets acute, ſtem pubeſcent." A native of N. America. Cultivated by Dr. Sherard in 1732. It flowers in October. 56. A. *multiflorus*, ſmall-leaved ſtarwort. " Leaves linear, entire, ſmoothiſh ; branches one-ranked ; calyxes imbricate, ſquarroſe, ſcales ſomewhat leafy, acute ; ſtem pubeſcent." Stems unequal to ſupport the abundance of its flowers ; leaves rough, the veins form rhomboids ; ſcales of the calyx minute, reflex ; flowering branches and peduncles covered with leafy ſcales ; ray white, ſmall. A native of North America. Cultivated by Dr. Sherard in 1732. F. October. There is an early and a late flowering variety of this ſpecies. 57. A *ſalicifolius*, willow-leaved ſtarwort. " Leaves linear-lanceolate, quite entire, ſmooth ; calyx imbricate, lax ; ſtem gloſſy. Stem five or ſix feet high, leaflets of the calyx acute, expanding at the end ; ray of a bluciſh fleſh-colour. A native of N. America. Cultivated in 1760, by Miller. 58. A. *æſtivus*, Labrador ſtarwort. " Leaves lanceolate, almoſt ſtem-claſping, quite entire, ſmooth, ſcabrous about the edge ; calyxes lax, leaflets equal." Stem two feet high, hiſpid ; ray blue. A native of N. America. Introduced here in 1776, by Meſſ. Gordon and Co. F. in July and Auguſt. 59. A. *junceus*, ſlender-ſtalked ſtarwort. " Leaves lanceolate-linear, ſeſſile, ſmooth, the loweſt ſubſerrate, thoſe of the branchlets lanceolate ; branches virgate ; calyxes imbricate ; ſtem ſmoothiſh." Four feet high, leaflets of the calyx acute, ſpreading at the end ; ray ſlightly fleſh-coloured ; diſk elevated, pale yellow. A native of N. America. Cultivated in 1758, by Miller. F. in October. 60. A. *pendulus*, pendulous ſtarwort. " Leaves elliptic-lanceolate, ſerrate, ſmooth, thoſe of the branchlets rather remote ; branches very much divaricated, pendulous ; ſtem pubeſcent." Ray of the flower white ; diſk yellow, changing to ferruginous. A native of North America. Cultivated in 1758 by Miller. F. October. 61. A. *diffuſus*, diffuſe ſtarwort. " Leaves elliptic-lanceolate, ſerrate, ſmooth, proportioned ; branches ſpreading ; calyxes imbricate ; ſtem pubeſcent." Ray white. A native of North America. Introduced by Meſſrs. Kennedy and Lee in 1777. F. September. There is a red and white-flowered variety. 62. A. *divergens*, ſpreading downy-ſtalked ſtarwort. " Leaves elliptic-lanceolate, ſerrate, ſmooth ; thoſe on the ſtem linear-lanceolate, elongated ; branches ſpreading ; calyxes imbricate ; ſtem pubeſcent." Above five feet high, weak ; calyx cylindric, with numerous acute leaflets ; ray white ; ſhorter than the calyx, diſk reddiſh. A native of North America. Cultivated in 1758 by Miller. F. October. 63. A. *corymboſus*, corymbed ſtarwort. " Leaves cordate, ſmooth, acuminate, all finely ſerrate ; petioles ſimple ; branches faſtigiate ; ſtem ſmooth." A native of North America. Cultivated in 1765, by P. Collinſon, eſq. F. September. 64. A. *ſpectabilis*, ſhowy ſtarwort. " Leaves lanceolate, ſomewhat ſcabrous ; the lower ſerrate ; branches corymbed ; calycine leaflets lax, nearly wedge-ſhaped, ſharpiſh, ſquarroſe." Two feet high ; ray blue. A native of North America. Introduced in 1777, by Dr. Pitcairn. F. Auguſt and September. 65. A. *radula*, rough ſtarwort. " Leaves lanceolate, ſerrate, acuminate, wrinkled, very ſcabrous ; calyxes imbricate ; leaflets lanceolate, obtuſe." A native of Nova Scotia. Introduced in 1785 by Dr. Pitcairn. F. September.

Propagation and Culture. The ſpecies from the Cape N° 1—5, and N° 51, together with N° 27. 37, and 38, not producing ſeeds in England, are propagated by cuttings any time during the ſummer. Theſe ſhould be planted in ſmall pots filled with light earth, and plunged into an old hot-bed ; where, if they are ſhaded from the ſun, and gently watered, they will put out roots in ſix weeks, when they may be placed in the open air ; and in about a month afterwards they ſhould be ſeparated, each in a ſmall pot, and filled with light ſandy earth. In October they muſt be removed into the green-houſe, and placed where they may enjoy as much free air as poſſible ; but be ſecured from froſts or damps ; ſo that they are much eaſier preſerved in a glaſſ-caſe, where they will have more light and air than in a green-houſe ; but they muſt not be placed in a ſtove, for artificial heat will ſoon deſtroy the plants. The North American ſpecies, which make at leaſt three-fifths of the genus, together with the Alpine and Italian aſters, are eaſily propagated by parting the roots in autumn ; they are moſt of them hardy, and will thrive in almoſt any ſoil and ſituation ; for theſe reaſons, and becauſe they adorn the latter ſeaſon with the abundance and variety of their ſpecious flowers, they are valuable plants, eſpecially among ſhrubs, and in large ornamental plantations, properly mixed with golden rods, and other perennial, autumnal, hardy plants. The ſorts moſt cultivated, are the grandiflorus, linifolius, linarifolius, tenuifolius, ericoides, dumoſus, ſerotinus, alpinus, novæ angliæ, and puniceus or altiſſimus. Some of the ſpecies (N° 6. 41, 42,) prefer a ſhady ſituation and moiſt ſoil. They are apt to ſpread very much at the

the roots, ſo as to be troubleſome, and the ſeeds of ſome are blown about and come up like weeds. The Italian ſtar-wort (9) has not been ſo much cultivated in England ſince the great variety of American ſpecies has been introduced, though it is by no means inferior to the beſt of them. It is propagated by parting the roots ſoon after the plant is out of flower. The roots ſhould not be removed oftener than every third year. Cateſby's ſtar-wort (22) not multiplying faſt by its roots, may be propagated in plenty by cuttings from the young ſhoots in May, which, if planted in light earth and ſhaded from the ſun, will flower the ſame year. When the annual ſtar-wort (25) is once introduced, the ſeeds will ſcatter, and the plants come up without care. The China aſter (35) being an annual plant, is propagated by ſeeds, which muſt be ſown in the ſpring on a warm border, or rather upon a gentle hot-bed, juſt to bring up the plants; for they ſhould be enured to the open air as ſoon as poſſible; when the plants are three inches high, they ſhould be taken up and planted in a bed of rich earth, at ſix inches diſtance every way, obſerving to ſhade them from the ſun till they have taken new root; and if the ſeaſon is dry, they muſt be often refreſhed with water. In this bed they may remain a month or five weeks, by which time they will be ſtrong enough to tranſplant into the borders of the flower garden, where they are deſigned to remain; or into pots to adorn court-yards, &c. The plants ſhould be taken up carefully with large balls of earth at their roots; after they are planted, and the earth cloſed about their roots, there ſhould be ſome water given them to ſettle the earth. If the ground be rich, theſe plants will flower in Auguſt, and form the greateſt ornament in the flower garden in autumn. They ripen in the beginning of October, and ſhould be gathered when they are perfectly dry. Procumbent ſtar-wort (48) being a native of a warm climate, will not live in the open air in England. The ſeeds muſt be ſown in a hot-bed; and the plants will require a ſtove to preſerve them during the winter. See Martyn's Miller's Dict.

Aster. See Arctotis, Arnica, Buphthalmum, Carpesium, Chrysanthemum, Chrysocoma, Cineraria, Conyza, Erigeron, Gorteria, Inula, Senecio, Solidago, Tussilago.

Aster, in *Mineralogy*, a denomination given to a ſpecies of Samian earth.

Aster, in *Natural Hiſtory*, a ſpecies of Hydra in Gmelin's Syſt. Nat. This is the *actinia aſter* of Ellis, and inhabits the American ſeas. The ſtem is thick, fleſhy, ſubcylindrical, ſmooth, truncated, and radiated with tentacula.

Aster is alſo a denomination, in the *Ancient Pharmacy*, given to a kind of medicine, invented by Andromachus, againſt defluxions, and divers other pains.

ASTERIA is the name of a gem, uſually called the cat's eye, or *oculus cati*. It has only two colours, a pale brown and a white, the brown ſeeming the ground, and the white playing about it, as the fire colour in the opal. It is conſiderably hard, and will take a fine poliſh, but is uſually worn with its native ſhape and ſmoothneſs.

It is found in the Eaſt and Weſt Indies, and in Europe. The iſland of Borneo affords ſome very fine ones, but they are uſually ſmall; they are very common in the ſands of rivers of New Spain: and in Bohemia they are not unfrequently found immerſed in the ſame maſſes of jaſper with the Opal.

Asteria is alſo the name of a figured ſtone. See Star-*ſtone*.

Asteria, in *Ancient Geography*, a ſmall iſland between thoſe of Ithaca and Cephalenia. Strabo. This is called *Aſteris* by Homer in the Odyſſey.

ASTERIAS, in *Botany*. See Gentiana.

Asterias, in *Entomology*, a ſpecies of Papilio (*Ly. Tro.*), the wings of which are black, with two bands of yellow ſpots; anal angle fulvous, with a black dot. Fabricius mantiſſa. Inhabits America.

Asterias, in *Natural Hiſtory*, a genus of *Vermes* in the molluſca tribe, the body of which is depreſſed, generally beneath; covered with a coriaceous cruſt, and ſometimes with tentacula; mouth central, of five valves. Theſe are the ſtellæ marinæ, ſtar-fiſh, or ſea-ſtars of moſt authors; and all inhabitants of the ſea; reproduce parts which have been loſt by violence; and move either by ſwimming or crawling. In ſhape they vary exceedingly, and hence Gmelin has arranged them under different families, as *lumbricales*, *ſtellatæ*, and *radiatæ*. The ſpecies he enumerates are theſe: nobilis, pulvillus, militaris, luna, pappoſa, ſpongioſa, rubens, ſepoſita, endeca, minuta, glacialis, reticulata, phrygiana, nodoſa, violacea, ſanguinolenta, perforata, aranciaca, equeſtris, lævigata, membranacea, granularis, roſea, pertuſa, ophiura, ſquamata, ciliaris, filiformis, tenella, pectinata, multiradiata, caput meduſæ, euryale, oligactes, nigra, tricolor, and fragilis; which ſee reſpectively.—A. *aculeata*; five rayed: diſk orbicular; covered with glabrous prickles. A. *aranciaca*; diſk broad; rays ſomewhat depreſſed, and prickly along the margins. Inhabits the North and Mediterranean ſea. Müll. Gmel. &c.

Asterias, in *Ornithology*, a term ſynonymous with aſtur, &c.; a name by which ſome old writers have called the common goſ-hawk, falco palumbarius. Linn. The name *aſturis* has been applied by Ray to the ſame bird.

ASTERIE, in *Entomology*, a ſpecies of Papilio. (*Nymph. Gem.*) Wings dentated, varied with pale yellow, a large bipupillated ſpot on the poſterior pair, above; beneath pale, with three ocellar ſpots. Fab. &c. Linnæus deſcribes this inſect as papilio alis dentatis lutea variis, ſingulis utrinque ocellis ſeſquialteris; anteriore pupilla gemina. Syſt. Nat. It is figured by Cramer and Kleeman.

ASTERION, in *Aſtronomy*, one of the Canes Venatici.

Asterion, in *Ancient Geography*, a river of Peloponneſus. Pauſanias.—Alſo, a town of Greece, in Paeonia. Livy, l. 24. c. 24.—Alſo, a town of Theſſaly, ſeated on a mountain, called alſo *Perſia*. Steph. Byz.

ASTERISCOIDES, in *Botany*. See Omphalia.

ASTERISCUS. See Anthemis, Buphthalmum, and Silphium.

ASTERI-SIMILIS. See Erigeron.

ASTERISK, a character in form of a ſmall ſtar, ſet over any word or ſentence, to make it the more conſpicuous, or to refer to the margin, or elſewhere, for a quotation, explanation, or the like.

The word is a diminutive of ἀστὴρ, a *ſtar*.

ASTERISM, from ἀστὴρ, *ſtar*, in *Aſtronomy*, the ſame with Constellation.

ASTERIUS, in *Ancient Geography*, an iſland on the coaſt of Ionia, at a diſtance from the mouth of the Meander; ſouth-eaſt of the promontory of Trogilium, north of that of Poſideum, and W.N.W. from the town of Miletus. It was famous for the victory obtained near it by the Greeks, gained on the ſame day when they triumphed over the ſame enemies at Platæa.

Asterius *Urbanus*, in *Biography*, a writer againſt the Montaniſts, was either a biſhop or preſbyter, and lived about the beginning of the third century. Copious extracts of a treatiſe, which was the ſubſtance of his diſputation held

held at Ancyra in Galatia, are preſerved by Euſebius. Hiſt. Eccl. l. v. c. 16, 17. See Cave Hiſt. Lit. t. i. p. 85. Lardner's Works, vol. ii. p. 387.

ASTERIUS, a writer of the Arian ſect, in the reign of Conſtantius, or about the beginning of the fourth century, was a ſophiſt of Cappadocia, and renouncing Gentilism, he embraced Chriſtianity. About the year 324, during the perſecution of Maximian, his virtuous reſolution failed him, and he offered ſacrifices to the Pagan divinities, which prevented his attaining the honour of being a biſhop, to which he aſpired. But though he was recovered by Lucian, he was attached to Arianism; and whenever he is mentioned by Athanaſius, he is called a cunning ſophiſt, and a patron of hereſy. Philoſtorgius, however, repreſents him as a moderate Arian, having taught, that the Son was in ſubſtance like the Father, and a complete likeneſs of the Father. According to Jerom, he wrote commentaries upon the epiſtle to the Romans, upon the Goſpels, and upon the Pſalms, and many other things, "which were much read," he ſays, "by the men of his party." Some paſſages of his writings are cited by Athanaſius and Euſebius, in which, ſays Lardner, "there appear an air of piety, and zeal for the Chriſtian religion." Cave H. L. t. i. p. 201. Lardner's Works, vol. iv. p. 123.

A-STERN, denotes any diſtance behind a ſhip; as oppoſed to A-HEAD.

ASTEROCEPHALUS, in *Botany*. See SCABIOSA.

ASTEROIDES, *baſtard ſtar-wort*, in *Botany*. See INULA, BUPHTHALMUM, and CONYZA.

ASTEROIDS, formed of ἀστηρ, *ſtar*, and εἰδος, *form*, and denoting that they reſemble fixed ſtars, in *Aſtronomy*, a name given by Dr. Herſchell to the new planets, or two celeſtial bodies, *Ceres* and *Pallas*, lately diſcovered; and which he defines as "celeſtial bodies, which move in orbits either of little or of conſiderable eccentricity round the ſun, the plane of which may be inclined to the ecliptic in any angle whatſoever. This motion may be direct or retrograde; and they may or may not have conſiderable atmoſpheres, very ſmall comas, diſks, or nuclei. According to the definitions which he premiſes, planets are celeſtial bodies of a conſiderable ſize and ſmall eccentricity of orbit, moving in planes that do not deviate many degrees from that of the earth, in a direct courſe, and in orbits at conſiderable diſtances from each other, with atmoſpheres of conſiderable extent, but bearing hardly any ſenſible proportion to their diameters, and having ſatellites or rings: and comets are very ſmall celeſtial bodies, moving in directions wholly undetermined and in very eccentric or apparently parabolic orbits, ſituated in every variety of poſition, and having very extenſive atmoſpheres. Dr. Herſchell having compared the newly diſcovered ſtars by the criteria introduced in the above definitions, maintains, that they differ in ſo many reſpects from both planets and comets, as to warrant his not referring them to either of theſe two claſſes. Our aſtronomical readers will probably think the difference not ſufficient to render this kind of diſtribution neceſſary; they will regret, that the author has contributed to introduce, without abſolute neceſſity, a new term in the ſcience of aſtronomy; and they will perhaps be of opinion, that the new name of "Aſteroid," is not the moſt appropriate and expreſſive that could have been deviſed. An aſteroid is a body reſembling fixed ſtars; but the two new planets have no one circumſtance in common with thoſe diſtant bodies. If a new name muſt be found, let them be called by ſome appellation, which ſhall, in ſome degree, be deſcriptive of, or at leaſt conſiſtent with, their properties. "The invention of a name," ſays an anonymous writer, "is but a poor atchievement in him who has diſcovered whole worlds." Phil. Tranſ. for 1802, Part II. p. 213, &c.

ASTEROPE, in *Mythology*, one of the daughters of Atlas, the firſt of the principal ſtars that compoſe the Pleiades. Ovid. Faſt. iv. 170.

ASTEROPHYTON, in *Natural Hiſtory*, the name given to a kind of ſtar-fiſh, which is compoſed of a great number of cylindric rays, each branching out into ſeveral others, ſo as to repreſent the branched ſtalks of a very intricate ſhrub.

ASTEROPLATYCARPOS, in *Botany*. See ORTHOSIA.

ASTEROPODIUM, in *Natural Hiſtory*, the name given by authors to a kind of extraneous foſſil, of an imbricated texture, compoſed of a number of ſmall convex or concave plates, and ſerving, when entire, as a baſe or root to the *aſteria*, or ſtar-ſtone.

It is very plain, that this is the remains of ſome animal body, probably of the ſtar-fiſh kind, to which the *aſteria* have alſo once belonged; but our imperfect knowledge in the animal hiſtory, has not yet aſcertained us of the particular creature; the moſt probable conjecture is, that it is the Magellanic ſtar-fiſh, the rays of which nicely and exactly repreſent ſome of the moſt perfect aſteropodia.

ASTEROPTERUS, in *Botany*. See INULA, and LEYSERA.

ASTERUSIA, in *Ancient Geography*, a mountain towards the ſea, in the ſouthern part of the iſle of Crete.—Alſo, a town ſituate upon mount Caucaſus, founded by a Cretan colony, according to Steph. Byz.

ASTESAN, or *County of Aſti*, in *Geography*, a country of Piedmont, in Italy, bounded on the weſt by the principality of Chieri and Carmagnola, on the north by the Vercellois and the Alexandrin, and on the ſouth by the marquiſate of Gorzegno; about twenty-five miles long and ten broad.

ASTHÆA, or ASTHALA, in *Ancient Geography*, an iſland of Aſia, on the coaſt of Gedroſia. Ptolemy.

ASTHAGURA, a town of India, on this ſide of the Ganges. Ptolemy.

ASTHENIA, in *Medicine*, a term employed to denote bodily debility. It is derived from α privative, and σθενος, *robur*. In the ſyſtem of Sauvages, and ſome other noſological writers, it forms a diſtinct genus, being claſſed with ſyncope, and other ſimilar diſeaſes; but it is commonly uſed by phyſicians in a more extended ſenſe, ſo as to embrace all that vaſt variety of chronic complaints, in which there is a general languor of the body, from the vital functions and muſcular actions not being performed with that degree of energy which is neceſſary to health. The general therapeutical treatment proper in caſes of debility, conſiſts in the employment of tonic medicines, ſuch as the Peruvian bark, bitters, chalybeates, the cold bath, or temperate bath, ſea-bathing, country air, a mild nouriſhing diet, riding on horſeback, &c. It ſhould be remarked, however, that this general tonic plan is not applicable, in its full extent, to all aſthenic diſeaſes, ſome of them being complicated with viſceral and other local obſtructions and inflammations, which require peculiarities of treatment, as will be duly noticed in the courſe of our obſervations under thoſe ſeveral heads.

ASTHMA, a ſhortneſs of breath; from αω, or αημι, *ſpiro*, *anhelo*, *I breathe*, *I pant*.

The diſeaſe which bears this name may be defined to be a ſhort and laborious reſpiration, accompanied with a wheezing noiſe, generally coming on by fits, and going off by a cough, and ſpitting up of phlegm. It is not uſhered in by fever.

A S T

In Sauvages's ſyſtem it is claſſed under anhelationes; in Cullen's, under ſpaſmi. The former enumerates no leſs than eighteen ſpecies thereof; the latter only three, viz. A. *ſpontaneum*, A. *exanthematicum*, and A. *plethoricum*. Another writer has ſubdivided this diſorder into four ſpecies. Some of theſe diſtinctions are unfounded, and moſt of them are of little or no utility in practice. By far the greater number of thoſe caſes of difficult reſpiration, which Sauvages has referred to aſthma, belong to dyſpnœa; a ſymptom common to various and oppoſite diſeaſes, and diſtinguiſhed from aſthma by its manner of coming on, by its duration, and by the ſet of morbid phenomena with which it is aſſociated. Thus the ſhortneſs of breath which occurs in pleuriſy, peripneumony, conſumption, catarrh, dropſy of the cheſt, &c. is only a concomitant of thoſe diſeaſes, but not the diſeaſe itſelf; and is therefore not aſthma, but dyſpnœa. The ſame may be ſaid of thoſe caſes which Floyer has enumerated as inſtances of *continued aſthma*.

There is ſtrictly but one idiopathic ſpecies of aſthma; the *periodic* or *convulſive* aſthma (the aſthma nervoſum of Cullen; the dry or flatulent aſthma of others); the *humoral aſthma*, as it is termed, being for the moſt part a variety thereof.

The periodic or convulſive aſthma has been ſo well deſcribed by the celebrated Floyer, who himſelf laboured under this diſeaſe for the ſpace of thirty years, that we ſhall chiefly take from him the hiſtory of its phenomena.

For ſome hours preceding a fit of aſthma, the patient experiences a ſenſe of ſtraightneſs, a fulneſs about the pit of the ſtomach, and is much troubled with flatulency. At the ſame time there is a heavineſs of the head, drowſineſs, propenſity to yawning, and a diſcharge of pale urine. If theſe ſymptoms come on towards the afternoon, they are followed at night by a tightneſs and weight acroſs the cheſt, by oppreſſion of the breath, and ſome wheezing. There is generally, too, a convulſive cough, with little or no expectoration. In the courſe of the night, the ſymptoms become more urgent, the inſpirations are made with the utmoſt labour, the cheſt and ſhoulders being lifted up with great violence, and in a convulſive manner. In this diſtreſſing ſtate the patient is neceſſitated to get out of bed, and to remain in an erect poſture. Although the expirations are not ſo difficult as the inſpirations, yet they are performed very ſlowly, and with a wheezing noiſe. In this ſtage of the fit, a perſon can neither ſpeak nor cough. His face appears pale or livid; his hands and feet are cold; and his pulſe is generally weak and irregular. He has a great deſire for freſh air, and is much oppreſſed by a cloſe heated room, by duſt, ſmoke, or bad ſmells; and even by the weight of his clothes upon his cheſt. After ſome continuance of the attack, head-ach is ſuperadded to the other ſymptoms; and, the pulſe becoming ſomewhat accelerated, there is a ſlight degree of feveriſhneſs, the neceſſary conſequence of fatigue and irritation. As the fit declines, there is a breaking of wind both upwards and downwards, and frequently a motion to ſtool. The urine, which before the fit was pale, is now high-coloured, and depoſits a ſediment. If the attack laſt but two or three hours after riſing out of bed, the ſtraightneſs of breathing abates, and ſome phlegm is ſpit up.

When a ſhort fit happens, it is accompanied only with wind and ſpitting; with a quickneſs of the pulſe, a diſpoſition to ſweat, and a diſcharge of higher-coloured water in the morning. It is not preceded, as in the former caſe, by oppreſſion at the pit of the ſtomach, nor by pale urine, nor by much drowſineſs over-night. This is what Floyer calls a *ſpitting-fit*. It is only a milder form of the other attack.

The duration of [illegible] individuals, and in the ſame individual at different times. Sometimes it continues only a few hours, at other times it laſts three or four days. In theſe caſes, very little phlegm, and that of a dark colour, is ſpit up for the firſt two days; on the third or fourth it is coughed up more freely, of a leſs viſcid conſiſtence, [illegible] of four or five days, the cough and ſpitting generally ceaſe, and the patient remains free from oppreſſion of the breath, until the next return of a fit. The intervals between the attacks are extremely various, ſometimes ſhort, ſometimes long. The ſhort intervals do not exceed the ſpace of three, ſix, or ſeven days; the longer intermiſſions extend to twelve, fourteen, or fifteen days. The longer the paroxyſm, in general, the longer the interval; and vice verſâ. The late Dr. Heberden has remarked, that ſome aſthmatics experience only four attacks in a year; others only two, [illegible] and autumn; and ſome not more than one attack annually, and that every winter. Others only once in two years; but theſe laſt, and eſpecially another inſtance mentioned by him, muſt be regarded as rare and anomalous caſes. The periods of recurrence are much influenced by changes of the atmoſphere. Rainy weather, foggy weather, an approaching fall of ſnow, a change from froſt to thaw, or a change of wind into the eaſt, will often bring on a fit; which, however, may happen from other cauſes, in every kind of weather. As the fits uſually recur, in confirmed aſthmatic ſubjects, once a fortnight, they muſt often take place on or near the changes of the moon. Hence the aſthmatic periods have been ſuppoſed to be regulated by the phaſes of that celeſtial body. The recurrence of the paroxyſms, however, is known to happen at other times; ſo that it is evident there is no neceſſary connection between them and the lunar changes. Alterations of the weather, happening at thoſe periods, are (as Floyer has remarked) the probable cauſe.

Aſthma may occur at any age; but, except where there is a mal-conformation of the cheſt, it ſeldom attacks in early life. It uſually afflicts perſons of mature or advanced age. People who follow certain occupations are more liable to it than others; ſuch are millers, maltſters, ſtone-cutters, woolcombers, flax-dreſſers, &c. Many of theſe inſtances, however, of ſhort breathing belong rather to dyſpnœa, than to aſthma. Although the attacks are ſo ſevere and diſtreſſing for the time, yet in the intervals the patient commonly enjoys a tolerable ſhare of health, and is able to engage in the purſuits of buſineſs or pleaſure, according to his ſtation in life; nor do they ſeem, in numerous inſtances, to have much effect in ſhortening the natural period of human exiſtence, many aſthmatics having been known to live to the age of ſeventy and upwards. The diſeaſe, however, terminates at length in peripneumony, conſumption, dropſy, lethargy, or apoplexy.

Œdematous ſwellings of the legs, ulcers in thoſe parts, the bleeding piles, a fit of the gout, or an eruption on the ſkin, have ſuddenly produced, in very deſperate caſes, a favourable termination of an attack, and have ſuſpended the recurrence of the paroxyſms for a great length of time.

Beſides the changes of the atmoſphere, and certain irritations (ſuch as duſt, ſmoke, &c.) before mentioned, there are other cauſes which are capable of exciting a fit of aſthma; ſuch are errors in diet, violent exerciſe, long faſting, profuſe evacuations, intenſe ſtudy, retropulſion of cutaneous eruptions, and of gout, paſſions of the mind, &c. With regard to the [illegible], Cullen ſuppoſed it to [illegible] in a ſpaſmodic conſtriction of the muſcular fibres of the bronchia, preventing the free ingreſs and egreſs of the air,

and consequently the due expansion of the lungs. This opinion, however, is not altogether reconcilable with the known structure of the bronchia, and has accordingly been controverted by a late writer (Dr. Bree); who has assigned in its stead, irritation, either from an offending material in the lungs themselves, or from acrimony and disease in the stomach, intestines, and other viscera of the abdomen. There is little doubt, however, that the mucus which he supposes to be the cause, is rather the effect of the morbid action of the lungs. Others have attempted to refer all the phænomena of an asthmatic attack to a spasmodic affection of the diaphragm (Bunier. Institut Medicinæ Practicæ. vol. iv. pars i. in nota ad sect. coii.), which, according to Floyer's description of his own feelings, seems to be rendered stiff, and tied or drawn up by the mediastinum. The resistance thus opposed to the natural dilatation of the chest, would, it is said, necessarily occasion a vehement and convulsive action of the intercostal and other muscles concerned in respiration. All this, however, is mere conjecture; and it is to be regretted, that dissections have been of very little use towards elucidating this pathological difficulty.

Whatever be the proximate cause of asthma, all its symptoms are stamped with the character of spasm and irritation; a circumstance which at once points out the plan of treatment that should be adopted; in regard to which, we are to consider, 1. The remedies which should be resorted to during the fits; and, 2. Those which should be employed during the intervals, to prevent their recurrence.

When a fit comes on, the patient, if recumbent, should be raised up, and kept in a sitting posture. All external pressure from clothes or bandages should be removed from the breast, and fresh air should be admitted into the room; which should be kept cool, and free from smoke, dust, and every sort of disagreeable smell. Should there be much tendency to sickness, an ipecacuanha emetic will be proper; after the operation of which an antispasmodic draught should be given, composed of æther, castor, and opium, mixed with a sufficient quantity of peppermint water, or cinnamon water. In some cases, a few drops of spirit of ammonia may be added to this draught, which should be repeated every hour, or every second hour, according to the urgency of the symptoms. The strong smelling antispasmodics, such as amber, musk, and asa fœtida, should be avoided. From the white oxyd of zinc (calcined zinc), or sulphat of zinc (vitriolated zinc), less benefit has been derived, than the reports of some authors had given reason to expect. The digitalis has been employed with advantage, according to some late accounts, in the paroxysm of convulsive asthma; but it promises to be more generally useful in that species which is termed the *humoural asthma*, under which we shall therefore mention its doses and mode of exhibition. With a view of promoting a diaphoresis, the aqua ammoniæ acetatæ may be given, in conjunction with the antispasmodics above mentioned; but all heating sudorifics will be improper. In some instances, the wine of tartarized antimony may be added with good effect to the antispasmodic medicines. Floyer has recommended the internal use of vinegar; but though it may have afforded relief in some cases, we are persuaded it will disagree with the majority of such patients; and will, indeed, be extremely hurtful to hysterical and gouty asthmatics. For these, the absorbent earths, such as magnesia and chalk (with which but a few grains of rhubarb should be joined), will answer much better. While these medicines are given, a blister should be applied between the shoulders, but not upon the sternum, where its weight would incommode the patient. Bleeding is rarely admissible. The diet during the fit should consist of cold toast and water, milk and water in a tepid state, a cup of strong coffee, &c. Solid animal food and puddings should be withheld; nor should a glass of wine be allowed, except to very infirm and aged asthmatics, or in case of alarming deliquium. Even then, a dose of sal volatile drops in water will generally be preferable.

As the fit declines, and a tendency to spitting shews itself, that effect should be promoted by the exhibition of expectorating medicines; such as ipecacuanha, oxymel of squill, and ammoniacum. Of the first of these, not more than two or three grains should be given for a dose, so as to excite, in this stage of the disorder, merely nausea, but not vomiting. The two others should be joined together in the form of a draught or mixture, with or without the addition of æther. Costiveness should be prevented by a laxative-clyster, or by other means; but it should be remembered, that much evacuation by the bowels is always hurtful in these cases.

Considering the strong desire expressed by persons labouring under an attack of asthma for fresh air, and that the appearances of the sputum are such as seem to indicate an excess of the carbonaceous principle in the blood, it was natural to suppose much relief might be obtained by the inhalation of oxygen gas. Accordingly this gas mixed with common air in various proportions, has been administered by different practitioners to such patients; but not with the expected success. Other factitious airs have also been tried, such as hydrogen and hydrocarbonate. But if in any case of asthma, these gaseous substances have produced a beneficial effect, it has been too transitory and inconsiderable to entitle them to be ranked among the remedies that may be relied upon for the cure of this disease. The vapour of radical vinegar, or acetic acid (see Duncan's Annals of Medicine, vol. iii.), will be found an equally uncertain auxiliary; and æther-vapour is much better adapted to that condition of the lungs which occurs in consumptions.

When the fit has gone through its course, such remedies should be prescribed as are calculated to prevent its return. These should be taken from the class of tonics and stomachics, such as the Peruvian bark, bitters, chalybeates, &c. With these should be joined the temperate bath, or cold bath (in summer and autumn), change of air, and regular exercise of walking, or riding on horseback. The benefit derived from following the plough, as asserted by Baglivy, is to be attributed partly to the country air, but more to the exercise of walking. A dry and pure air, but not that of an elevated situation, is in general best suited to asthmatics; there are, however, frequent exceptions to this observation, some patients having fewer and less violent attacks in the contaminated atmosphere of the metropolis and other large towns than in the country. The bowels should be kept regular, by rhubarb and aloetic aperients. Small doses of calomel may be given with great advantage, in many cases; and especially where the asthmatic affection is connected with a disease of the skin. Whenever the patient's feelings warn him of an approaching attack, he should take an emetic, and after its operation an opiate: and at all times he should encourage a tendency to spitting, by ammoniacum and squill. Issues have been recommended by some practitioners for lessening the frequency and violence of the paroxysms. It is said that king William continued perfectly free from his asthmatic complaint, during the whole of the time that the wound he received on his shoulder, in the battle of the Boyne, kept open and discharged matter.

The diet, during the intervals of the fits, should be carefully attended to. All flatulent vegetables, all sorts of pastry and puddings, all fat and slimy food, and broths, should

be

be avoided. A moderate quantity of butcher's meat, and poultry, roaſted or boiled, will be proper every day, with a ſmall proportion of the more digeſtible and nutritious vegetables. Strong ale ſhould be wholly forbidden. In ſome few inſtances, no harm ſeems to have ariſen from the uſe of freſh ſmall beer or porter; but in general toaſt and water will be the moſt ſuitable beverage. Wine ſhould be allowed very ſparingly. In regulating its quantity, the age, conſtitution, and habits of the patient ſhould be duly attended to. It does not appear that the ſmoking of tobacco, which ſome phyſicians have recommended, is really beneficial in theſe complaints.

As this diſeaſe occurs ſo frequently, and is of ſo obſtinate a nature, thoſe who have the misfortune to be afflicted with it neceſſarily become their own phyſicians. Hence we have been induced to extend our obſervations, on this ſubject, to a greater length than we ſhall hereafter do (with very few exceptions), on ſingle diſeaſes. But we have yet to add a word or two on the *humoural aſthma*. Under this term ſome phyſicians have comprehended the anaſarca of the lungs; but we underſtand by it that ſpecies or variety of ſhortneſs of breath and wheezing, which is accompanied with a conſtant cough, and expectoration of mucus, and which is diſtinguiſhed from phthiſis and catarrh by being unattended with fever. It is diſtinguiſhed from a dropſy of the cheſt, by the abſence of a numbneſs of the arms; and (after the ceſſation of a temporary aggravation of the ſhort-breathing from accidental cauſes), by the patient being able to bear the horizontal poſture. It is the pituitous aſthma of ſome writers. Cullen has referred it to dyſpnœa; but it rather belongs to this head, as it generally begins under the form of convulſive aſthma; and, like it, is liable to accidental aggravations from changes of the weather, and the other exciting cauſes before mentioned. In regard to its therapeutical treatment, emetics and expectorants (joined with æther and other antiſpaſmodics); and bliſters and iſſues, are as ſerviceable here as in the convulſive aſthma; but the employment of diuretics is more particularly indicated; ſuch as ſquill, acetated kali, and the digitalis. Ten or fifteen drops of the tincture of this herb, or one grain, or a grain and a half of the powdered leaves, joined with a fourth part of opium, ſhould be given at a doſe, and be repeated twice in twelve or fourteen hours, until the ſhortneſs of the breath is relieved by a flow of urine, or until ſuch an effect is produced on the pulſe, the head, or the bowels, as ſhall make it neceſſary to ſuſpend the uſe of the medicine. Decoctions of ſeneka or dulcamara (ſee Practical Synopſis of the Materia Medica, vol. i. p. 152. 233.) may be ſubſtituted in place of the digitalis, where this laſt ſhall be found to diſagree. The patient ſhould wear flannel next his ſkin, except during the ſummer, and ſhould at all times be particularly attentive to keep his feet warm and dry.

Among ſyſtematic writers, Willis, Hoffman, and Cullen, ſhould be conſulted on this diſeaſe; and among the authors of diſtinct treatiſes, Floyer on Aſthma 1698, Ryan on ditto 1793, and Bree on Diſordered Reſpiration 1800.

ASTI, in *Geography*, a large city of Piedmont, the capital of the county of Aſti, ſituate in a delightful and fertile valley, on the banks of the Tanaro. Few cities in Lombardy exceed it in its palaces and public buildings: and the ſurrounding country is embelliſhed by the ſeats of the nobility and gentry. By the extent of its walls, which incloſe the ſuburbs, it may be ſuppoſed to have been formerly well fortified; but thoſe works are now decaying. The cathedral is an elegant ſtructure with a lofty roof, a fine cupola, and good painting in freſco: upon this is an inſcription which expreſſes that it was anciently a temple of Juno, and converted into a Chriſtian church by a St. Syrus, one of Jeſus's ſeventy diſciples. It has more than thirty other churches, parochial and conventual. Several remains of antiquity are ſeen in this place; and it is ſaid to have been a favourite town with Auguſtus Cæſar and the emperors. It is the ſee of a biſhop, ſuffragan of the archbiſhop of Milan; 24 miles eaſt from Turin, and 20 weſt from Aleſſandria. N. lat. 44° 54′. E. long. 8° 2′. See Asta.

Asti, in *Ancient Geography*, a people of Europe, in Thrace, who poſſeſſed the town of Calyba.

ASTICA, or Astice, a country of Thrace, extending along the Euxine ſea, and commencing at a ſmall diſtance north-weſt of Conſtantinople.

ASTIGI, or Astigis, *Ecija*, a town of Spain, in Bætica, upon the Singilis, nearly ſouth of Corduba. This town was a Roman colony, and denominated "Auguſta Firma."

ASTIGI Juliensis, a town of Spain, ſituate between the river Bætis and the ſea. Pliny.

ASTIPULATOR, in the Roman order, the perſon by whoſe conſent and leave a nun takes the religious habit. Du Cange.

ASTONISHMENT, denotes a high degree of wonder or ſurpriſe: Johnſon defines it a confuſion of mind from fear or wonder. Dr. Cogan, in his "Philoſophical Treatiſe of the Paſſions," correctly defines high aſtoniſhment as the incubus of the mind, which feels nothing at the inſtant ſo much as its inability to act.

ASTORCHA, in *Botany*, a name by which ſome authors call the yellow *ſtœchas*, and others the purple, commonly called the Arabian.

ASTORES Island, in *Geography*, lies north-eaſt from the north point of the iſland of Madagaſcar, in the Indian Ocean. S. lat. 10° 22′. E. long. 53° 20′.

ASTORGA, a city of Spain, in the province of Leon, ſituate in a plain near the river Tueria. It is a ſtrong place and the ſee of a biſhop, ſuffragan of Compoſtella. It was formerly the capital of the Aſturias, but is now only the chief place of a marquiſate erected here in 1465. It is called "the city of prieſts," from the number of eccleſiaſtics belonging to the cathedral; twenty-eight miles nearly weſt of Leon. N. lat. 42° 33′. W. long. 6° 16′.

ASTRABAD, a town of Perſia, and capital of a diſtrict of the ſame name, is ſituated at the ſouth-eaſtern extremity of the Caſpian ſea, near a conſiderable bay, with a chain of mountains behind. The Ruſſians land at this bay, and then proceed to the capital. The province of Aſtrabad lies in the north-weſt part of Perſia, having Choraſan on the eaſt, part of Tartary on the north, and Comis and a branch of mount Taurus to the ſouth. The country in general is mountainous, and the ſoil, except near the banks of the rivers which run through it, ſandy and barren. The productions of this province are ſilk, rice, and cotton, like thoſe of Mazanderan, and its exports and imports nearly ſimilar. The commerce of Aſtrabad is chiefly with Candahar. This city lies very convenient for a harbour to the eaſtern diſtricts of Choraſan, Bucharia, Samarcand, and even India. N. lat. 36° 50′. E. long. 54°.

ASTRACAN Mouſe, in *Zoology*, the Engliſh name of the Mus *Pilosus* of Gmelin, and Zaniyn rat of Pennant. See Pennant's *Mus.*

ASTRAKHAN, or Astrachan, in *Geography*, a city of the Ruſſian empire, formerly the capital of the kingdom of that name, having a large and commodious harbour, with a dock-yard and ſpacious quays, ſituate on an iſland in the Volga, not far from its outlet into the Caſpian, in 46° 22′ lat. and 65° 43′ long. It contains four monaſteries, twenty-

twenty-five Ruſſian churches, and two Armenian, one Roman Catholic monaſtery with a church, one Lutheran church, ſeveral meſſhouſes, ſchools, and ſix printing houſes. The principal ſuburbs are the Tartarian, the Kazanian, and the Siberian. [illegible] houſes of brick, and 3773 of timber, beſide the ſtreets. The number of inhabitants amounts to 18,023, without including the foreigners and periodical reſidents; taken all together, they may be computed at 70,000, as on account of the fiſhery alone upwards of 2 [illegible] are annually drawn hither. Of this maſs the Ruſſians are the moſt numerous, the remainder being made up of Germans, Engliſh, French, Italians, Swedes, Armenians, Georgians, Tartars, Perſians, Greeks, Kabardinians, Kalmuks, Indians from Hindoſtan, &c.

Commerce. 1. By ſea to Perſia, Turkey, Bokharia, India, &c. exporting either linen, wax, ſoap, wrought gold, ſilver, and copper, tin, iron in bars and manufactured, ſteel, quickſilver, alum, vitriol, ſal ammoniac, ſugar, tea, yufts, &c. in return for which they import, eſpecially from the Perſian harbour Manglishlak, raw ſilk (annually about [illegible] pounds), various ſorts of ſilk, half ſilk, and cotton ſtuffs, Circaſſian felt, raw cotton, ſumptuous girdles, otterſkins, ſeagraſs, woven kaftans, frankincenſe, mountain honey, lamb-ſkins, cloths, tobacco, rice, Perſian peaſe, various ſorts of fruits, &c. In the year 1775, theſe exports amounted in value to 561,327 rubles, the imports to 237,224 rubles, and the duties to 24,308 rubles. 2. Freights to Kiſſiar, Gurief, &c. of crown ſtores, wine, proviſions, and commodities for ſale. 3. Land trade to the towns lying on the upper parts of the Volga. 4. A very large barter of commodities within the city in the numerous markets: this is carried on by the foreigners, generally by the Armenians and Indians.

Manufactories. I number theſe are 175, moſtly belonging to Armenians, and are employed in weaving ſilk, half ſilk and cotton veils and girdles, broad-ſtriped and plain ſilks, plain cottons, ſtriped linens, in preparing morocco leather, ſhagreen, &c.

Other trades. 1. The fiſhery is of very great importance, and belongs to the citizens, who have eſtabliſhed a factory, the profits whereof, from 1762 to 1785, amounted to upwards of a million of rubles. 2. The capture of the porpus on the Caſpian is likewiſe carried on by the citizens of Aſtrakhan, and is extremely lucrative. 3. The culture of orchards and vineyards gives employment to great multitudes of people. The number of vineyards within the circuit of the city is 135, whereof 21 belong to the crown, and the remainder to private owners. 4. The culture of the ſilkworm is carried on partly by the citizens, and partly by the crown. The latter has a large ſilk manufactory.

ASTRAKHAN, *Territory or Diſtrict of*, comprehends two extenſive ſteppes or moors, abounding in ſaline marſhes, and in ſome parts barren heaths. 1. The Aſtrakhan ſteppe between the Volga and the Don; and 2. The Kalmuk or Ural ſteppe between the Volga and the Ural. The greater part, therefore, of this diſtrict would be entirely ſterile, were it not for the ſalutary overflowings of the Volga, which, at leaſt on the ſhores of that river, as alſo of the Don and the Ural, create as fine meadows and paſture grounds as can any where be ſeen. As corn, in this diſtrict, and even in the parts adjacent to Aſtrakhan, where much induſtry is beſtowed on the culture of the ſoil, does not ſucceed well, the deficiency is ſupplied from Kazan. On the other hand, the fineſt ſorts of fruit flouriſh here, partly growing wild and partly cultivated in orchards, ſuch as melons, arbuſes or water melons, apples, pears, peaches, apricots, quinces, plumbs, cherries, &c. The mulberry tree grows in great abundance. The vine has been domeſticated ſince the year 1613, when the firſt vineyards were laid out at Aſtrakhan, and planted with Perſian ſtocks. They produce the purple as well as the white grape, both of excellent flavour; and the cluſters of the latter grow to an uncommon ſize. The vintage laſts from the end of Auguſt to the end of September, old ſtyle, when the greater part of the cluſters are preſſed, but likewiſe a great quantity are packed up freſh, and tranſported to all parts of the empire. Cotton is cultivated to a conſiderable degree, and ſucceeds extremely well. Even the ſaline heaths or ſteppes are not entirely barren; on them grow wild in great quantities, various kinds of flowers and herbs, as aſparagus, poppies, dandelion, fennel, &c. Along the Volga many ſweet woods, the roots whereof [illegible] the Aſtrakhan [illegible]; viz. ſalicornia, chenopodium, ſalſola, ſtatice, nitraria, &c. which are employed in ſoap boiling.

The breeding of cattle is principally carried on by the Kalmucks and Tartars, who, with their prodigious droves, frequent the paſtures along the ſhores of rivers, and nomadiſe in the ſteppes. Here are likewiſe found whole herds of wild goats (cervi capra, antilope ſaiga), hares, rabbits, the biſam, eagles, buſtards, partridges, grouſe, &c. The fiſhery is in no part of the empire ſo productive and profitable as in the Caſpian and the rivers that flow into it, the Volga and the Ural. Little account is made of the ſmaller kinds of fiſh, [illegible], barbel, ſhads, which are caught farther up in the Volga and the Ural, and tranſported through the whole empire. In the Caſpian only the ſeveral ſpecies of ſturgeon are taken, viz. the beluga, the ſturgeon, the ſterlet, and the ſevriuga; after them, however, ſhads and mullet; the former are not unfrequently of an enormous ſize. In the year 1769, a beluga was caught in the Ural weighing 2520 pounds, and from which 720 pounds of caviar was obtained. Of all the fiſh of the Volga, the beluga, the ſturgeon, and the white ſalmon are the moſt precious. The fiſhery in the Ural is the principal occupation of the Uralian Kozaks; and no where throughout all Ruſſia is this buſineſs ſo well regulated by immemorial uſages as here. The chief kinds of fiſh taken in this river are the beluga, ſturgeon, ſevriuga, ſterlet, ſhad, barbel, white ſalmon, &c. All theſe fiſh ſwim in ſhoals, and the ſevriuga in ſuch incredible multitudes, that, particularly near Gurief, the ſwarms of them are clearly ſeen below the ſurface of the water. The fiſh are here, as on the Volga, moſtly ſalted down, the roes made into caviar, and the ſounds into iſinglaſs; but the fiſh caught in the winter are tranſported frozen. Beavers are found in the Sunſha, tortoiſes in the Terek, the Don, the Volga, &c. The Terek and the Kuban likewiſe yield belugas, ſturgeon, and ſterlets. The Caſpian abounds more in porpuſes than any of the other lakes or inland ſeas. Among the inſects of theſe parts ſeveral are venomous, and tarantulas are frequently ſeen. The hot baths on the banks of the Terek were explored by order of Peter the Great in the year 1717. The principal of them is the St. Peter's bath, conſiſting of three ſprings at a conſiderable diſtance aſunder. Their proper heat is 71° of Reaumur, be the temperature of the atmoſphere what it may. The heat of the other ſources riſes from 41 to 60 degrees of the ſame thermometer. According to Guldenſtædt, they contain ſulphur and alkaline ſalt, no iron, but a conſiderable portion of calcareous earth. Beſides theſe are ſeveral other ſprings. M. Guldenſtdæt, in 1771 and 1773, cured forty patients by means of theſe baths, and ſince that time the uſe of them has become very common in the ſurrounding territory.

The chief employments of the inhabitants are the labours of

of the fiſhery, the curing of the fiſh, the preparing of caviar and iſinglaſs, which is extremely well made, particularly at Gurief, and the making of wine. The white wine produced here is almoſt as white as water, the red only reddiſh. Both are exceeding light, but well flavoured ſweet table wines. They commonly loſe their agreeable taſte after two years, turning ſour, and then they are converted into brandy or vinegar. Great quantities of the grapes are dried and ſent through the country, as raiſins, or boiled into a ſyrup. The ſilkworm employs a great number of hands about the Terek, between Kiſliar and Moſdok, near Aſtrakhan, &c. likewiſe in the ſilk and cotton manufactories in Aſtrakhan. In this city alſo yellow, black, and particularly red Ruſſia leather is fabricated of the greateſt beauty and beſt quality. The ſhagreen, which is manufactured here moſtly by Tartars and Armenians, is a valuable ſpecies of leather, not prepared in any other country. The Tartarian ſoap, which is made at and about Aſtrakhan, of pot-aſhes and the blubber of the ſea-dog, is in great repute, and uſed in the cloth-manufactories. The chief ſalt-petre works, about ſixty verſts above Aſtrakhan, are ſituate on an arm of the Volga, and carried on by the artillery company. They produce ſuch abundance of ſalt-petre, that, after deducting the ſtated quantities for the powder-mills, many thouſand poods are annually exported from St. Peterſburg, on the crown's acount.

This is the only government of the empire that has coaſts on the Caſpian. The grand mart of the Caſpian commerce is Aſtrakhan. The other Ruſſian ports on this ſea are Kiſliar and Gurief. The principal part of this commerce is in the hands of the Armenians; next to theſe are the Ruſſians, then follow the Indians, the Perſians, the Truckmenian and Chivintzian Tartars, and laſtly the Nogay Tartars belonging to Aſtrakhan. The commodities in which this trade conſiſts, have been already mentioned. It was likewiſe obſerved, that it is divided into the ſea and land commerce; the exports by the former amount at preſent to about 1,200,000, and the imports to a million rubles: the latter is carried on by way of Kiſliar and Moſdok, and amounts to about 300,000 rubles, the imports being about three-fourths of that ſum.—The inland trade of this government with the other provinces of the Ruſſian empire is very conſiderable. Its products having been particulariſed above, it needs here only to be obſerved, that in exchange it receives chiefly by the Volga, various kinds of European commodities, the greater part whereof are again exported to Perſia, &c.

Aſtrakhan is a viceroyalty, and conſiſts; 1. of the former government of that name, which was a Tartarian kingdom till it was conquered by the Ruſſians in the year 1554; 2. of the Caucaſian territory; and 3. of the north-eaſtern diviſion of the Kuban, which for the moſt part fell to Ruſſia by the peace of 1774, and the border treaty in 1783. It was erected into a viceroyalty in 17[illegible], and has its own governor-general.

The eccleſiaſtical concerns of the Ruſſians are under the juriſdiction of the archbiſhop of Aſtrakhan and Stavropol. The other religious parties have preſidents appointed over them, or manage their own ſpiritual affairs independently among themſelves.

The public expenditure of this government, including the pay of the military, is ſtated at 147,373 rubles.—Moreover, this and the government of Saratof, have aſſigned them in common 7000 rubles to provide for emergencies with the neighbouring tribes.

Along the Ural, from Uralſk to Gurief, is a line of forts, for ſecuring the borders againſt the Kirghiſes, which are garriſoned by Uralian Kozaks, who, in compenſation for their ſervice, have a grant of the free fiſhery of the Ural. The corps of them, always in readineſs to march, conſiſts of 12,000 men.

Along the Kuban and the Terek lines are likewiſe drawn, and on the Volga, from Aſtrakhan upwards, are ſeveral forepoſts or redoubts.

This conſiderable diſtrict of Tartary formerly bore the name of Kapſhak, in honour of the ſon of a commander, whom his mother brought into the world in the hollow of a tree; it was afterwards denominated Nagaiya. The city was anciently called Tmutorakan; but in proceſs of time got the appellation of Adſhi-Darchan, which the Ruſſians corruptedly pronounced Aſtrakhan. Old Aſtrakhan was ſituate eight verſts higher up than where the preſent city ſtands, and its firſt ſcite ſtill diſcovers ruins of ancient edifices. At that time it bore the name of Tmutorakan; and Lomonoſof poſitively aſſerts, that tzar Yaroſlaf Vladimirovitch waged war, in conjunction with his brother Mſtiſlaf, againſt the ſovereign of Tmutorakan, and terminated hoſtilities by entering into an alliance with him; a circumſtance which would prove, on one hand, that the pretenſions of Ruſſia upon Aſtrakhan are of a much earlier date than the reign of Ivan Vaſſilievitch, and, on the other hand, authenticates the denomination of Tmutorakan, attributed to it. As to the particular time, however, when this city was transferred to another ſpot, as well as that when it changed its name, little or no knowledge is at preſent to be obtained.

The term Adſhi-Darchan implies, "A pilgrim of Mecca has granted liberty." Whence it is pretended, that a noble Tartar, on his return from a pilgrimage to Mecca, preciſely at the time when the labourers were at work in laying the foundations of the city in its new place, granted liberty to one of his ſlaves, whether as a ſort of favourable omen to the ſucceſs of the undertaking, or to teſtify, according to the principles of the Mohammedan religion, his gratitude to heaven for the fortunate iſſue of his journey: however this may be, it is aſſerted that the natives ſeized on the event for giving the city the appellation of Adſhi-Darchan, as expreſſive of their wiſhes for the perpetual preſervation of their liberty. The Ruſſians, however, derive its name from Aſhtar and khan, maintaining that it ought to be pronounced Aſhtarkhan, as if there had formerly been in that country a king or khan Aſhtar or Aſtra, of whom, by the way, not the ſlighteſt veſtige is to be traced in any hiſtory.

Aſtrakhan then had been in the poſſeſſion of the Ruſſians long before the time when it ſubmitted afreſh to the valour of tzar Ivan Vaſſilievitch. Formal proofs of this fact are found in the archives of the city; where it is related, that its firſt Ruſſian ſovereign was Mſtiſlaf Vladimirovitch, and that this prince cauſed a church to be built of ſtone at Tmutorakan. It was not till the year 1237, when Bathyus, whom the Tartars call Bathal, having ravaged all Ruſſia and inveſted both ſhores of the Volga with his Tartars, that the Ruſſians loſt the kingdom of Aſtrakhan, and were obliged to paſs their lives, for a great number of years, in perpetual wars; which laſted till the Greater Tartary received a deciſive blow, which was followed by the wars of Kazan, when Ivan Vaſſilievitch began to raiſe his head, at length reconquered the kingdom of Aſtrakhan, and annexed it to the Ruſſian empire.

ASTRÆA, from [illegible] in *Aſtronomy*, a name which ſome give to the ſign Virgo, by others called Erigone, and ſometimes Libra.

ASTRÆA, in *Mythology*, was the daughter of Aſtræus and Themis, and regarded as the goddeſs of juſtice. She was

was repreſented as a virgin with an auſtere but dignified countenance; holding a balance in one hand, and a ſword in the other.

The poets feign that Juſtice quitted heaven to reſide on earth, in the golden age; but, growing weary of the iniquities of mankind, ſhe left the earth, and returned to heaven, where ſhe commenced a conſtellation of ſtars, and from her orb ſtill looks down on the ways of men. Ovid. Met. lib. i. ver. 149.

ASTRÆUS, in *Ancient Geography*, a river of Greece, in Macedonia.

Astræus, in *Mythology*, one of the giants or Titans, who made war with Jupiter. He was enamoured of Aurora, and ſhe became the mother of the winds and ſtars.

ASTRAGAL, Astragalus, in *Anatomy*, the upper bone of the tarſus, which, by its conjunction with the bones of the leg, forms the ancle-joint. See Skeleton, *deſcription of the bones of the lower extremity*.

Some alſo apply the name aſtragalus to the vertebræ of the neck.—Homer, in his Odyſſey, uſes the term in this ſenſe.

Astragal, in *Architecture*, from ἀστράγαλος, the heel-bone, alſo the vertebræ of the neck. It is a ſmall moulding, having a ſemicircular profile, uſed in various parts of buildings. But it is more particularly applied to expreſs the moulding which ſeparates the ſhaft from the capital of a column, and probably repreſented the rings or hoops that were put round wooden columns, to prevent them from ſplitting. See Architecture, *Plate* I.

In Egyptian architecture we ſometimes meet with aſtragals at the top of the ſhafts, and ſometimes with ſeveral between the top and bottom, though frequently there is no moulding between the ſhaft and capital.

In the earlieſt examples of Grecian architecture, ſuch as the Doric temples at Corinth, Athens, Sicily, and Pœſtum, there are no aſtragals or projecting mouldings ſeparating the ſhaft from the capital: but inſtead of theſe there are grooves, generally three in number, cut into the ſolid. The original intention of this does not appear to be ſufficiently obvious; nor whether it was done for ornament, or to conceal the joint that would otherwiſe be ſeen at that place, between the capital and ſhaft. In the ancient examples of the Ionic order, the aſtragal is never omitted under the capital. In the oldeſt ſpecimen of the Corinthian order, that of the monument of Lyſicrates at Athens, there is no aſtragal, but there is a ſunk ſpace between the ſhaft and capital, in which probably was inſerted a circular moulding, or ring of metal, or other material.

In Roman architecture we always find aſtragals at the top of the ſhaft, whether the order employed be of the Doric, Ionic, or Corinthian kind; though ſometimes they were made in the form of ſquare fillets or hoops, inſtead of that of circular rings.

The aſtragal was frequently, by the ancients, cut into the form of beads of various ſhapes; and many of the moderns, who have been more licentious in their ornaments, have covered it with leaves and flowers. The proportions of the aſtragal depend entirely upon its application; ſo that no rules can be given for it.

Astragal, in *Gunnery*, is a kind of ring or moulding on a piece of ordnance, at about half a foot diſtance from the muzzle or mouth; ſerving as an ornament to the piece, as the former does to a column.

Astragal *Tyles*. See Tyle.

ASTRAGALOIDES, in *Botany*. See Astragalus, and Phaca.

ASTRAGALOMANCY, derived from ἀστράγαλος, an *μαντεια*, *divination*, a ſpecies of divination performed by throwing ſmall pieces, with marks correſponding to the letters of the alphabet; the accidental diſpoſition of which formed the anſwer required. This kind of divination was practiſed in a temple of Hercules, at Achaia. Hiſt. de l'Acad. Inſcrip. tom. i. p. 102.

ASTRAGALOTE, in *Natural Hiſtory*, a ſpecies of foſſile alum, thus called from its reſembling a *talus*, or ankle-bone; whence it is alſo denominated *talare*.

ASTRAGALUS, in *Botany*, milk-vetch. Lin. gen. 892. Schreb. 1208. Juſſ. 358. Gærtn. t. 154. *Tragacantha* Tournef. Claſs, *diadelphia decandria*. Nat. Ord. *papilionaceæ*, or *leguminoſæ*. Gen. Char. *Cal.* perianth one-leafed, tubular, five-toothed, acute; lower toothlets gradually leſs. *Cor.* papilionaceous; banner longer than the other petals, reflex on the ſides, emarginate, obtuſe, ſtraight; wings oblong, ſhorter than the banner; keel length of the wings, emarginate. *Stam.* filaments diadelphous, ſimple, nine-cleft, almoſt ſtraight; anthers roundiſh. *Piſt.* germ nearly columnar; ſtyle ſubulate-aſcending; ſtigma obtuſe. *Per.* legume two-celled; cells bent to one ſide. *Seeds*, kidney-ſhaped.

Eſſ. Gen. Char. legume two-celled, gibbous.

Stems leafy, erect; not proſtrate.

Species, 1. A. *alopecuroides*, fox-tail milk vetch. Mill. fig. 58. "Cauleſcent; ſpikes cylindric, ſubſeſſile; calyxes and legumes woolly." Stem upright, hairy, about two feet high; leaves pinnate; leaflets ovate, eighteen or twenty pairs; flowers yellow, in cloſe, obtuſe, axillary ſpikes; legumes ſhut up in woolly calyxes, and have two cells containing three or four ſquare ſeeds in each. It flowers in June and July. A native of the Alps and Siberia. Cultivated by Miller in 1739. 2. A. *chriſtianus*. "Cauleſcent, erect; flowers glomerate, ſubſeſſile, from all the leafy axillas." Stalks nearly three feet high, broad at bottom, and gradually diminiſhing upwards; leaves very long, which alſo diminiſh upward, and form a ſort of pyramid; theſe are winged, conſiſting of pairs, of large oval lobes terminated by an odd one; flowers in cluſters from the alae of the leaves; they are of a bright yellow, and ſucceeded by cylindrical pods; ſeeds yellow, ſquare. It flowers in July. Diſcovered in the Levant by Tournefort. 3. A. *capitatus*. "Cauleſcent; heads globular; peduncles very long; leaflets emarginate." Stalks erect: long peduncles from the axils, ſupporting a head of purple flowers, which appear in July. Diſcovered in the Levant by Tournefort. 4. A. *piloſus*, pale-flowered milk vetch. "Cauleſcent, erect, hairy, flowers in ſpikes; legumes ſubulate, hairy." Stem more than a foot high, round, hard, branching; leaflets ten or twelve pairs, elliptic, lanceolate, hirſute; flowers on axillary peduncles, about fifteen, yellow; legume nearly cylindric, whitiſh, ſilky. A native of the Valais, Siberia, &c. It flowers from June till Auguſt. Cultivated by Miller in 1732. 5. A. *ſulcatus*, furrowed milk vetch. "Cauleſcent, erect, ſmooth, ſtriated, ſtiff; leaflets linear, lanceolate, acute; legumes three-ſided." Stems three feet high, round, ſmooth, leaflets about nine pairs, with an odd one, ſmooth, oblong, entire, on very ſhort petioles; peduncles racemed, axillary, ſupporting many erect pale violet flowers; legumes ſmooth, acuminate, triangular; ſeeds brown, round, kidney-ſhaped. A native of Siberia. Introduced by Dr. Pitcairn in 1785. 6. A. *galegiformis*, goat's-rue-leaved milk vetch. "Cauleſcent, ſtiff, ſmooth, flowers in racemes, pendulous; legumes three-ſided, mucronate at both ends." Stems more than five feet high; leaflets twelve or fourteen pairs, oval, with an odd one; peduncles axillary, on which are ſmall yellow flowers; legumes ſmooth, ſhort, pedicelled within the calyx, with

with two ſeeds on each ſide. Cultivated by Miller in 1759. F. June. 7. A. *chinenſis*. "Cauleſcent, ſtiff, ſmooth,; flowers in racemes, pendulous; legumes ovate, inflated, mucronate at both ends." This much reſembles the laſt; the legumes however are different, and the flowers of this are variegated. The ſeeds were ſent from China to Sweden in the year 1760. 8. A. *Onobrychis*, purple-ſpiked milk vetch. "Cauleſcent, procumbent, diffuſed; ſpikes peduncled, banner twice as long as the wings; leaflets linear." Stems procumbent at the baſe, ſtreaked, branching; leaves lanceolate, ſpreading, with twelve pair of lobes; peduncles furrowed, ſtiff, longer than the leaves; bractes lanceolate; corollas red. The whole plant is ſprinkled with white and black villoſe hairs. Haller deſcribes this plant very differently. A native of Auſtria. Cultivated here in 1640. It flowers in June and July. 9. A. *uliginoſus*, violet-coloured milk vetch, Gmel. Sib. 4. 40. t. 17. "Cauleſcent, almoſt upright; flowers in ſpikes; legumes almoſt upright, naked, tumid, round-flatted, point reflex." This reſembles A. *cicer*, N° 13. except in the legumes; the top of the keel is violet coloured. It was found by Gmelin in the moiſt meadows of Siberia, and introduced here by Thouin in 1775. 10. A. *carolinianus*, Carolina milk vetch, Dill. Elth. 45. t. 39. f. 45. "Cauleſcent upright, even; peduncles in ſpikes; legumes ovate-cylindric, acuminated by the ſtyle." Stems three feet high; leaves compoſed of eighteen or twenty pairs of oval ſmooth leaflets; flowers of a greeniſh yellow on axillary peduncles. A native of Carolina. It flowers in July and Auguſt. 11. A. *aſper*, rough milk vetch, Jacq. Ic. rar. t. 33. "Cauleſcent, ſtiff, even, roughiſh; flowers in ſpikes on elongated peduncles; legumes oblong." Stems annual, two feet high, round, ſtreaked, leafy, branched; leaves compoſed of about ten pairs of lanceolate-linear acute leaflets; ſpikes long, with pale flowers; legume thickening above, acuminate, upright, roughiſh. It flowers in June. Cultivated at Vienna from ſeeds ſent from Aſtracan.

** *Stems leafy, diffuſe.*

12. A. *canadenſis*, woolly milk vetch, Dill. Elt. 46. t. 39. f. 45. "Cauleſcent, diffuſe; legumes ſubcylindric, mucronate; leaflets almoſt naked." Stems round, about two feet high; leaflets ten pairs, ſmooth on both ſides, rather glaucous underneath; peduncles axillary, ſtreaked; flowers yellow; legume, oblong, concave, flatted. A native of Virginia and Canada. It flowers in July. Cultivated by Dr. Sherard in 1732. 13. A. *Cicer*, bladdered milk vetch, Jacq. Auſt. 3. 251. "Cauleſcent, proſtrate; legumes ſubglobular, inflated, mucronate, hairy." Stem eighteen inches, very branching; leaflets twelve or fifteen pairs, oval, obtuſe, hirſute; peduncles axillary, ſupporting erect ſpikes of twenty or thirty pale yellow flowers; legumes completely two-celled, with many ſeeds. Miller who cultivated this plant in 1739, gives a deſcription of this ſpecies, which is ſomewhat different from the above. 14. A. *microphyllus*, ſmall, round-podded milk vetch. "Cauleſcent, erect-expanding; leaflets oval; calyxes rather tumid; legumes roundiſh." Stem a foot high, flexuoſe, with ſpreading ſhort branches; leaflets thirteen or fifteen pairs, blunt, ſometimes emarginate; peduncles ſolitary, with horizontal yellow flowers, twice the length of the calyx; legumes inflated, villoſe. A native of Siberia and Germany, flowering in June. Introduced by Dr. Jacquin. 15. A. *glycyphillus*, ſweet milk vetch or wild liquorice, Hudſ. With. Smith. Flor. Brit. Eng. Bot. 203. "Cauleſcent, proſtrate; legumes ſubtriquetrous, bowed; leaves ovate, longer than the peduncles." Stems proſtrate, round, flexuoſe, furrowed, a little hairy; leaflets from four to ſix pairs, ovate or ellip-

tic; ſtipules large, ovate, ſomewhat toothed, generally ſhorter than the leaves, ſpiked with ten or twenty green-yellow flowers; calyx bell-ſhaped, oblique, having the ſuperior ſegments very ſhort; legumes incurved, triquetro-cylindric, ſmooth, many-ſeeded. A native of Britain and other parts of Europe. 16. A. *Lamberti*, dwarf yellow-flowered milk vetch. "Cauleſcent, procumbent; legumes ſubulate, recurved, ſmooth; leaflets obcordate, villoſe underneath." Root annual, branches ſtriated and trailing on the ground; leaflets about eight pairs; peduncles axillary, terminated with pale yellow flowers in June. A native of Meſſina and Montpellier. Cultivated here in 1640. 17. A. *contortriplicatus*, wave podded milk vetch. "Cauleſcent, procumbent; legumes writhed, channelled, villoſe." An annual, varying greatly in ſize in different ſoils. It is a native of Siberia, and was introduced here in 1783, by Thouin. 18. A. *boeticus*, triangular-podded milk vetch. "Cauleſcent, procumbent, ſpikes peduncled; legumes prismatic, ſtraight, three-ſided, hooked at the top." Annual; branches trailing, near two feet long; leaflets about ten pairs, blunt; peduncles axillary, ſupporting four or five yellow flowers. It flowers in July. A native of Spain and Portugal. Cultivated by Miller in 1759. 19. A. *Laxmanni*, Jacq. Hort. 3. 22. t. 37. "Cauleſcent, procumbent; ſpikes elongated; legumes oblong, three-cornered, marked with a furrow, mucronate, villoſe." Stems branching, ſubangular, proſtrate, a foot long, produced as are the branches into long riſing peduncles, ſtreaked and ending in a cloſe ſpike; leaflets about twelve pairs, oblong, ſeſſile, entire; bractes ſetaceous; flowers pale blue. It is a native of Siberia, and flowers in June and July. 20. A. *Stella*. "Cauleſcent, diffuſe; heads peduncled, lateral; legumes ſtraight, ſubulate, mucronate." Stems ſpreading, a foot long, ſtriated, hiſpid with white crowded hairs; branches numerous; leaflets on each ſide of the midrib nine, ovate, obtuſe; ſtipules ovate, acute; peduncles about the length of the leaves, ſupporting about fifteen bluiſh flowers; legumes hairy, grooved on each ſide, with a reflex point. A native of Montpellier. 21. A. *ſeſameus*, ſtarry milk vetch. "Cauleſcent, diffuſe; heads ſubſeſſile, lateral; legumes ſubulate, reflected at the point." Annual; ſtems weak; leaflets ten pairs, hairy; flowers ſmall, axillary, of a copper colour. A native of the ſouth of France. Cultivated by Parkinſon, in 1616. 22. A. *auſtriacus*, Auſtrian milk vetch, Jacq. Auſt. 2. 56. t. 195. "Cauleſcent, proſtrate; ſmooth, ſtriated, weak; leaflets ſublinear, emarginate; legumes round." From ſeven inches to a foot high; ſtipules ſemiovate, entire; leaflets ſublinear, emarginate, about eight pairs; peduncles racemed, with bluiſh flowers. It flowers in May and June. 23. A. *leontinus*, Jac. Ic. rar. 37. "Cauleſcent, proſtrate; legumes ovate, villoſe; flowers ſpiked, erect." Stipules ſhort, ovate-lanceolate, half ſtem-claſping; leaflets ten pairs, oblong-oval, entire, pubeſcent; branches with a ſpike of whitiſh or pale blue flowers; legumes at the top. 24. A. *pentaglottis*. "Cauleſcent, procumbent; legumes headed, folded back, compreſſed, converging, creſted, with a reflected point." A. procumbens, Mill. Dict. n. 18. A. echinatus, Murr. Prod. 222. A. criſtatus, Gouan Illuſt. 50. Leaflets fifteen, oblong, emarginate, pubeſcent underneath; petioles hairy; ſtipules ovate, lanceolate; peduncles axillary, decumbent, hairy, terminating in a head of five purpliſh flowers; legumes bent in, warted, hooked at the top. Linneus, Miller, and Murray, have deſcribed this ſpecies differently. A native of Spain. 25. A. *epiglottis*, heart-podded milk vetch. "Cauleſcent, procumbent; legumes headed, ſeſſile, nodding, cordate, mucronate, folded back, naked." Annual; it ſends out from the root three hairy trailing

branches; leaflets blunt, about twelve pairs; pedunclesaxillary, naked, terminated by a round head of large deep purple-coloured flowers; legumes rough, and when opened ſhaped like a heart, ending in a ſharp point, and containing three or four ſeeds. The ſtem according to Chevalier Murray does not divide, and has hairs cloſely preſſed to it; leaflets ſix pairs, and not more; corollas purple; Linnæus ſays white. A native of Provence, Spain, &c. in mountainous woods, flowering in July. Cultivated in 1768, by Miller. 26. A. *hypoglottis*, purple mountain milk vetch, With. 643. Smith Brit. 779. Eng Bot. 274. A. arenarius, Hudſ. A. epiglottis, Dickſ. H. Sicc. faſc. 1. "Cauleſcent, proſtrate, flowers in heads, legumes ovate, channelled on the back, hairy, hooked at the end." Stems flexuoſe, proſtrate, three or four inches high; leaflets of the pinnas numerous, ſmall, ovate, hairy underneath; peduncles ſcarcely longer than the leaves, headed; bractes very much ſhorter than the calyxes; flowers variegated with white purple; calyx tubercular, rough hairy black with a little white intermixed; legumes ovate, turgid, hairy. It flowers in June and July. Found in ſeveral parts of England, in ſandy and chalky paſtures. The flowers are ſometimes white. 27. A. *ſyriacus*, Syrian milk vetch. "Cauleſcent, procumbent; heads peduncled, flowers reflected, legumes tomentoſe, ovate-oblong. A native of Siberia. 28. A. *arenarius*. "Subcauleſcent, procumbent, flowers ſubracemed, erect, leaves tomentoſe." Stem inclining, ſix inches high, branched, covered with a nap, ; leaflets of the pinnas linear-lanceolate, entire, complicate; ſtipules bifid, ſcarioſe, tomentoſe; peduncles ſupporting about four blue flowers, legumes ſickle-ſhaped, tomentoſe, acuminate, channelled. A native of Scania, in looſe ſand. 29. A. *Glaux*, ſmall milk vetch. "Cauleſcent, diffuſe; heads peduncled, imbricate, ovate, flowers erect, legumes ovate, callous, inflated." Stems ſeven inches long, villoſe towards the top; leaflets twenty or twenty-three, ſmall, ovate-oblong, ſcattered underneath with white hairs. A native of Spain. Cultivated at the Oxford garden in 1658. 30. A. *ſinicus*. Phil. Tranſ. a. 1764. "Cauleſcent, proſtrate, umbels peduncled, legumes priſmatic, ſubulate at top." Root annual, ſtems ſpreading on the ground; leaflets ſuborbiculate; flowers purpliſh, wings white, keel purple. A native of China. 31. A. *alpinus*, Alpine milk vetch, Flor. Dan. t. 51. "Cauleſcent, procumbent; flowers pendulous, racemed, legumes acute at both ends, hairy." Stems above a foot high; leaflets hirſutiſh, ovate, often ten pairs; ſtipules two, ovate, lanceolate, very ſhort, white; flowers in umbels of twelve or fifteen ſpecious white flowers; calyx rough, with black hairs; legume rough, black, inflated, crooked. A native of the mountains of Swiſſerland and Lapland. Introduced here about the year 1771. 32. A. *Ammodytes*. Pallas It. 2. t. 10. "Cauleſcent, underſhrubby, flowers twin, legumes ovate, twin woolly." Annual. Stems branching, woolly; leaflets from five to eleven, rather oblong, hoary. It grows on the ſandy hills of Southern Siberia. 33. A. *trimeſtris*, Egyptian milk vetch. "Subcauleſcent, ſcapes moſtly two-flowered, legumes hooked, ſubulate, two-keeled." Annual. Stem ſix or ſeven inches high, hirſute, reddiſh. Sometimes a ſcape appears before the ſtems; leaflets about eleven pairs, oblong, emarginate; hirſute, entire; ſtipules ſetaceous, hairy; peduncles racemed with three or four ſpreading, pale-yellow flowers. A native of Egypt, flowering in July. Introduced here before 1777.

*** *Scape naked, without a leafy ſtem.*

34. A. *verticillaris*. "Leaflets aggregate, ſemiverticilled." Leaves pinnate, four or five at each inſertion, ſo as to appear whorled ſtems. A native of Siberia. 35. A. *montanus*. Jacq. Auſt. 2. 164. "Nearly ſtemleſs, ſcapes longer than the leaf, flowers looſely ſpiked, erect, legumes ovate, with an inflected point." The whole plant ſlightly villoſe; ſtipules oblong, imbricate, covering the ſtem; leaflets lanceolate, pointed, rounded at the baſe, the lower ones ſhorter and bent down; flowers blue, from eight to ten, according to Haller, but Linnæus ſays they are red and erect. A native of the warmer parts of Europe. 36. A. *veſicarius*. "Scapes longer than the leaves, flowers looſely ſpiked, calyxes and legumes inflated, hirſute." Cauleſcent, half a foot high; leaflets ſix pairs, oval, hoary, entire; peduncles firm, furrowed, higher than the whole plant beſides, with a head of from five to eight flowers, having the banner purple, wings yellow, keel white. A native of Dauphiné and Siberia. 37. A. *phyſodes*. "Scapes equal to the leaves, legumes ſubglobular, inflated, naked." Flowers in a ſpike, yellow, ſucceeded by ſwollen pods, containing ſeveral greeniſh ſeeds; bractes villoſe. A native of Siberia, flowering in June. 38. A. *caprinus*. "Scape erect, leaflets ciliate, legumes ovate, tumid, villoſe." Leaflets from fifteen to twenty pairs, hairy on the edge; peduncles a foot long, ſpiked, with many pale-yellow flowers; legumes thick, three-ſided, mucronate. A native of Barbary and Ruſſia. 39. A. *uralenſis*, ſilky milk vetch. Hudſ. Lightf. With. Smith. Brit. Eng. Bot. 466. "Stemleſs, ſcape erect, longer than the leaves, legumes oblong, inflated, villoſe, erect." Radical leaves with many pairs of leaflets, firm, naked; ſtipules ſcarioſe; ſcapes erect, headed, and finally ſpiked; bractes the length of the calyx, linear-lanceolate; calyx tubular, rough, with black and white hairs; corolla a violet colour; legumes erect, cylindric, oblong, turgid, beſet with black hairs preſſed down. It grows on the mountains of Scotland, 40. A. *monſpeſſulanus*, Montpellier milk vetch. "Scapes declining, the length of the leaves, legumes ſubulate, round, rather bowed, ſmooth." Scapes procumbent, twice as long as the leaves, leaflets ovate, acute, pubeſcent, from ten to twenty pairs; ſcape ſimple, bearing a raceme of nearly thirty purple flowers; legumes long, ſlender. A native of the ſouth of France. Introduced in 1776, by Pitcairn. 41. A. *incanus*. "Scapes declining, leaflets tomentoſe, legumes ſubulate, rather bowed, hoary, incurved at top." Scapes rough, ſupporting often twenty flowers; legumes a little bent, turgid. It differs from the 40th in having the leaves rounder and hoary, the legumes almoſt ſtraight and more turgid. A native of the ſouth of France. 42. A. *campeſtris*, field milk vetch. "Calyxes and legumes villoſe, leaflets lanceolate, acute, ſcape decumbent." Stem none, but procumbent runners half an inch long; leaflets about fifteen pairs, hairy, ſhining; ſcape radical, bearing ten or twelve flowers in a looſe raceme; bractes lanceolate, ſhorter than the calyx; corollas a pale-yellow. A native of Swiſſerland and Germany. Introduced in 1778. 43. A. *depreſſus*, dwarf white-flowered milk vetch. "Scapes ſhorter than the leaf, legumes nodding, leaflets ſubemarginate, naked." Branches very ſhort, preſſed cloſe to the ground; ſcapes with nearly ſeven flowers, ſmall and white; legumes cylindric, acuminate, the length of the ſcape, ſmooth; leaflets numerous, oval, with hoary hairs underneath. Cultivated in 1772, in the Oxford botanic garden. 44. A. *uncatus*. "Scapeleſs, legumes ſubulate, hooked, longer than the leaf, leaflets obcordate." Annual. Stems trailing; leaflets broader at their end, than at their baſe, and indented ſo as to be nearly heart-ſhaped; flowers white, in axillary looſe ſpikes; legumes ſickle-ſhaped. Diſcovered about Aleppo, by Dr. Ruſſel. 45. A. *eſcapus*, hairy-podded milk vetch, Woodv. Med. Bot. ſupp. "Scapeleſs, legumes woolly, leaves villoſe." Leaflets twenty one to thirty three, ovate, ſeſſile, hairy; flowers numerous, radical, ſubſeſſile, yellow; calyx ovate, ſwelling, white with down, legumes oval, beſet with fine hairs,

pointed

pointed at both ends. A native of Hungary. Since the year 1786, this plant has been much celebrated as a remedy in syphilitic complaints. Its ſucceſs in curing old venereal affections was experienced by Quarin, in the general hoſpital at Vienna, and the efficacy of this plant was afterwards acknowleged over all Germany. Its root is employed in decoction, in the proportion of half an ounce, to a pint of water, and taken warm night and morning.

**** Stems woody.*

46. A. *tragoides*, Cruel. Sib. 4. 52. n. 67. "Nearly ſtemleſs; flowers radical, numerous, ſubſeſſile." It has no ſtem or ſcape, but has branches from the root, ſpreading on the ground, with ſmall villoſe-pinnate leaves; calyxes hirſute, with black teeth; corollas yellow; legumes roundiſh, ſmooth. A native of Swiſſerland, Siberia, and Armenia. 47. A. *Tragacantha*, goat's thorn. Woodv. Med. Bot. 2. t. 98. "Trunk arboreſcent; petioles becoming ſpineſcent." Stems a foot long, leafy, branching; leaflets about ten pairs, ſmall, ovate; bractes ovate, lanceolate; flowers erect, four or five in a cluſter, having a purple keel, and a yelloviſh white banner and wings. A native of the ſea-ſhore near Marſeilles, of Swiſſerland, mount Ætna, Olympus, &c. Cultivated here in 1640. Miller makes four ſorts of tragacantha. From this ſpecies is gathered the gum tragacanth uſed for various purpoſes, as well as an article in the materia medica. It forces its way through the crevices of the bark to which it adheres and concretes. This gum differs from all others, in giving a thick conſiſtence to a much greater quantity of water, which it ſlowly imbibes, and but imperfectly diſſolves. It is uſed as a demulcent, and peculiarly well adapted for the formation of troches.

Other ſpecies.

48. A. *fœtidus*, Villar's Dauph. 3. t. 43. f. 1. "Stemleſs; leaves proſtrate, viſcid, ſharply linear; ſcape erect, with few flowers." Leaflets greeniſh, yellow, ſubhirſute, viſcid, about twenty pairs, much leſs than thoſe of the campeſtris, which it much reſembles; but in this the legumes are more inflated, and put forth a greater number of heads of yellow flowers. A native of Dauphiné, alſo of mount Cenis, and other high Alps. 49. A. *Halleri*. "Scapes leafleſs; leaves ovate-lanceolate, ſmooth; legumes inflated, hirſute, erect." This alſo approaches to the campeſtris, but differs in the bractes, in the ſmoothneſs of the leaves, in having a longer flower, white, and not a violet-coloured keel. A native of the mountains of the Valais and Piedmont. 50. A. *vulnerarioides*, Allion. Ped. t. 19. f. 2. "Stemleſs, hirſute; ſcapes longer than the leaves; legumes inflated, ovate, in heads." This has the habit of anthyllis vulneraria. The corolla is but little extended beyond the calyx; the keel and wings of a duſky-colour; the banner of a pale yellow, emarginate; legumes ſhort, rather hiſpid, crooked at the ſtyle. A native of mount Cenis. 51. A. *tenuifolius*, upright milk-vetch. "Cauleſcent, erect; ſpikes peduncled; banner twice as long as the wings; leaflets linear." Leaflets from eleven to thirteen; peduncles long, ſtraight, obtuſely triangular. It reſembles A. onobrychis ſo as to be thought a variety, but differs in having rather tomentoſe leaflets, larger flowers, and lanceolate ſtipules. A native of Siberia. Introduced here by Pallas, in 1780. 52. A. *vireſcens*, green-flowered milk-vetch. "Cauleſcent, erect; legumes bent back; peduncles many-flowered, longer than the leaf; leaflets lanceolate, acute." A native of Siberia, and introduced by P. S. Pallas, in 1780. 53. A. *Garbancillo*, Cavan. Hiſp. n. 93. t. 84. "Stem ſhrubby, upright; pinnules ovate-oblong, ſomewhat tomentoſe; peduncles naked, elongated." Stem a foot and a half high, covered with a very ſhort white nap; leaflets numerous, ovate-oblong, one-nerved, ſubtomentoſe; ſtipules ſtem-claſping, cowled, bifid at the tip; peduncles naked, elongated; axillary, ending in ſpikes of pale violet-coloured flowers. A native of Peru. It flowered in the royal garden, Madrid. 54. A. *hiſpidus*, Billardiere. Ic. Syr. 1. 18. "Cauleſcent, procumbent; leaflets and legumes ovate, hiſpid; corollas ſhorter than the calyx." Stem herbaceous, procumbent, hairy, ſix inches high; leaflets ovate-oblong, hiſpid, with oppreſſed rigid hairs, tubercled at the back; ſtipules [illegible], with lanceolate hiſpid bractes; legume ovate-oblong, compreſſed, a little hiſpid; ſeeds kidney-ſhaped. 55. A. *emarginatus*, Billard. l. c. "Almoſt ſtemleſs; ſcapes very long; heads globoſe; legumes woolly." Leaflets forty-three or fifty-one, ovate-oblong, emarginate, tomentoſe; ſtipules ovate, lanceolate, ſhrivelling; flowers in a globoſe head, purpliſh, with lanceolate hairy bractes; legume ſubovate, acute, depreſſed at top, wrapped in ſubrufous wool. 56. A. *lanatus*, Billard. l. c. "Stemleſs, with a naked ſcape, the length of the leaves; legumes in cloſe ſpikes, woolly, half-cordate, three-ſided, ſubulate; leaves villoſe." Leaves radical; leaflets generally from eleven to twenty-three, ovate, tomentoſe, ſeſſile; flowers yellow, on a cloſe ſpike, with [illegible] bractes. This and the two preceding ſpecies are natives of mount Libanus. 57. A. *brachycarpus*, Lam. Tabl. 1. 252. "Cauleſcent, procumbent; legumes ſubcylindric, ſtraight, ſmooth; leaflets obcordate, villoſe underneath." Allied to A. hamoſus; but differs in having rounder leaves, more flowers on the ſpike, and eſpecially in having ſtraight pods, which are very ſhort. Native country unknown. Cultivated in the Chelſea garden. 58. A. *deflexus*, L'Herit. Stirp. nov. 6. 167. "Subcauleſcent, proſtrate; ſcapes [illegible] as the leaf; legumes gaping; leaves pectinate, right angled." A. hians. Jacq. Ic. t. 153. Branches ſhort, round; twigs villoſe; leaves ſix inches long; leaflets fifteen to twenty pairs, gradually ſmaller at the top, lanceolate, entire, acute, concave, villoſe, hirſute beneath; ſcapes radical, ſolitary, naked, terminated in ſpikes crowded with purple flowers; bracte linear, acute, under each flower; legumes oblong, turgid, having a groove on each ſide, villoſe, one-celled, one-valved. A native of the loftieſt mountains of Siberia. 59. A. *unifultus*, L'Herit. Stirp. nov. 6. 168. "Suffruticoſe, procumbent; ſtipules ſolitary, ſtem-claſping, oppoſite to the leaves, bifid." A native of Peru, where it was found by Dombey. 60. A. *varius*, L'Herit. l. c. 6. 169. "Cauleſcent, ſuffruticoſe, upright; flowers in looſe ſpikes; legume linear; ſtipules fuliginoſe downwards." A hoary little ſhrub, about a cubit in height; leaflets ſix or ſeven pairs, linear or narrow-lanceolate, ſharp at both ends; ſtipules half ſtem-claſping, two-parted, acute, ſpreading, and rolled back; ſpikes axillary, ſolitary, on peduncles longer than the leaves; flowers ſubſeſſile, purple, with linear acute villoſe bractes; legume linear, round, villoſe. A native of Siberia. 61. A. *australis*, L'Herit. l. c. 6. 170. "Suffruticoſe, proſtrate; leaves hairy; petioles ſpineſcent; calyxes awned." It differs from the tragacanth in having green leaves, and being ſmaller; the petioles ſcarcely ſpineſcent, and not very firm; the flowers purple; the calycine teeth having long awns. A native of Swiſſerland and Provence. 62. A. *pyrenaicus*, L'Herit. l. c. 6. 170. Trag. orientalis, &c. Tournef. Cor. 30. Pocock. It. 1. 178. t. 88. "Stemleſs, procumbent; heads ſtem-claſping, tomentoſe; petioles [illegible] and ſmooth." This is remarkable for the heads or balls of flowers, which are purple. A native of the Levant. 63. A. *echinoides*, L'Herit. l. c. T. cretica, &c. Tourn. Cor. 29. The leaves are minute; the flowers ſmall, white, with a purple line on the banner; peduncles axillary, ſhort, two-flowered. A native of Crete or Candia.

Preſervation and Culture. All the ſpecies may be raiſed

from ſeeds. Theſe ſhould be ſown in April on an open border of light earth; the annual ſorts where they are to remain; the perennials to be tranſplanted to the places for which they are deſtined. They are in general hardy, and require no other care than to draw the plants where they come up too thick, leaving them a foot and a half or two feet aſunder, and to keep them clear from weeds. Obſerve only that ſome (as n. 26. 35. 37.) require a ſhady ſituation and ſtrong ſoil; others (as n. 6. 39.) an open ſituation and dry ſoil: n. 2. & 38. muſt be planted in a warm border: 3. 7. 10. 12. 30. muſt be raiſed on a moderate hot-bed, in the ſpring: and when the plants are fit to be removed, they ſhould be each put into a ſmall pot, filled with light earth, and plunged again into the hot-bed, ſhading them from the ſun, until they have taken root; after which they ſhould have free air admitted to them daily, in proportion to the warmth of the ſeaſon, and ſhould be frequently, but gently, watered. In May, they ſhould be removed to a ſheltered ſituation, and remain till October, when they ought to be placed under a common frame. In the ſpring they may be turned out of the pots, and planted in a warm border, where they will flower, and ſometimes produce ſeeds. If the winter prove ſevere, a little old tan ſhould be laid over the roots. The tragacanth plants, when they are large enough, ſhould be planted into pots, and placed in the ſhade till they have taken root; after which they are to be removed into an open ſituation, where they may remain to the end of October, and then placed under a common frame, well ſecured from the froſt. Some of theſe plants may be ſet on a warm dry border. Theſe plants may alſo be increaſed by ſlips, which, for want of ſeeds, is the method commonly uſed here. The beſt time for doing this is in April, juſt as the plants begin to ſhoot, at which time the tender branches ſhould be ſlipped off, and the lower part be diveſted of decayed leaves; then they ſhould be planted in a temperate hot-bed, which muſt be covered with mats to ſkreen them from the heat of the ſun by day, and the cold by night. Theſe ſlips ſhould be frequently gently watered, until they have taken root; after which they may be expoſed to the open air; and, in very dry weather, refreſhed with water. On this bed they may remain until the following ſpring, covering them with mats in very ſevere weather. In April they may be tranſplanted either into pots, filled with light ſandy earth; or into warm borders, where, if the ſoil be dry, gravelly, or poor, they will endure almoſt the ſevereſt cold of our climate: but if they are planted in a rich ſoil, they often decay in winter. See Martyn's Miller's Dict.

ASTRAGALUS. See ANTHYLLIS, BISERRULA, CROTALARIA, GLYCINE, HEDYSARUM, INDIGOFERA, OROBUS, PHACA.

ASTRAL, from *ἀστρον*, of the Greek *ἀστηρ*, *ſtar*, ſomething belonging to the ſtars, or depending on the ſtars.

ASTRAL, or ſiderial year. See YEAR.

ASTRANTIA, in *Botany* (from *ἀστρον* aſtrum, and *ἀνθος*, obvium, Lin.), maſter-wort. Lin. gen. 327. Schreb. 459. Gærtn. 20. Claſs, *pentandria digynia*. Nat. Order of *umbellatæ*. Gen. Char. *Cal.* umbel univerſal, with very few rays (often three); partial, with very numerous ones; involucre univerſal, with leaflets doubled to the ray; partial, with leaflets about twenty, lanceolate, ſpreading, equal, coloured, longer than the umbellule; perianth proper, five-toothed, acute, erect, permanent. *Cor.* univerſal, uniform; floſculi of the ray abortive: proper, with petals five, erect, inflex, bifid. *Stam.* filaments five, ſimple, the length of the corollule; anthers ſimple. *Piſt.* germ oblong, inferior; ſtyles two, erect, filiform; ſtigmas ſimple, ſpreading. *Per.* fruit ovate, obtuſe, crowned, [illegible], bipartite. *Seeds*, two, ovate-oblong, covered with the cruſt of the pericarp, wrinkled.

Eſſ. Gen. Char. Partial involucres lanceolate, ſpreading, equal, longer, coloured; flowers very many, abortive.

Species, 1. A. *major*, great maſter-wort, (*β*) A. nigra minor. "Leaves five-lobes; lobes trifid." Stem eighteen inches high, little branched; leaves ſhining, petioled, deeply five-cleft, lobes trifid, and ſharply ſerrate; leaves of the involucre veined; all the flowers are peduncled, and the peduncles are ſhorter than the involucre; the umbels are large, and the calyxes awned; the involucre is either purple or white; hence Miller, following Tournefort, has made of this two ſpecies. A native of the ſouth of Europe, flowering in Auguſt. Cultivated here by Gerard. 2. A. *carniolica*. Jacq. Auſt. 5. 31. "Leaves five or ſeven-lobed, ſimple or bifid." The whole plant is ſmooth. Stem round, erect, ſlender, from ſix to twelve inches high, with only one leaf on it; it is divided at top into ſtriated branches, in the form of an umbel; number of the umbels very variable; bractes ſmall, ovate, concave, blunt, pale; leaflets of the univerſal involucre ſeſſile, acute, entire, or divided into two or three lobes; leaflets of the partial from ſix to twelve, oblong, lanceolate, entire; male and female florets irregularly mixed; the former on longer peduncles; petals white, appearing heart-ſhaped, by being bent in at the tip. A native of Carniola, flowering in July and Auguſt. 2. A. *minor*, little or Alpine maſter-wort. "Leaves digitate, ſerrate." It ſeldom attains a foot in height. Petioles four inches long; leaves divided into eight ſegments, deeply ſerrate; univerſal involucre compoſed of ſeveral very narrow leaflets; peduncles of the partial umbels very large, ſlender towards the top, often dividing into three, each having a ſmall umbel, with ſmall white involucres. A native of the Alpine vallies of Swiſſerland. Cultivated by Miller. 4. A. *ciliaris*. "Leaves lanceolate, ſerrate-ciliate." A foot high, ruſhy, erect, ſtreaked, divided at top into a few flowering branches; radical leaves petioled; ſtem-leaves four to ſix, ſeſſile; half ſtem claſping; umbel elongated, three-rayed; umbellules many rayed, very ſhort; involucre two or three-leaved, reſembling the leaves; involucels ten, leaves broad-lanceolate, acute, coloured. A native of the cape of Good Hope. 5. A. *Epipactis*. Jacq. Auſt. 5. 32. App. t. 11. "Leaves five-parted, obtuſe, ſerrate." Root black on the outſide, producing one leaf and one ſcape; leaf ſhorter than the ſcape, three-parted, on a triangular petiole; ſcape ſmooth, angular, naked, one-flowered; involucre five-leaved; flowers in a head, yellow. A native of Idria, Gorizia, and Hungary.

Propagation and Culture. Theſe plants, except the fourth, are very hardy, and may be propagated either by ſowing their ſeeds, or by parting their roots. If from ſeeds, they ſhould be ſown in autumn, on a ſhady border, and at Michaelmas they ſhould be tranſplanted where they are to remain, obſerving to give them a moiſt and ſhady ſituation. Every third or fourth year they ought to be taken up at the end of October, and their roots parted and planted again. The fourth requires the protection of a dry ſtove in winter.

ASTRARII, in *Middle Age Writers*, the ſame with *manſionarii*, thoſe who live in the houſe or family, at the time, for inſtance, when a perſon dies. Du-Cange.

Theſe are alſo denominated *aſtro addicti*, q. d. *tied to the hearth.*

ASTRARIUS *Hæres*, is uſed in our *Old Writers*, where the anceſtor, by conveyance, hath ſet his heir apparent, and his family, in a houſe, in his life-time.

Spelman carries the import of the word farther, as if it denoted

denoted an heir to whom the inheritance was given by his predeceſſor in his own life, by a writing in form.

The word is formed from *aître*, an ancient French term for the hearth of a chimney.

ASTRASSUS, in *Ancient Geography*, a town of India, on this ſide of the Ganges. Ptolemy.

ASTRATA, an iſland of the Arabian gulf, on the coaſt of Ethiopia. Ptolemy.

ASTREA, in *Entomology*, a ſpecies of PHALÆNA (*Noctua*), of a brown colour both above and beneath; diſk tranſparent; and thorax ſnowy-white, dotted with black. The inſect inhabits New Holland. Fabricius, &c.

ASTRICTION, from *aſtringo*, *I bind*, in *Medicine*, a term which, when it refers to the inteſtinal canal, denotes coſtiveneſs; when it refers to the ſkin, denotes a want of perſpiration. It is ſeldom uſed by modern phyſicians.

ASTRICTOR *Toga*. See TOGA.

ASTRILD, in *Ornithology*, a ſpecies of LOXIA that inhabits the Canary iſlands and various other parts of America and Africa. It is rather larger than the common wren, of a brown colour, undulated with blackiſh; bill, orbits of the eye, and breaſt ſcarlet. Gmel. &c. This is *fringilla undulata*, Pall. *Senegallus ſtriatus*, Briſſ. *Le Senegali rayé*, Buff. *Wax-bill* of Edwards, and *wax-bill groſbeak* of Latham.

Individuals of this ſpecies vary much in colour, and there are in particular two varieties that deſerve attention; namely, the red-rumped groſbeak, and white-rumped groſbeak, (β) Senegallus pectore exalbido, uropygii faſcia rubra; and (γ) Senegallus corpore ſubtus ex roſeo albo of Gmelin. Both of theſe are about the ſize of the former; the red-rumped kind has the breaſt and belly of a dirty white, and, beſides the upper tail coverts being crimſon, has a bar of the ſame colour acroſs the vent. In ſome ſpecimens, the under parts incline to yellow; the ſides of the rump, and wing coverts ſpotted with white; and the bill bordered with black; one of this kind was brought by Sonnerat from the iſle of France. Buffon calls the red-rumped variety le ſeveran, and moineau du Senegal. The white-rumped kind alſo inhabits Senegal; the throat and ſides of the neck are bluiſh white; the reſt of the underparts and rump white, tinged with roſe colour; top of the head, neck, and back blue, paleſt on the head; and legs red. The colour of the legs diſtinctly marks this variety from the former, for in the firſt-mentioned kind they are brown, and in the ſecond dark grey.

ASTRINGENS, *crocus martis*. See CROCUS.

ASTRINGENTS, in the *Materia Medica*. This term is applied to a claſs of ſubſtances which, according to Dr. Cullen's accurate definition, when applied to the human body, "produce a contraction and condenſation in the ſoft ſolids, and thereby increaſe their denſity and force of cohe-ſion. If applied to longitudinal fibres, the contraction is made in the length of theſe; but if applied to circular fibres, they diminiſh the diameters of the veſſels or cavities which the veſſels ſurround."

Aſtringency in any ſubſtance is moſt accurately detected by the taſte, by corrugating the tongue, and giving a ſenſation of harſhneſs and roughneſs to the palate.

Aſtringents appear to act nearly in a ſimilar manner on the ſimple or dead animal fibre as on the living ſolid, in either caſe thickening and hardening; when applied to the living ſolid, they produce increaſe of tone and ſtrength, reſtrain inordinate actions, and check exceſſive diſcharges from any of the veſſels or cavities; and to the dead fibre occaſion that denſity, toughneſs, impervioufneſs to water in a greater or leſs degree, and inſuſceptibility to the common cauſes of putrefaction, in which conſiſts the proceſs of TANNING, or preparation of leather.

No ſingle chemical teſt (except the direct experiment on animal fibre) will always detect the property of aſtringency, as this is found to reſide in many different claſſes of ſubſtances. Acids, eſpecially the ſtronger mineral, are powerfully aſtringent; as alſo are ſeveral metallic ſalts, ſuch as the ſolutions of iron, zinc, copper, and lead in various acids; likewiſe a few earthy ſalts, ſuch as alum and ſelenite, or ſulphate of lime; alſo alcohol, or any kind of ardent ſpirit, the operation of which in hardening animal fibre is very remarkable. But the moſt numerous claſs of aſtringents are thoſe taken from the vegetable kingdom, eſpecially from the barks of ſeveral trees, and ſome of the natural gum reſins. Modern chemiſtry has aſcertained ſome highly important facts concerning the nature of the vegetable aſtringents, which ſhould be noticed here in order to correct ſome erroneous opinions that are very prevalent in all medical writers. The property of ſtriking an inky blackneſs with ſolutions of iron, has been conſtantly given as one of the ſureſt teſts of aſtringency in vegetables. Of this, the familiar inſtance of making common writing ink with an infuſion of the oak gall-nut, is known to every one; but it ſhould be remembered, that this property is owing to a peculiar acid, the GALLIC, and not to the true aſtringent principle, in modern chemical language called TANNIN, to which the acid of galls here happens to be united. Of this we ſhall treat fully, under theſe important articles; but the pharmaceutical chemiſt ſhould now be aware, that the teſt of blackneſs with iron is by no means a ſure indication of aſtringency, but only a probable preſumption of its preſence. Thus one of the ſtrongeſt of the known aſtringents, the terra japonica, or catechu, will not give the ſmalleſt degree of blackneſs to ſolutions of iron, as it contains only tannin, the true aſtringent principle; and not the Gallic acid. The proper teſt for this ſubſtance, beſides the effect on the tongue, is a ſolution of any kind of animal gelly; of which more hereafter.

When the true aſtringent principle is naturally mixed with any acid, the taſte of *acerbneſs* is given, in which the corrugation of the papillæ of the tongue is moſt peculiarly remarkable. The juices of ſeveral unripe fruits, the gall-nut, and many of thoſe aſtringents that contain much gallic acid, and give a ſtrong black with iron, are examples of this.

Tannin is itſelf ſomewhat bitter, and appears to be alſo united, in many caſes, with ſome principle which gives it more than its uſual bitterneſs. This is probably the caſe with moſt of the aſtringent bitters employed in medicine, and it is in this combination, that aſtringents prove ſo eminently tonic. In ſome inſtances the tannin is united with a ſweet ſubſtance, as in the examples of the catechu, and the lignum campechenſe.

Aſtringents when employed externally to ſtop hæmorrhage, are then termed STYPTICS.

Aſtringents are very largely uſed in medicine, and with the higheſt advantage. The caſes wherein they are moſt unequivocally beneficial, and in which the operation may be aſcribed purely to the aſtringent property, are diarrhœas, ſerous evacuations from the inteſtinal canal. They have alſo long been thought of great uſe in ſtrengthening diſcharges of different kinds, even when not immediately applied to the part, ſo that aſtringent medicines are frequently given by the ſtomach, in order to check profuſe fluor albus, gleet, and ſometimes hæmoptyſis. Their operation in ſuch caſes, however, is much more queſtionable, and the benefit here produced, perhaps, may with more propriety be aſcribed to a tonic or ſtimulant property.

ASTROBII, in *Ancient Geography*, a people of Aſia, near the Indus. Arrian.

ASTROBOLISM.

ASTROBOLISM, derived from ἀστὴρ, *ſtar*, and βάλλω, *I ſtrike*, the ſame with *ſphacelus*; though properly applied to plants which are deſtroyed in the dog-days, as if blaſted by that ſtar.

ASTRODICTICUM, an aſtronomical inſtrument invented by M. Wegbelius, by means of which many perſons ſhall be able at the ſame time to behold the ſame ſtar.

ASTROGNOSIA, from ἀστὴρ, *ſtar*, and γινώσκω, *I know*; the art of knowing the fixed ſtars, their names, ranks, ſituations in the conſtellations, and the like.

ASTROITES, in *Natural Hiſtory*, a ſpecies of Madrepora found in the ſeas of South America. The ſtars are numerous, immerſed, and have the diſk concavo-cylindrical. This is madrepora (radians) aggregata ſolida, ſtellis confertis convexiuſculis, centri poro radiante, ſtriis ſcabriuſculis of Pallas; and aſtrea aperturis cavernarum minimis maſſa inæquali of Brown's Nat. Hiſt. Jam. It is found in large maſſes; and is of a whitiſh colour. The interſtices are porous.

ASTROLABE, derived from ἀστὴρ, *ſtar*, and λαμβάνω, *I take*, alluding to its uſe in obſerving the ſtars; and by the Arabs called *Aſthar-lab*, formed by corruption from the common Greek name; was originally uſed for a ſyſtem or aſſemblage of the ſeveral circles of the ſphere, in their proper order and ſituation with reſpect to each other: and the ancient aſtrolabes appear to have been much the ſame with our armillary ſpheres.

The firſt and moſt celebrated of this kind was that of Hipparchus, which he made at Alexandria, the capital of Egypt, and lodged in a ſecure place, where it ſerved for divers aſtronomical operations. Ptolemy made the ſame uſe of it; but as the inſtrument had ſeveral inconveniences, he contrived to change its figure, though perfectly natural, and agreeable to the doctrine of the ſphere; and to reduce the whole aſtrolabe upon a plain ſurface, to which he gave the denomination of the planiſphere.—Hence

Astrolabe is uſed among the moderns for a planiſphere; or a ſtereographic projection of the circles of the ſphere upon the plane of ſome great circle thereof.

The uſual planes of projection are that of the equinoctial, the eye being ſuppoſed in the pole of the world; that of the meridian, the eye being ſuppoſed in the point of interſection of the equinoctial and horizon; and that of the horizon.

Stoffler, Gemma Friſius, and Clavius, have treated at large of the aſtrolabe.—For a farther account of the nature and kinds thereof, ſee Planisphere.

Astrolabe, or *Sea-Aſtrolabe*, more particularly denotes an inſtrument chiefly uſed for taking the altitude of the pole, the ſun, or ſtars, at ſea.

The common aſtrolabe, repreſented *Plate* Navigation, *fig.* 1. conſiſts of a large braſs ring about fifteen inches in diameter, whoſe limb, or a convenient part therof, is divided into degrees and minutes; fitted with a moveable index or label, which turns upon the centre, and carries two ſights.—At the zenith is a ring A, to hang it by, in time of obſervation.

To uſe the aſtrolabe, turn it ſo to the ſun as that the rays may paſs freely through both the ſights F and G, in which caſe the edge of the label cuts the altitude in the divided limb.

The aſtrolabe, though now diſuſed, is eſteemed by many equal to any of the other inſtruments uſed for taking the altitude at ſea; eſpecially between the tropics, when the ſun comes near the zenith.—There are a great many other kinds of the aſtrolabe; on which Clavius, Henrion, &c. have written entire volumes.

ASTROMANCY. *See* Fate.

ASTROMECA, in *Botany*, the French name of the ſpecies of Anthericum called *japonicum* by Gmelin, found in Siberia, the iſles about Japan.

ASTROLOGY, the art of foretelling future events, from the aſpects, poſitions, and influences of the heavenly bodies.

The word is compounded of ἀστὴρ, *ſtar*, and λόγος, *diſcourſe*; whence, in the literal ſenſe of the term, aſtrology ſhould ſignify no more than the doctrine or ſcience of the ſtars; which, indeed, was its original acceptation, and formed the ancient aſtrology: though, in courſe of time, an alteration has ariſen; that which the ancients called aſtrology, being afterwards termed Astronomy.

Aſtrology may be divided into two branches, *natural* and *judiciary*.

To the former belongs the predicting of natural effects; as, the changes of weather, winds, ſtorms, hurricanes, thunder, floods, earthquakes, &c. This art properly belongs to Physiology, or *natural philoſophy*; and is only to be deduced *a poſteriori*, from phenomena and obſervations. Its foundation and merits the reader may gather from what we have ſaid under Air, Atmosphere, and Weather. For this aſtrology, Mr. Boyle makes an apology, in his Hiſtory of the Air.

Astrology, *Judiciary* or *Judicial*, which is what we commonly call ſimple aſtrology, is that which pretends to foretell moral events; i. e. ſuch as have a dependence on the free will and agency of man; as if they were directed by the ſtars. This art, which owed its origin to the practice of knavery on credulity, and which the celebrated Mr. Briggs denominated a mere ſyſtem of groundleſs conceits (Ward's Lives, p. 126.), is now univerſally exploded by the intelligent part of mankind. There was a time, however, when this ſcience, frivolous and ridiculous as it may be juſtly denominated, furniſhed very powerful incentives to the ſtudy of aſtronomy. Without ſome knowledge of the motions and aſpects of the ſtars, the aſtrologers would have been unable to draw their horoſcopes, and of courſe to read the fates of men in the face of the heavens. Accordingly, Kepler obſerves (Præf. ad Rudolph. Tab. p. 4.), "that aſtrology is the fooliſh daughter of a wiſe mother, and that, for 100 years paſt, this wiſe mother could not have lived without the help of her fooliſh daughter." "I repent bitterly," ſays Kepler, "having ſo much decried aſtrology;" and he conceived that the ſtudy of aſtronomy had been greatly neglected, ever ſince men ceaſed to apply themſelves to aſtrology. Of the origin of this abſurd and unfounded ſcience, whatever might be the relative eſtimation in which it was held, it is not difficult to give a plauſible account. When heroes, and perſons who by extraordinary ſervices had rendered their names venerable and immortal, received divine honours, ſome particular celeſtial bodies, of which the ſun, moon, and other planets ſeemed to be the moſt ſuitable, were aſſigned to theſe divinities; and after this appropriation, folly, which never ſtops where it begins, proceeded ſtill farther, and aſcribed to them the attributes and powers for which the deities, after whom they were named, had been celebrated in the fictions of the mythologiſts. This, in proceſs of time, laid the foundation of aſtrology; and hence the planet Mars, for inſtance, like the deity of that name, was ſaid to cauſe and to be fond of war, and Venus to preſide over love and its pleaſures.

The profeſſors of this kind of aſtrology maintain, "That the heavens are one great volume or book, wherein God has written the hiſtory of the world; and in which every man may read his own fortune, and the tranſactions of his time.—The art, they ſay, had its riſe from the ſame hands as

aſtronomy

aſtronomy itſelf: while the ancient Aſſyrians, whoſe ſerene unclouded ſky favoured their celeſtial obſervations, were intent on tracing the paths and periods of the heavenly bodies, they diſcovered a conſtant ſettled relation of analogy between them and things below; and hence were led to conclude theſe to be the *Powers*, the Deities, ſo much talked of, which preſide at our birth, and diſpoſe of our future fate.

"The laws therefore of this relation being aſcertained, by a ſeries of obſervations, and the ſtars conſidered herein; by knowing the preciſe time of any perſon's nativity, they were enabled, from their knowledge in aſtronomy, to erect a ſcheme or horoſcope of the ſituation of the planets, at that point of time; and hence by conſidering their degrees of power and influence, and how each was either ſtrengthened or tempered by ſome other, to compute what muſt be the reſult thereof."

Judicial aſtrology is commonly ſaid to have been invented in Chaldæa, and thence tranſmitted to the Egyptians, Greeks, and Romans; though ſome will have it of Egyptian origin, and aſcribe the invention to Cham. But it is to the Arabs that we owe it. Of the firſt invention of a fanciful ſcience which very generally prevailed, it is not very eaſy to aſcertain the original inventors. The principles on which it was founded, were very extenſive in their diſſemination. The Chaldæans and the Egyptians, and indeed almoſt all the nations of antiquity, were infatuated with the chimæras of aſtrology. That of the Chaldæans originated in the notion, that the ſtars have an influence, either beneficial or malignant, upon the affairs of men, which may be diſcovered, and made the ground of certain prediction, in particular caſes: and the whole art conſiſted in applying aſtronomical obſervations to this fanciful purpoſe, and by ſuch means impoſing upon the credulity of the vulgar. The Egyptian prieſts would not neglect the cultivation of an art, which together with that of magic, would give them ſuch an irreſiſtible ſway over an ignorant and ſuperſtitious populace. Diodorus Siculus (l. i. p. 51.) relates, that the Chaldæans learned theſe arts from the Egyptians; and he would not have made this aſſertion, if there had not been at leaſt a general tradition that they were practiſed from the earlieſt times in Egypt. Among the Arabians, and in the eaſtern courts, the truths of ſcience could be recommended only by ignorance and folly, and the aſtronomer would have been diſregarded, had he not debaſed his honeſty by the vain predictions of aſtrology. The truth of this art was allowed by Albumazar (ſee ALBUMAZAR), and the beſt of the Arabian aſtronomers, who draw their moſt certain predictions, not from Venus and Mercury, but from Jupiter and the ſun. Abulpharag. Dynaſt. p. 161. 162.

At Rome, the people were ſo infatuated with this art, that the aſtrologers, or, as they were then called, the mathematicians, maintained their ground in ſpite of all the edicts of the emperors to expel them from the city. Tiberius (A. D. 4.) founded his hopes of the empire to which he aſpired, on the predictions of Thraſyllus, who had been with him during his abode at Rhodes. However he would not repoſe any confidence in his art till he had put him to a trial in which ſeveral had miſcarried and fallen victims. Accordingly, one of his freedmen conducted the aſtrologer through ſteep and difficult paths to a centry-box fixed on the top of a houſe, erected on a ſteep rock cloſe to the ſea. If Tiberius ſuſpected fraud or falſity in the predictions of thoſe who practiſed the art, they were thrown into the ſea that beat againſt the rock on which this houſe of trial ſtood. Thraſyllus was conducted to this place, and had the good fortune to pleaſe Tiberius, by promiſing him the empire, and by the ingenious turn he gave to every thing he ſaid. Tiberius aſked him, whether he could draw his own horoſcope, and whether by comparing the time of his birth with the preſent ſtate of the heavens, he could tell what he was to dread or hope for at that inſtant. The aſtrologer, without doubt apprized of the fate of his predeceſſors, looked at the ſtars and the ſkies; the more he conſidered them, the more he trembled; and at length exclaimed that he was threatened with great and imminent danger. Tiberius, convinced of his ſkill by this experiment, embraced him and admitted him into the number of his confidential friends. His anſwers, when he was conſulted, Tiberius regarded as oracular; and he determined to learn the ſcience himſelf. At Rhodes he had leiſure to receive leſſons from Thraſyllus, and profited by them to ſuch a degree, that he had the honour in a credulous age of having delivered predictions that were verified by the event. Auguſtus, however (A. D. 11.), revived the ancient law againſt aſtrologers; and to expreſs his contempt for their pretended ſkill, and to ſhew how much he diſregarded any of their predictions, he publiſhed and poſted up at Rome the theme of his own nativity, or a ſtate of the poſition of the ſtars at the inſtant of his birth. In the year 16, the old ordinances againſt aſtrologers were again revived; two of them were capitally puniſhed, and the reſt baniſhed from Italy. But Tiberius, who believed in aſtrology, and frequently recurred to it, prevented the rigorous execution of the decree; and thoſe who promiſed to renounce their art were permitted to ſtay at Rome. The old laws againſt aſtrologers were again enforced in the year 52, and the ſenate paſſed a very ſevere decree againſt them; but theſe meaſures were ineffectual to their ſuppreſſion. In the year 69, Vitellius, though he inclined to credit their predictions, iſſued an edict againſt them, commanding them to leave Italy within a limited time; but ſo great was their confidence at this time in their own ſecurity, that they poſted up a placart againſt his order, and commanded the emperor to leave the world before the day appointed for their baniſhment. The emperor Domitian, though he firmly believed in their deluſive arts, paſſed an edict by which they were all baniſhed from Rome. His credulity proved an occaſion of diſtreſſing terror to him towards the cloſe of his reign, for an aſtrologer, called Aſcelitario, is ſaid to have predicted the day and manner of his death. The emperor Adrian was very much addicted to both aſtrology and divination; and thus, occaſionally protected and encouraged, and ſometimes proſcribed and baniſhed them. The aſtrologers maintained their influence at Rome to the time of St. Auguſtin. [illegible] lies (in Pſ. lxi. p. 32. ed. Froben. 1556) is the reconciliation of one of theſe pretended mathematicians with the church. See GENETHLIACI.

The curious may find farther information concerning this viſionary and pernicious art, as it was practiſed among the ancients, in Sext. Emp. adv. Mathem. l. v. p. 339. Diod. Sic. l. ii. p. 83. Manilius, l. ii. v. 456. Jamblich. de Myth. § 8. c. 4. Fab. Bibl. Græc. v. ii. p. 494. Voſſius de Theolog. Gent. l. ii. c. 47. We ſhall only add in this place the ſenſible reflection of Horace, lib. 1. od. xi. 1.

"Tu ne quæſieris (ſcire nefas) quem mihi, quem tibi
[illegible]
Tentaris numeros: ut melius, quidquid erit, pati."

"Ask not—('tis impious [illegible]
The limit of your life is fixed by fate;
Nor vainly Babylonian numbers try,
But wiſely wait your lot, to live or die."

The Bramins, who introduced and practiſed this art among the Indians, [illegible]

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ters of good and evil hours, which gives them great authority: they are conſulted as oracles; and they have taken care never to ſell their anſwers but at good rates.

The ſame ſuperſtition has prevailed in more modern ages and nations. The French hiſtorians remark, that in the time of queen Catherine de Medicis, aſtrology was in ſo much vogue, that the moſt inconſiderable thing was not to be done without conſulting the ſtars. And in the reigns of king Henry III. and IV. of France, the predictions of aſtrologers were the common theme of the court converſation.

This predominant humour in that court was well rallied by Barclay, in his Argenis, lib. ii. on occaſion of an aſtrologer, who had undertaken to inſtruct king Henry in the event of a war then threatened by the faction of the Guiſes.

Judiciary aſtrology ſtill retains its credit in the eaſt, and pretenders are always found ready to take advantage of the popular credulity. Some of the grandees retain an aſtrologer among their dependents, and their learned men do not appear to diſpute the truth of their ſcience, though the chief dupes of the impoſture are found among the populace. The aſtrologers pretend to foretel future events from inſpection of the horoſcope, and to predict wars, peſtilence, and other public calamities; but they are, in general, very ſuperficially acquainted with the principles of the ſcience which they profeſs.

ASTROLUS, in *Natural Hiſtory*, a name given by authors to a white and ſplendid ſtone, ſmall in ſize, and of a roundiſh figure, reſembling the eyes of fiſhes.

ASTROMETEOROLOGIA, the art of foretelling the weather and its changes, from the aſpects and configurations of the moon and planets.

This makes a ſpecies of aſtrology, diſtinguiſhed by ſome under the denomination of meteorological aſtrology.

ASTRON, in *Ancient Geography*, a river of Aſia Minor, in the Troade. Pliny.

ASTRONIUM, in *Botany* (απο του αστρον), Jacq. Amer. 261. Lin. 1111. Schreb. 1515. Juſſ. 427. Claſs, *dioecia pentandria*. Generic Char. Male. *Cal.* perianth five-leaved, coloured, ſmall; leaflets ovate, concave, obtuſe, ſpreading. *Cor.* petals five, ovate, very obtuſe, flat, ſpreading very much; nectary five, roundiſh, very ſmall glands in the diſk of the flower. *Stam.* filaments five, ſubulate, ſpreading, the length of the corolla; anthers oblong, incumbent. Female. *Cal.* perianth five-leaved, coloured; leaflets oblong, concave, obtuſe, converging. *Cor.* petals five, ſubovate, obtuſe, concave, erect, leſs than the calyx, permanent. *Piſt.* germ ovate, obtuſe; ſtyles three, ſhort, reflex; ſtigmas ſubcapitate. *Per.* none. *Calyx* increaſed, coloured; its leaflets at firſt expanded into a pendulous ſtar, at length dropping the ſeed. *Seed*, one, oval, the length of the calyx, lacteſcent.

Eſſ. Gen. Char. Male, *Cal.* five-leaved. *Cor.* five-petalled. Female, *Cal.* five-leaved. *Cor.* five-petalled. *Styles*, three. *Seed*, one.

Species, A. *graveolens*. A tree from twelve to thirty feet in height, abounding with a terebinthinate juice. The leaves are unequally pinnate, with three pairs of leaflets, which are oblong, ovate, acuminate, ſmooth, veined, three inches in length; panicles lax, half a foot long in the females; flowers ſmall, red. A native of the woods about Carthagena in New Spain, flowering in May and June.

ASTRONOMICAL, ſomething that relates to aſtronomy.

Astronomical *Calendar, Characters, Column, Horizon, Hours, Month, Quadrant, Ring-Dial, Sector, Tables, Telescope, Time, Year.* See the ſeveral ſubſtantives.

Astronomical *Obſervations.* See Observations, Observatory, and Catalogue.

Astronomical *Place* of a ſtar or planet, is its longitude or place in the ecliptic, reckoned from the beginning of Aries, *in conſequentia*, or according to the natural order of the ſigns.

ASTRONOMICALS, a name uſed by ſome writers for ſexageſimal fractions, on account of their uſe in aſtronomical calculations.

ASTRONOMICUS Radius. See Radius.

ASTRONOMY, formed of αστηρ, *ſtar*, and νομος, *law* or *rule*, is a mixed mathematical ſcience, which treats of the heavenly bodies, their motions, periods, eclipſes, magnitudes, &c. and of the cauſes on which they depend.

The early hiſtory of this ſcience, like that of many other ancient diſcoveries, is too much diſfigured by fabulous and allegorical repreſentations, to admit of any regular or ſatisfactory elucidation. It is probable, however, that ſome knowledge of this kind muſt have been nearly coeval with the human race; for beſides motives of mere curioſity, which are ſufficient to have excited men in all ages to examine the magnificent and varying canopy of the heavens, it is evident that ſome parts of the ſcience are ſo connected with the common concerns of life, as to render the cultivation of them indiſpenſably neceſſary.

Many traces of it have accordingly been found among various nations, which ſhew that ſeveral of the moſt remarkable celeſtial phenomena, at leaſt, muſt have been obſerved, and a knowledge of them diſſeminated at a very remote period. But in what age or country the ſcience firſt originated, or by whom it was gradually methodized and improved, is extremely uncertain; nothing more being known on this ſubject than what can be obtained from the ſcanty and incidental information of ancient writers, whoſe accounts are often too extravagant and improbable to deſerve much attention.

Among other relations of this kind, may be reckoned what is mentioned by Joſephus in his Antiquities, who, in ſpeaking of the progreſs that had been made in aſtronomy by Seth and his poſterity, before the deluge, aſſerts that they engraved the principles of the ſcience on two pillars, one of ſtone and the other of brick, called the pillars of Seth; and that the former of theſe was entire in his time. He alſo aſcribes to the Antediluvians a knowledge of the aſtronomical cycle of 600 years, which Montucla (in his Hiſtoire des Mathematiques) thinks, with much greater reaſon, was an invention of the Chaldæans; and that whatever information was poſſeſſed by the Jewiſh annaliſt with reſpect to this remarkable period, was probably obtained either from that people, or from ſome ancient writings which no longer ſubſiſt.

But not to inſiſt upon this and other uncertain teſtimonies of the ancients, it will be ſufficient to obſerve that, notwithſtanding the contrariety of opinions which have prevailed on this ſubject, the greater part of authors are agreed in fixing the origin of aſtronomy either in Chaldæa or in Egypt; both of which nations pretended to a very high antiquity, and equally claimed the honour of producing the firſt cultivators of this ſcience. The Chaldæans, in particular, boaſted of their temple, or prodigiouſly high tower, of Belus, which is thought by ſome to have been an aſtronomical obſervatory, and of their celebrated philoſopher and aſtronomer Zoroaſter, whom they placed 500 years before the deſtruction of Troy: while the Egyptians, with ſimilar oſtentation, vaunted of their colleges of prieſts, which were the depoſitaries of every ſpecies of knowledge; and of the monument of Oſymandyas, in which it is ſaid

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there was a golden circle of 365 cubits in circumference, and one cubic thick, divided into 365 equal parts, according to the days of the year, and containing the hundredths and fortieths of the stars for each day, &c. See Hieroglyphics.

It is evident, indeed, without placing much reliance upon these accounts, that both Chaldæa and Egypt were countries extremely proper for astronomical observations, being almost constantly favoured with a pure atmosphere and a serene sky; and whatever may be thought of the tower of Belus, or the circle of Cyzicus, we cannot but form a very advantageous opinion of the knowledge of the Egyptians in practical astronomy, from the position which they have given to their pyramids, whose faces are directed with great precision towards the four cardinal points of the compass. For as it is scarcely possible that a situation so exact could have been the effect of chance, we must conclude that they were acquainted with a correct method of drawing a meridian line; which is a matter of more difficulty than is usually thought; it being well known that Tycho Brahe, the most able astronomer of his time, committed an error of several minutes in tracing that of his observatory of Uraniburg. See Meridian.

The Chaldæans also must have made very considerable advances in this science, if we can rely upon the testimony of Simplicius, who informs us that, at the taking of Babylon by Alexander the Great, they cited a regular series of astronomical observations for 1903 years back; and that these, through the means of Callisthenes, were afterwards communicated to the Greeks by Aristotle. But it is much to be wished that the truth of these ancient observations was better established, particularly as their historian Berosus, who appears to have lived but a little before the time of Alexander, makes no mention of any astronomical monument of this people, which was more than about 480 years anterior to that period. And, indeed, the most ancient Chaldæan observations, of which any mention is made by astronomical writers, are those of three eclipses of the moon, employed by Ptolemy in his Almagest, which were made in the years 27 and 28 of the æra of Nabonassar, or 721 and 720 years before Christ.

But though Ptolemy, and perhaps Hipparchus, from whom he had probably taken them, made no use of any observations more ancient than those here mentioned, we cannot from thence conclude that the Chaldæans first began to follow the celestial motions at this period. For such as were made in much earlier times might be suspected on several accounts; and it is besides highly probable that most of those which preceded the æra of Nabonassar were not accompanied with dates sufficiently accurate to be employed by these astronomers. The Babylonian calendar, before this æra, was in great confusion, not having been properly regulated; and it is obvious that ancient observations, either of this or any similar kind, can be but of little use, except we are able to ascertain the precise time at which they were made.

Besides these eclipses mentioned by Ptolemy, nothing more now remains of the Chaldæan astronomy, except what is attributed to them by some ancient authors, with respect to certain periods of years, which they appear to have formed for the more ready computation of the places of the heavenly bodies. And though the accounts which have been given us of one of the most remarkable of these cycles, by Suidas and Pliny, are not wholly free from objections, there can be little doubt of its having been first invented by that people. This is the celebrated period called the Chaldæan Saros, which consists of 223 lunar months, or a little more than 18 years; and which so far agrees with the combined mo-

times of the sun and moon, and began to [illegible] ready the same position of the heavens that they had at its commencement.

Both the Chaldæans and Egyptians, indeed, are generally supposed to have possessed [illegible] knowledge of several other [illegible] here mentioned; but the want of proper [illegible] this can only be judged of by [illegible] they appear to have had [illegible] the agreement which has been found among several ancient [illegible] Egyptians, in particular, appear to have known, long before the Christian æra, that the year consisted of 365¼ days, and that the planets Mercury and Venus moved round the sun. We are also well assured of the great antiquity of the science among this people, from the recent discoveries which have been made in that country during the late war; and particularly from the figure of a zodiac brought from thence by the French, which Lalande considers as extremely ancient.

But among the various nations which claim the honour of having first cultivated this science, none pretend to possess observations of greater antiquity than the Chinese. The most remarkable of these is a conjunction of five of the planets, which, according to their annals, is said to have taken place in the reign of their emperor Tchuen-hiu, about 2500 years before Christ. They also mention an eclipse of the sun, which happened in the constellation Scorpio, about the year 2150 of the same æra; and which is said to have proved fatal to two Chinese astronomers of the names of Ho and Hi, who were condemned to death by the emperor Tchong-kang, on account of their omitting, through negligence and intoxication, to announce the precise time at which it arrived. And from these data, apparently well attested, several eminent astronomers have endeavoured to discover whether these events could have possibly happened about the time here mentioned; but the subject is attended with too many difficulties to afford any satisfactory result.

All that we know of the Chinese astronomy is from the accounts which have been given of it by the Jesuit missionaries, who are much divided in their opinions with respect to its very great antiquity; some supposing it to have flourished at a more earlier period than others. F. Du Halde, however, asserts, that it was cultivated by their great lawgiver Confucius; and that Tcheou-cong, the most skilful astronomer that China ever produced, lived more than 1000 years before Christ, and passed whole nights in observing the celestial bodies, and arranging them into constellations. But whatever might have been the knowledge of this people in former times, the state of astronomy is very low in that country at present, although it is cultivated at Peking by public authority, in the same manner as in most of the capital cities of Europe.

The inhabitants of Japan, Siam, and the Mogul's empire, also appear to have been acquainted with astronomy from time immemorial; and the famous observatory at Benares (see Observatory) is a monument both of the great ingenuity of the Indians, and of their skill in that science. A knowledge of this subject is also supposed to have prevailed among the Americans; though, in their divisions of time, they made use of the solar and not of the lunar motions. The Mexicans, in particular, are said to have discovered a singular predilection for the number 13, which they [illegible] a kind of [illegible]. And the abbé Clavigero asserts it as a remarkable fact, that having discovered the excess of a few hours in the solar above the lunar year, they made use of intercalary days to bring them [illegible]

Cæſar in the Roman calendar; but with this difference, that, inſtead of one day every four years, they interpoſed 13 days every 52 years, which produces the ſame effect.

But the moſt intereſting account of the riſe and progreſs of this ſcience hitherto given, is that which is detailed by M. Bailly, in his learned and elaborate hiſtory of Ancient and Modern Aſtronomy; in which he endeavours to trace its origin among the Chaldæans, Egyptians, Perſians, Indians, and Chineſe, to a very early period. And in conſequence of the reſearches he has made on this ſubject, he is led to maintain, that the knowledge common to the whole of thoſe nations, has been derived from the ſame original ſource: namely, a moſt ancient and highly-cultivated people [illegible], of whoſe memory every trace is now extinct; but who have been the parent-inſtructors of all around them.

M. Bailly does not pretend to fix, with certainty, the preciſe ſituation of this ancient people; but he offers ſeveral reaſons for conjecturing that it muſt have been ſomewhere about the 49th or 50th degree of north latitude, in the ſouthern regions of Siberia. Among various other coincidences, he obſerves, that many of the European and Aſiatic nations attribute their origin to that quarter, where the civil and religious rites, common to each, were probably firſt formed; and what he conſiders as a ſtrong aſtronomical ſupport of his hypotheſis is, that the obſervations of the ſtars, collected by Ptolemy, muſt have been made in a climate where the longeſt day was 16 hours, which correſponds to the latitude here mentioned. But as that region exhibits no traces of its ever having been inhabited by a poliſhed people, his theory, though highly ingenious, has not ſufficient force to draw our aſſent to his concluſions.

In inveſtigating the antiquity and progreſs of aſtronomy among the Indians, M. Bailly examines and compares four different ſets of aſtronomical tables of the Indian philoſophers, viz. that of the Siameſe, explained by M. Caſſini, in 1689; that brought from India by M. le Gentil of the Academy of Sciences; and two other manuſcript tables found among the papers of the late M. de Liſle; which, he obſerves, accord together, and all refer to the meridian of Benares. From theſe tables it appears, that the Indian aſtronomy has two principal epochs, the firſt being founded on a conjunction of the ſun, moon and planets, which is ſaid to have taken place 3102 years before Chriſt; and the other 1491 years before the ſame æra. Theſe periods are ſo connected by the mean motions of the ſun, moon and planets, that one of them muſt neceſſarily be fictitious; and though the celebrated author above mentioned, has endeavoured to ſhew that the firſt of them muſt have been founded on obſervations, there is great reaſon for believing that it was rather imagined for the purpoſe of giving a common origin to the ſigns of the zodiac, and the motions of the celeſtial bodies.

It is true indeed, if, parting from the epoch 1491, we aſcend, by means of the Indian tables to the year 3102, before the Chriſtian æra, we ſhall find a general conjunction of the ſun, moon, and planets, as theſe tables ſuppoſe; but this conjunction, which is too different from the reſult given by the beſt modern tables to have ever taken place, ſhews that the epoch to which they refer, is not founded upon obſervations; and, in fact, ſome elements of the Indian aſtronomy, ſeem to indicate that they were determined even long before this firſt epoch. The equation of the ſun's centre, in particular, which they fix at 2° 10′ 32″, could not, according to the calculations of M. Laplace, have been of this magnitude but near the year 4300 before Chriſt; and beſides this, the equations of the centre of Jupiter and Mars are ſo different from what they ought to have been at this epoch, that nothing can be concluded from them in favour of their high antiquity.

To conclude, the whole of theſe tables, and, above all, the conjunction which they ſuppoſe at the ſame epoch, prove, on the contrary, that they muſt have been conſtructed, or at leaſt rectified, in much more modern times. The ancient reputation, however, of the Indians, both in this and other ſciences, leaves but little doubt, that aſtronomy was cultivated among them at a very remote period; and of this, the remarkable accuracy with which they have aſſigned the mean motions of the ſun and moon, are ſufficient proofs, as ſuch exactitude could only have been obtained from a long ſeries of obſervations. This opinion has alſo been ably ſupported by Mr. Playfair, in a diſſertation on the aſtronomy of the Bramins, publiſhed in the ſecond volume of the tranſactions of the Royal Society of Edinburgh, where he has, likewiſe, adduced many inſtances of their critical knowledge in the other mathematical ſciences, employed in their precepts and calculations.

The Greeks did not begin to cultivate aſtronomy till a long time after the Egyptians, of whom they were the diſciples; and it is extremely difficult, amidſt the fables which ſo much abound in the earlier periods of their hiſtory, to obtain any very correct information with reſpect to their knowledge in this ſcience. All that we can learn is, that they had made obſervations on the celeſtial bodies, and divided the heavens into conſtellations, 13 or 14 centuries before the Chriſtian æra; this being the period, according to the opinion of the moſt eminent chronologers, to which we muſt refer the ſphere of Eudoxus.

The number of their philoſophical inſtitutions, however, afford no obſerver of any note, till much later times; moſt of their ancient ſects having treated aſtronomy as a ſcience purely ſpeculative, without properly attending either to facts, or their cauſes. But notwithſtanding the reveries in which they often indulged, their knowledge began to be greatly improved by Thales the Mileſian, and other Greeks who travelled into Egypt, and brought from thence the chief principles of the ſcience. This philoſopher, who died at the age of 96 in the year 548 before Chriſt, was the founder of the Ionian ſect, and appears to have been the firſt who taught his countrymen the globular figure of the earth, the obliquity of the ecliptic, and the cauſes of ſolar and lunar eclipſes; which latter phænomena he is alſo ſaid to have been able to predict.

Thales had for his ſucceſſors Anaximander, Anaximenes, and Anaxagoras, to the firſt of whom is attributed the invention of the gnomon, and geographical charts; but for which he was probably indebted to the Egyptians. He is alſo ſaid to have maintained that the ſun was a maſs of fire as large as the earth, which, though far below the truth with reſpect to ſize, was an opinion, for thoſe early times, that does its author much credit; though to him, as in the caſe of Galileo, the truths he had diſcovered were the cauſe of his perſecution. Both himſelf and his children were proſcribed by the Athenians, for his attempting to ſubject the works of the gods to immutable laws; and his life would have paid the ſacrifice of his temerity, but for the care of Pericles, his friend and diſciple, who got his ſentence of death changed into exile.

Next after the Ionian ſchool was that of Pythagoras, who was born at Samos, about the year 586 before the Chriſtian æra, and who, in the celebrity he acquired, far exceeded his predeceſſors. Like Thales he viſited Egypt, and afterwards the Brachmans of India, from whom he is ſuppoſed to have obtained many of the aſtronomical truths which

which he brought with him into Italy, to which country he was obliged to retire on account of the deſpotiſm which then prevailed at Athens. Here he firſt taught the true ſyſtem of the world, which, many centuries after, was revived by Copernicus; but hid his doctrines from the vulgar, in imitation of the Egyptian prieſts who had been his inſtructors. It was even thought, in this ſchool, that the planets were inhabited bodies, like the earth; and that the ſtars, which are diſſeminated through infinite ſpace, are ſuns, and the centres of other planetary ſyſtems. They alſo conſidered the comets as permanent bodies, moving round the ſun, and not as periſhing meteors, formed in the atmoſphere, as they were thought to be in after times

From this time to the foundation of the ſchool of Alexandria, the hiſtory of aſtronomy among the Greeks offers nothing remarkable, except ſome attempts of Eudoxus to explain the celeſtial phænomena; and the celebrated cycle of 19 years, which had been imagined by Meton, in order to conciliate the ſolar and lunar motions. This is the moſt accurate period, for a ſhort interval of time, that could have been deviſed for embracing an exact number of revolutions of theſe two luminaries; and is ſo ſimple and uſeful, that, when Meton propoſed it to the Greeks, aſſembled at the Olympic games, as the baſis of their calendar, it was received with great approbation, and unanimouſly adopted by all their colonies.

In the ſchool of Alexandria, we ſee, for the firſt time, a combined ſyſtem of obſervations, made with inſtruments proper for meaſuring angles, and calculated trigonometrically. Aſtronomy, accordingly, took a new form, which ſucceeding ages have only brought to greater perfection. The poſition of the ſtars began at this time to be determined; they traced the courſe of the planets with greater care; and the inequalities of the ſolar and lunar motions became better known. It was, in ſhort, in this celebrated ſchool, that a new ſyſtem of aſtronomy aroſe, which embraced the whole of the celeſtial motions; and though inferior to that of Pythagoras, and even falſe in theory, it afforded the means, by the numerous obſervations which it furniſhed, of detecting its own fallacy, and of enabling aſtronomers in later times to diſcover the true ſyſtem of nature.

Ariſtyllus and Timocharis were the firſt obſervers in this riſing inſtitution. They flouriſhed about the year 290 before Chriſt; and by their aſſiduous labours, were the means of greatly improving this ſcience. It was from their obſervations of the principal zodiacal ſtars, that Hipparchus was led to diſcover the preceſſion of the equinoxes; and Ptolemy alſo founded upon them his theory of the motions of the planets.

Next after theſe, was Ariſtarchus of Samos, who made the moſt delicate elements of the ſcience the objects of his reſearch. Among other things of this kind, he attempted to determine the magnitude and diſtance of the ſun; and though, as may be ſuppoſed, the reſults he obtained were conſiderably wide of the truth, the methods he employed to reſolve theſe difficult problems, do great honour to his genius. He alſo endeavoured to revive the opinion of the Pythagorean ſchool, with reſpect to the motion of the earth; but as his writings upon this ſubject have not been preſerved, we are ignorant to what point he had advanced, by this means, in his explication of the celeſtial phænomena.

The celebrity of his ſucceſſor Eratoſthenes, ariſes chiefly from his attempt to meaſure the earth, and his obſervations on the obliquity of the ecliptic. Having remarked at Syene, a well which was enlightened to its bottom by the ſun, on the day of the ſummer ſolſtice, he obſerved the meridian height of the ſun on the ſame day at Alexandria, and found that the celeſtial arc, contained between the two places, was the 50th part of the whole circumference; and as their diſtance was known at 5000 ſtadia, he found the length of a great circle of the earth to be 250000; but as the length of the ſtadium employed by this aſtronomer is not known, we cannot appreciate the exactneſs of his meaſurement.

Among others who cultivated and improved this ſcience, we may alſo mention the celebrated Archimedes, who conſtructed a kind of planetarium or orrery, for repreſenting the principal phænomena of the heavenly bodies. But of all the aſtronomers of antiquity, Hipparchus of Bithynia is the one, who, by the number and preciſion of his obſervations, as well as by the important reſults which he derived from them, is the moſt entitled to our eſteem. He flouriſhed at Alexandria about the year 162 before the Chriſtian æra; and began his aſtronomical labours by attempting to determine, with more exactneſs than had hitherto been done, the length of the tropical year, which he fixed at 365 days, 5 hours, and 55 minutes, being near $4\frac{1}{2}$ minutes too great. Like moſt of his predeceſſors, he founded his ſyſtem upon an uniform circular motion of the ſun; but inſtead of placing the earth in the centre of the ſolar orbit, he removed it to the diſtance of $\frac{1}{24}$th part of the radius, and fixed the apogee to the ſixth degree of Gemini. By means of theſe data, he formed the firſt ſolar tables of which any mention is made in the hiſtory of aſtronomy; and though defective and even erroneous in principle, they are a durable monument of his genius, which three centuries afterwards were reſpected by Ptolemy, without his preſuming to alter them.

The great aſtronomer next conſidered the motions of the moon, and endeavoured to meaſure the exact time of her revolution, by a compariſon of ancient eclipſes. He alſo determined the eccentricity and inclination of her orbit, as well as the motion of her nodes and apogee; and calculated all the eclipſes that were to happen for 600 years to come. We are, beſides, indebted to him for the important diſcovery of the preceſſion of the equinoxes (ſee PRECESSION), which was the fruit of the long and difficult enterpriſe he undertook of making a catalogue of the fixed ſtars, with their latitudes, longitudes, and apparent magnitudes.

Geography is alſo indebted to Hipparchus for the method of fixing the ſituation of places upon the earth, by means of their latitude and longitude; in obtaining the latter of which, he appears to have been the firſt who employed eclipſes of the moon; and as theſe reſearches required numerous calculations, they gave birth, under his hands, to ſpherical trigonometry. Many of his principal works periſhed with the library of Alexandria; but his catalogue of the ſtars, and ſeveral of his obſervations, have been preſerved by Ptolemy in his Almageſt.

Between the time of Hipparchus and Ptolemy, the chief obſervers of any note are Agrippa, Menelaus, and Theon; the two latter of which are better known as geometricians than aſtronomers. We remark, however, in this interval, the reformation of the calendar by Julius Cæſar, and a more exact knowledge of the flux and reflux of the ocean (ſee TIDES). Poſidonius, a celebrated ſtoic philoſopher, who lived about eighty years before Chriſt, appears to have been the firſt who obſerved the relation of theſe phænomena with the motions of the moon; and of which Pliny, the naturaliſt, has given a deſcription, remarkable for its accuracy.

Ptolemy, the worthy ſucceſſor of Hipparchus, was born

at Pelusium in Egypt, in the beginning of the second century of Christianity, and was the first who undertook to reform the whole of this science, by establishing it upon a new foundation. In this enterprize, the system he formed is now well known to be erroneous; but the edifice he erected lasted near 1400 years; and even at present, though it is entirely destroyed, his Almagest, considered as the depository of ancient observations, is one of the most precious monuments of antiquity.

One of the most important discoveries of this astronomer is that of the evection of the moon (see EVECTION), which he has left us [illegible], in opposition to the opinion of other writers, thinks it sufficient to entitle him to the character of an accurate observer; and the [illegible] him, of appropriating the discoveries of his predecessors, is not well founded.

It may also be remarked, that Ptolemy has rendered great services to geography, by collecting all the determinations of the latitudes and longitudes of places then known; and by his laying the foundation of the method of projections, for the construction of geographical charts, which was but little known before his time. In short, the various works which he executed, upon a variety of subjects, are strong proofs of a great and enlightened mind, and will always insure him a distinguished rank in the history of the sciences.

With the labours of this great astronomer ended the glory of the Alexandrian school, which had now subsisted for more than five centuries, with as much credit to itself as advantage to the sciences; but the successors of Hipparchus and Ptolemy, contented themselves with commenting on their works, without adding any thing remarkable to their discoveries. The knowledge of nature, which had hitherto been cultivated with so much success, gave way to the desolating irruption of the Saracens, who were led by a ferocious zeal to destroy the celebrated library of Alexandria, which contained so many treasures of learning and genius. By a singular turn, however, of human affairs, this people became afterwards the protectors and cultivators of literature and science, and were then sensible, that this frantic measure had deprived them of the most precious fruits of their victories.

The caliph Almansor first introduced a taste for the sciences into his empire; and his grandson, Almamon, who ascended the throne in 813, was a great encourager and improver of astronomy. Having constructed proper instruments, he made many accurate observations; and, among others, determined the obliquity of the ecliptic to be 23° 35′. Under his auspices also, a degree of the meridian was measured, a second time, in the plains of Singar, on the borders of the Red Sea. About the same time, or at a somewhat later period, Alfraganus likewise wrote a treatise on astronomy; and hence the science began to be greatly cultivated by the Arabians; particularly by Albategnius, who gave a new and improved theory of the sun, from which he derived results that are much valued for their accuracy; and above all, as they directly confirm the diminution of the eccentricity of the solar orbit, as since demonstrated by the theory of gravity, and by the secular equation of the moon. His work, intitled "The Science of the Stars," is still extant, and was long esteemed by the Arabians. But after his time, though the Saracens had many eminent astronomers, several centuries elapsed without producing any very valuable observations, excepting those of Ibn Jonis, astronomer to the caliph of Egypt, which serve to shew the acceleration of the mean motion of the moon.

The Persians, who for a long time were of the same religion, and subjected to the same sovereigns with the Arabs, began about the middle of the eleventh century, to throw off the yoke of the caliphs; and at this period, their calendar received, by the care of their astronomer Omar Cheyam, a new form, founded upon an ingenious intercalation, which [illegible] thirty-three common years. See BISSEXTILE. About the same time, also, Holagu Ilcoukan, one of their sovereigns, assembled the most considerable astronomers at Maragha, where he constructed a magnificent observatory, the care of which was confided to Nassir-Eddin. But of all the princes of this nation, the one who distinguished himself the [illegible], was Ulugh Beig, a descendant of the celebrated Tamerlane, who was a great proficient in this science. He formed, from his own observations, at Samarcand, the capital of his empire, a new catalogue of the stars, and the best tables of the sun and planets that had been given before those of Tycho Brahe. He also determined, in 1437, with a quadrant 180 feet high, the obliquity of the ecliptic, which he found equal to 23° 31′ 52″.

During this period, the greatest part of Europe was immersed in ignorance and barbarity; which would have probably continued much longer, but for the settlement of the Moors in Spain, who first introduced a taste for literature and the sciences into this part of the world. The Arabs by this means became our instructors, as the Egyptians had been formerly of the Greeks; and, by a singular fatality, the learning which they transmitted to us, has disappeared among this people, as astronomy became neglected in the temples of Egypt and Chaldæa, in proportion to the progress which it made in the school of Alexandria.

One of the first encouragers of learning in Europe was Frederick II., who, about 1230, set about restoring some decayed universities, and founding a new one at Vienna. He also caused the works of Aristotle and Ptolemy's Almagest, to be translated into Latin; from which latter circumstance we may date the revival of astronomy in Europe. Two years after this, John of Halifax, commonly known by the name of Sacro Bosco, compiled from Ptolemy, Albategnius, Alfraganus, and other Arabic astronomers, his work "De Sphæra," which continued in great estimation for more than 300 years afterwards, and was honoured with commentaries by Clavius and other learned men. Alphonsus, king of Castile, may also be reckoned as one of the most zealous encouragers and protectors of this science; though, being but ill seconded by the astronomers of that time, the tables which he published were not found to answer the great expence which attended them.

About the same period also Roger Bacon, an English monk, besides many learned works of various kinds, wrote several treatises on astronomy; after which but little progress was made in this science till the time of Purbach, Regiomontanus, and Walther, who all flourished about the end of the fifteenth century, and by their labours prepared the way for the great discoveries which followed. Regiomontanus, in particular, who was born at Koningsberg, a town of Franconia, in 1436, and whose proper name was John Muller, rendered considerable services to astronomy, not only by his observations and writings, but by his trigonometrical tables of lines and tangents, which he computed to a radius of 1,000,000 for every minute of the quadrant, and by this means greatly facilitated astronomical computations, which had now become both numerous and intricate. John Werner, who succeeded Walther as astronomer at Nuremberg, is also deserving of notice, as being the first who proposed the method of finding the longitude

longitude at ſea by obſerving the moon's diſtance from the ſun and certain fixed ſtars, which is now ſo ſucceſsfully practiſed in the Britiſh navy.

Next after theſe was Nicholaus Copernicus, the celebrated reſtorer of the old Pythagorean ſyſtem of the world, which had been now for ages laid aſide ever ſince the time of Ptolemy. He was born at Thorn, in Polish Prussia, in 1473, and having gone through a regular courſe of ſtudies at Cracow, and afterwards at Bologna, he was made by the intereſt of his uncle, who was biſhop of Warmia, canon of Frauenburg: in which peaceful retreat, after 30 years of obſervations and meditations, he eſtabliſhed his theory of the motion of the earth, with ſuch new and demonſtrative arguments in its favour, that it has gradually prevailed from that time, and is now univerſally received by the learned throughout Europe.

This great man, however, had not the ſatisfaction of witneſſing the ſucceſs of his undertaking, being threatened by the perſecution of religious bigots on the one ſide, and with an obſtinate and violent oppoſition from thoſe who called themſelves philoſophers on the other: it was not without the greateſt ſolicitations that he could be prevailed upon to give up his papers to his friends, with permiſſion to make them public; but from continued importunities of this kind, he at length complied, and his book, "De Revolutionibus Orbium Cœleſtium," after being ſuppreſſed for many years, was at length publiſhed, and a copy of it brought to him a few hours before his death. His diſciple Rheticus, who has rendered great ſervices to the mathematical ſciences by his extenſive tables of ſines, tangents, and ſecants, to every ten ſeconds, was the firſt who adopted his ideas; but they made but little progreſs till towards the beginning of the 17th century.

In this interval, however, the ſcience was not wholly neglected. Nonius in particular wrote ſeveral valuable treatiſes on Aſtronomy and Navigation, and invented ſome uſeful inſtruments, more accurate than thoſe before known; one of theſe being the aſtronomical quadrant, on which he divided the degrees into minutes, by a number of concentric circles. Apian alſo, in 1540, wrote a book called the "Cæſarian Aſtronomy," in which he ſhews how to obſerve the places of the ſtars and planets by the aſtrolabe; to reſolve aſtronomical problems by means of certain inſtruments, and to predict and calculate eclipſes; and at the end of his work are added obſervations of five comets, one of which has been ſuppoſed to be the ſame with that deſcribed by Hevelius; and whoſe return was accordingly looked for in the year 1789, but it did not appear. Gemma Friſius, who lived about this time, is likewiſe deſerving of notice, as being the firſt who recommended time-keepers for finding the longitude at ſea.

The hiſtory of the ſcience, about this epoch, alſo offers us a great number of excellent practical aſtronomers; one of the moſt illuſtrious of whom was William IV. landgrave of Heſſe-Caſſel, who built an obſervatory in that city, and furniſhed it with a number of the beſt inſtruments that could be obtained at that time, with which he made his own obſervations. He alſo attached to himſelf the celebrated aſtronomers Rothman, and Juſtus Burgius, and with their help formed a catalogue of 400 ſtars with their latitudes and longitudes, adapted to the beginning of the year 1593. It was alſo from his preſſing ſolicitations, that Tycho Brahe, one of the greateſt obſervers that ever exiſted, procured the advantages that he enjoyed under Frederic II. king of Denmark.

This excellent Daniſh aſtronomer, who was born at Knudſtorp in the county of Schonen, in 1546, began to manifeſt his taſte for this ſcience at the early age of 14. An eclipſe of the [illegible] in 1560, [illegible] his attention; and the juſtneſs of the calculation which announced this phenomenon, inſpired him with a ſtrong deſire of underſtanding the principles upon which it was founded. [illegible], and a part of his family, to theſe purſuits, which probably ſerved only to increaſe his attachment to them, he made a journey into Germany, where he formed connections, and entered into a correſpondence with ſome of the moſt eminent aſtronomers of that country; particularly with the landgrave of Heſſe, who received him in the moſt flattering manner, and recommended him to the notice of his ſovereign. Becoming by this means better known, on his return to Denmark, Frederic II. gave him the little iſland of Huen, at the entrance of the Baltic, where he built an obſervatory, under the name of Uraniburg, and in which, during a courſe of twenty years, he made a [illegible] of obſervations.

His tranquillity, however, in this happy retreat, was, at length interrupted; for ſoon after the death of Frederick, which happened in 1596, he was deprived, through the aſperſions of ſome envious and malevolent perſons, of his penſion and eſtabliſhment, and was not even allowed to follow his purſuits at Copenhagen; a miniſter of that time, of the name of Walchendorp, having forbid him to continue his obſervations. Happily, however, he found a powerful protector in the emperor Rodolphus II., who ordered him to be properly provided for at his own expence, and gave him a commodious houſe at Prague. After reſiding in this city till the year 1601, he was taken off by a ſudden death, in the midſt of his labours, and at an age while he was yet capable of rendering great ſervices to aſtronomy.

This great man, as is well known, was the inventor of a kind of Semi-Ptolemaic ſyſtem of aſtronomy, that was afterwards called by his name, and which he vainly endeavoured to eſtabliſh inſtead of the Copernican or true ſyſtem. But though he was not happy in this reſpect, he has been of great uſe to aſtronomy by his numerous obſervations and diſcoveries. Among other things he was well acquainted with the nature of refractions (ſee REFRACTION); and hence he was able to determine the places of a great number of the fixed ſtars, with an accuracy unknown to former times. He alſo proved, againſt the opinion which then prevailed, that the comets are higher than the moon (ſee COMET); and from his obſervations on this and the reſt of the planets, the theories of their motions were afterwards corrected and improved, ſo that for theſe ſervices he will always be celebrated and eſteemed by aſtronomers.

Tycho Brahe, in the latter part of his life, had for his diſciple and aſſiſtant the celebrated Kepler, who was born in 1571, at Wiel in the duchy of Wirtemberg, and was one of thoſe rare characters that appear in the world only at particular times, to prepare the way for new and important diſcoveries. Like his maſter Tycho, he appears to have attached himſelf to the ſcience at a very early age; and if it be the privilege of genius to change received ideas, and to announce truths which had never before been diſcovered, he may juſtly be conſidered as one of the greateſt men that had yet appeared. Hipparchus, Ptolemy, Tycho Brahe, and even Copernicus himſelf, were indebted for a great part of their knowledge to the Egyptians, Chaldæans, and Indians, who were their maſters in this ſcience; but Kepler, by his own talents and induſtry, has made diſcoveries of which no traces are to be found in the annals of antiquity.

The philoſopher, the moſt uſeful to the ſciences, is he who to a [illegible]

and though ardently desirous to elevate himself to the cause of the phenomena, is equally apprehensive that he may be mistaken in that which he assigns to them. Kepler owed to nature the first of these advantages, and the second to Tycho Brahe, who perceived his genius, and advised him to abandon his attachment to the mysterious analogies of figures and numbers to which he was then addicted, and to attend more closely to facts and their consequences. This appears to have had its proper effect. and Tycho dying a few years afterwards, Kepler was put in possession of his collection of observations, which he employed to the most useful purposes, having founded upon them three of the most important discoveries that have ever been made in natural philosophy.

It was an opposition of Mars, which determined him to occupy himself, in preference, upon the motion of this planet; and being then strongly attached to the Ptolemaic system as modified by Tycho Brahe, as well as to the opinion which had hitherto been generally received, that all the celestial motions must be perfectly circular and uniform, he endeavoured, for a long time, to represent those of Mars according to this hypothesis. At length, however, after many trials of this kind which he has given in detail, in his treatise called "Stella Martis," he discovered that the orbit of Mars is an ellipsis of which the sun is placed in one of the foci, and that the planet moves in it in such a manner, that the radius vector, or a line drawn from the centre of the sun to that of the planet, describes areas proportional to the times. This law he also soon afterwards extended to all the planets; and in 1626, he published, according to this theory, his Rudolphine tables, which will be for ever memorable in astronomy, as being the first that were founded on the true laws of the planetary motions.

It is here worthy of remark, that without the speculations of the Greek mathematicians, upon the curves formed by the sections of a cone, it is highly propable that we should yet have remained ignorant of some of the most curious and important laws of nature. The ellipse being one of these curves, its lengthened figure suggested to the mind of Kepler the idea that the planet Mars, whose orbit he had found to be more oval than circular, might possibly move in it; and soon after, by means of the numerous properties which the ancient geometers had discovered of the conic sections, he assured himself of the truth of this hypothesis. The history of the sciences affords many examples of this kind of application of pure geometry, and of the advantages attending it; for every thing, in the immense chain of truths, is connected; and frequently a single observation of apparently trifling consequence, has led to a more intimate knowledge of nature, of which the phænomena are the mathematical results of a small number of invariable laws.

The perception of this truth was probably what first gave rise to the mysterious analogies of the Pythagoreans; and Kepler, who had indulged himself in researches of this kind, was indebted to it for one of his most brilliant discoveries. Being persuaded that the mean distances of the planets from the sun ought to be conformable to these analogies, he compared them, for a long time, both with the properties of the five regular bodies, and with the notes of music. At length, after seventeen years of meditation and calculation, having had the idea of comparing them with the powers of the numbers by which they are expressed, he found that the squares of the times of the revolutions of the planets are to each other as the cubes of their mean distances from the sun; and that the same law applies equally to their satellites.

Astronomy is likewise indebted to Kepler for several other discoveries; which, though not equal to the former, are still of considerable importance. He believed that it was the attraction of the moon which caused the flux and reflux of the ocean; and he had so far an insight into the general law of gravitation, as to suspect, that the irregularities of the lunar motions were occasioned by the combined actions of the earth and the sun. In his work on Optics, he has also explained the mechanism of vision, which was before unknown; and in another performance, called "Stereometria Doliorum," he has presented several views on the nature of infinites, which had considerable influence on the revolution that geometry underwent about the end of the last century.

It is afflicting to relate, that this great man, who may be considered as the founder of modern astronomy, had his last days embittered by the horrors of poverty and distress. A small pension, which was scarcely sufficient for his subsistence, was frequently withheld or unpaid; and the trouble and vexation which this occasioned him, obscured his genius, and shortened his existence. He died on the 15th of November 1631, in the fifty-ninth year of his age, leaving nothing for his wife and family, but the glory of his name, and the fame he had so justly acquired; but as these were insufficient to relieve his own wants, they could afford but little comfort to a helpless wife, and her wretched offspring, whose indigence is said to have been such that they had not even the common necessaries of life.

In the time of Kepler, there were not wanting several other considerable proficients in astronomy. Edward Wright, an Englishman, made several good meridian observations of the sun, with a quadrant of six feet radius, in the years 1594, 1595, and 1596, from which he improved the theory of the sun's motion, and computed his declination more accurately than had been done before. He also published, in 1599, an excellent work, entitled, "Certain Errors in Navigation discovered and detected;" containing a new method of projecting maps and charts, which has commonly, though erroneously, been ascribed to Mercator. The science is also greatly indebted to baron Napier of Scotland, not only for his ever memorable invention of logarithms, which has so wonderfully facilitated the business of calculation, but for some excellent theorems and improvements in spherics. About this time, likewise, Bayer, a German, published his "Uranometria," or complete Celestial Atlas, containing the figures of all the constellations visible in Europe; into which he introduced the highly useful invention of marking the stars by their names, or the letters of the Greek alphabet, which renders them so easy to be referred to with distinctness and precision.

At the same time also, that Kepler, in Germany, was tracing the orbits of the planets, and settling the laws of their motions, Galileo (who was born at Pisa, in Italy, in 1564) was meditating upon the doctrine of motion in general, and investigating its principles; and from the admirable discoveries which he made in this branch of the physico-mechanical sciences, Newton and Huygens were afterwards enabled to derive the most brilliant and complete theories of all the planetary motions. About this period also, a fortunate accident produced the most marvellous instrument that human industry and sagacity could have ever hoped to discover; and which, by giving a far greater extension and precision to astronomical observations, shewed many irregularities and new phænomena, which had hitherto remained unknown.

This invention was that of the telescope, which was no sooner known to Galileo, than he set himself about to improve it; and the discoveries he was by this means enabled to make, were as new as they were surprising. The face of the moon appeared full of cavities and asperities, resembling

vallies and mountains. The ſun, which had generally been conſidered as a globe of pure fire, was obſerved to be ſullied by a number of dark ſpots, which appeared on various parts of his ſurface. A great number of new ſtars were diſcovered in every part of the heavens; the planet Jupiter was found to be attended with four moons, which moved round him in the ſame manner that our moon moves round the earth; the phaſes of Venus appeared like thoſe of the moon, as had before been concluded by Copernicus from his theory; and in ſhort, moſt of the obſervations he made furniſhed new proofs of the truth of the Copernican ſyſtem.

In publiſhing the diſcoveries which he had made with this new inſtrument, Galileo ſhewed in the moſt inconteſtible manner, the annual and diurnal motion of the earth; which doctrine, however, was thought ſo alarming, that it was immediately declared heretical, by a congregation of cardinals, who were aſſembled upon the occaſion; and its venerable author, one of the moſt virtuous and enlightened men of his age, was obliged to abjure, upon his knees, and in the moſt ſolemn manner, a truth, which nature and his own underſtanding had ſhewn him to be incontrovertible. After this, he was condemned to perpetual impriſonment; from which, however, at the end of a year, he was enlarged, by the ſolicitations of the grand duke; but, that he might not withdraw himſelf from the power of the inquiſition, he was forbid to quit the territory of Florence, where he died in 1642; carrying with him the regrets of Europe, enlightened by his labours, and their indignation againſt the odious tribunal which had treated him ſo unworthily. For the oath of abjuration, and further particulars of this tranſaction, ſee Bonnycaſtle's Aſtronomy, p.101. 3d edit. and the article GALILEO in this work.

The celebrated Harriot alſo, who has hitherto been known only as an algebraiſt, made, much about the ſame time, ſimilar diſcoveries with thoſe of Galileo, as appears by his papers not yet printed, which are in the poſſeſſion of the earl of Egremont. Mr. Horrox, likewiſe, a young aſtronomer of great merit, about this time, deſerves to be mentioned, on account of his obſervation of the tranſit of Venus over the ſun's diſk (ſee TRANSIT), on the 24th of November 1639; which event he announced to his friend Mr. Crabtree; and theſe two together had the ſingular ſatisfaction of witneſſing, for the firſt time, a phenomenon which had never before been ſeen by human eyes. Horrox had even formed a new theory of the moon, which is taken notice of by Newton; but his early death, which happened in the beginning of the year 1642, put a ſtop to his uſeful labours.

The diſcoveries of Huygens ſucceeded thoſe of Kepler and Galileo; and few men have, perhaps, merited more of the ſciences, by the importance and ſublimity of his reſearches. Among other things, his happy application of the pendulum to clocks, is one of the moſt advantageous preſents that was ever made to aſtronomy. He was alſo the firſt who found that the ſingular appearances of Saturn, are produced by a ring, by which the planet is ſurrounded; and his aſſiduity in obſerving it, led him to the diſcovery of one of its ſatellites. Geometry, mechanics, and optics, are alſo indebted to him for a great number of diſcoveries; and if this rare genius had had the idea of combining his theorems on centrifugal forces, with his inquiries into the developement of curves, and the laws of Kepler, he would have raviſhed from Newton his theory of curvilinear motions, and that of gravitation; but theſe are the things in which diſcoveries generally conſiſt.

Next to Huygens, may be mentioned Hevelius, a burgomaſter of Dantzic, who rendered himſelf highly uſeful to aſtronomy by his numerous and immenſe labours: few obſervers having ever exiſted who were more indefatigable. It is to be lamented, however, that he refuſed to make uſe of inſtruments with teleſcopic ſights, an invention introduced about that time by the celebrated Dr. Hook, and which gave a preciſion to obſervations unknown to former aſtronomers. He even conteſted their utility, and a warm diſpute having ariſen between him and Dr. Hook upon this ſubject, Dr. Halley, then a young man riſing faſt into fame and eminence, was ſent to examine his inſtruments, which were found to be excellent of their kind. The two aſtronomers made ſeveral obſervations together, much to their ſatisfaction; and among them was one of an occultation of Jupiter by the moon, by which they determined the diameter of the latter to be 30′ 33″.

About this epoch, aſtronomy began to be more generally cultivated and improved, in conſequence of the eſtabliſhment of ſeveral learned ſocieties, which, by exciting a ſpirit of emulation and enterpriſe among their members, greatly contributed to the advancement of every branch of the mathematical and phyſical ſciences. The chief of theſe were the Royal Society of London, and that of the Academy of Sciences of Paris; both of which have rendered great ſervices to aſtronomy, as well by the eminent men they have produced, as by the zeal and ardour with which the ſcience has conſtantly been promoted by them. One of the firſt effects produced by theſe eſtabliſhments, was the great improvement of teleſcopes and other inſtruments, which had hitherto been too much neglected for want of proper encouragement. Huygens conſtructed a teleſcope of 123 feet; with which he long obſerved the moon and planets, and was the firſt that diſcovered Saturn's ring. The celebrated Caſſini alſo employed inſtruments of this kind, of 200 and 300 feet focus, with which he ſaw the five ſatellites of Saturn, with his zones or belts, as well as the ſhadows of Jupiter's ſatellites paſſing over his body.

The length of refracting teleſcopes, however, was ſtill a great inconvenience; to remedy which, as well as the great aberration of their rays, Merſennus is ſaid to have firſt ſtarted the idea of making teleſcopes with reflectors, inſtead of lenſes, in a letter to Deſcartes; and in 1663, James Gregory of Aberdeen, ſhewed how ſuch an inſtrument might be conſtructed. Newton, alſo, after ſpending ſome time on the conſtruction of both theſe ſorts of teleſcopes, diſcovered the great inconvenience which ariſes to refractors, from the different refrangibility of the rays of light, and therefore purſuing the other kind, he preſented in the year 1672, to the Royal Society, two reflectors, with ſpherical ſpecula, as he could not then contrive the means of giving them a parabolic figure. It is proper to obſerve, however, that the defects of refracting teleſcopes, ariſing from the different refrangibility of the rays of light, have ſince been completely obviated by the ingenious Mr. Dollond. See ACHROMATIC TELESCOPE.

Towards the latter part of the ſeventeenth century, and the beginning of the eighteenth, practical aſtronomy ſeems rather to have languiſhed; but at the ſame time, the theoretical part was carried to the higheſt degree of perfection, by the immortal Newton in his "Principia," and by the aſſiduity of David Gregory. (See NEWTONIAN PHILOSOPHY.) About this time alſo, clock and watch-work was greatly improved by Mr. Graham, who likewiſe conſtructed the old eight feet mural arch at the Royal Obſervatory at Greenwich, and the zenith ſector of twenty-four feet radius, with which Dr. Bradley diſcovered the aberration of the fixed ſtars. (See ABERRATION.) The reflecting teleſcope of Gregory and Newton, was alſo greatly improved by Mr. Hadley; but

who is ſtill better known for his admirable invention of the reflecting quadrant or ſector, now called by his name, and which is univerſally uſed at ſea, and in land obſervations. Mr. Hadley, about the ſame time, or ſomewhat ſooner, rendered great ſervices to aſtronomy by the invention of conſtructing, and dividing, inſtruments with great accuracy; which has ſince been carried to the greateſt degree of perfection by that admirable artiſt Mr. John Ramſden, whoſe recent death will be long regretted by aſtronomers, and men of ſcience in general. Reflecting teleſcopes were likewiſe not leſs improved by Mr. Short, who alſo firſt executed the divided object-glaſs micrometer, which had been propoſed and deſcribed by M. Louville and others.

Thus the aſtronomical improvements in the laſt century, have been chiefly owing to the greater perfection of inſtruments, and to the eſtabliſhment of regular obſervatories in various parts of Europe. Romer, a celebrated Daniſh aſtronomer, firſt made uſe of a meridian teleſcope; and by obſerving the eclipſes of Jupiter's ſatellites, was led to his diſcovery of the motion of light, which he communicated to the academy of ſciences at Paris, in 1675. Mr. Flamſteed was alſo appointed the firſt aſtronomer royal at Greenwich, about the ſame time, where he obſerved all the celeſtial phænomena for more than forty-four years; and as the fruits of his labours, publiſhed a catalogue of 3000 ſtars, with their places, to the year 1688, as alſo new ſolar tables, and a theory of the moon according to Horrox. Caſſini, alſo, the firſt French aſtronomer royal, greatly diſtinguiſhed himſelf by his numerous obſervations on the ſun, moon, and planets, and by the improvements he made in the elements of their motions.

In 1709, Mr. Flamſteed was ſucceeded by Dr. Halley, the friend of Newton, and a man of the firſt eminence in all the claſſes of literature and ſcience; who had been ſent at the early age of twenty-one, to the iſland of St. Helena, to obſerve the ſouthern ſtars, a catalogue of which he publiſhed in 1679; and a few years afterwards he gave to the public, his "Synopſis Aſtronomiæ Cometicæ," in which he ventured to predict the return of a comet in 1758, or 1759. He was the firſt who diſcovered the acceleration of the moon's mean motion; and is the author of a very ingenious method for finding her parallax, by three obſerved places of a ſolar eclipſe: he alſo ſhewed the uſe that might be made of the approaching tranſit of Venus, in 1761, in determining the diſtance of the ſun from the earth; and recommended the method of determining the longitude by the moon's diſtance from the ſun and certain fixed ſtars, which has ſince been carried into execution at the inſtance of the preſent aſtronomer royal. Dr. Halley alſo compoſed tables of the ſun, moon, and planets, with which he compared the obſervations he made of the moon at Greenwich, amounting to near 1500, and noticed the differences. About this time, an attempt was made in France, to meaſure a degree of the earth, which was the occaſion of a warm diſpute concerning its figure. M. Caſſini concluded, from the meaſurement of Picart, that it was an oblong ſpheroid; but Newton, from a conſideration of the laws of gravity, and the diurnal motion of the earth, had determined its figure to be that of an oblate ſpheroid, flattened at the poles, and protuberant at the equator. To determine this point, Louis XV. ordered two degrees of the meridian to be meaſured, one under or near the equator; and the other as near as poſſible to the pole, the reſult of which arduous undertaking was a confirmation of Newton's inveſtigation. Meſſ. Maupertuis, Clairault, &c. were employed on the northern expedition; and Condamine, Bouguer, Don Ulloa of Spain, &c. on the ſouthern; who all fulfilled their commiſſions with great credit to themſelves, and advantage to the ſciences, making many obſervations beſides thoſe immediately connected with this ſubject. Among others, it was found, by thoſe who went to the ſouth, that the attraction of the great mountain of Chimboraco had a ſenſible effect on the plumb lines of their large inſtruments, which afforded an experimental proof of the Newtonian doctrine of gravitation, that has ſince been completely verified by the obſervations of Dr. Maſkelyne, made on the mountain Schehallien in Scotland. See ATTRACTION of *Mountains*.

On the death of Dr. Halley, in 1742, he was ſucceeded by Dr. Bradley, who has rendered himſelf highly celebrated by two of the fineſt diſcoveries that have ever been made in aſtronomy, the aberration of light and the nutation of the earth's axis. Among other things, he alſo formed new and accurate tables of the motions of Jupiter's ſatellites, as well as the moſt correct table of refractions yet extant. Alſo, with a large tranſit inſtrument, and a new mural quadrant of eight feet radius, conſtructed by Bird, in 1750, he made an immenſe number of obſervations, for ſettling the places of all the ſtars in the Britiſh catalogue, together with near 150 places of the moon, the greater part of which he compared with Mayer's tables.

Dr. Bradley was ſucceeded in 1762, in his office of aſtronomer royal, by Mr. Bliſs, but who, being in a declining ſtate of health, died in 1765, and was ſucceeded by Nevil Maſkelyne, D. D. the preſent aſtronomer royal, who has rendered conſiderable ſervices to this ſcience, by his publication of the "Nautical Almanac" the "Requiſite Tables," &c. and more particularly by the great aſſiduity and zeal he has diſplayed in bringing the lunar method of determining the longitude at ſea into general practice.

In the mean time, many other eminent mathematicians, both of our own, and other countries, were aſſiduouſly employed in endeavouring to promote the ſcience of aſtronomy. The theory of the moon was particularly conſidered by Meſs. Clairault, d'Alembert, Euler, Simpſon, Walmſley, and Mayer; the latter of whom computed a ſet of lunar tables, for which, on account of their ſuperior accuracy, he was rewarded with a premium of 3000l. by the board of longitude, who brought them into uſe in the computation of the nautical ephemeris which was publiſhed by their order. Some very accurate tables of the ſatellites of Jupiter, were alſo compoſed from obſervations by Mr. Wargentin, an excellent Swediſh aſtronomer, and which have ſince been corrected by the author, ſo as to render them ſuperior to any yet publiſhed.

Among the French aſtronomers who have alſo contributed to the advancement of this ſcience, we are particularly indebted to M. de la Caille for an excellent ſet of ſolar tables, in which he has made allowances for the attractions of Jupiter, Venus, and the Moon, as well as for the obſervations which he made at the cape of Good Hope, in concert with the moſt celebrated aſtronomers in Europe, in order to determine the parallax of the ſun, moon, and the planet Mars; and for adjuſting the places of the ſtars in the ſouthern hemiſphere, which he has done with great accuracy. In Italy alſo the ſcience was cultivated with great ſucceſs by S. Bianchini, Boſchovich, Friſi, Manfredi, Zanotti, and others; and in Germany, by Euler, Mayer, Lambert, &c.

Such was the ſtate of aſtronomy when Dr. Herſchel, by augmenting the powers of teleſcopes beyond the moſt ſanguine expectations, opened a ſcene altogether unlooked for. By this indefatigable obſerver we are made acquainted with a new primary planet belonging to our ſyſtem, called the Georgium Sidus, attended by ſix ſatellites, which he diſcovered on the 13th of March 1781, and which being at once the

the diſtance of Saturn from the ſun, has doubled the bounds formerly aſſigned to the ſolar ſyſtem. We are alſo indebted to him for a variety of obſervations on ſeveral other intereſting aſtronomical ſubjects; ſuch as the discovery of two additional ſatellites to Saturn, of which the number is now ſeven; a new method of meaſuring the lunar parallax; the rotation of the planet on its axis; on the gemination of the fixed ſtars; on the phænomena of the fixed ſtars, called nebulæ, triple ſtars, &c.; on comets; and on the proper motions of the fixed ſtars; the account of which, together with many other valuable papers, he has communicated from time to time in different parts of the Philoſophical Tranſactions. Within the laſt year or two another planet has been diſcovered by M. Piazzi of Palermo, between Mars and Jupiter, to which he has given the name of Ceres Ferdinandea; and even the diſcovery of a third lunar ſatellite, ſaid to be one of the fixed ſtars; but as yet we have not received any further information. See Georgium Sidus, Ceres Ferdinandea, and Pallas.

It is with great pleaſure we obſerve that at no former period has this ſcience been cultivated with more ardour than it is at preſent, both in this and every other country in Europe. In France, the phyſico-mathematical part of the ſcience has been greatly improved and extended by the celebrated M. la Place, who, in his elaborate work, the "Méchanique Céleſte," has inveſtigated all the phænomena, which the attraction or univerſal gravitation of matter can produce on the forms and motions of the celeſtial bodies, by their mutual actions on each other. M. Lalande, the patriarch of aſtronomers, is alſo ſtill indefatigable in his purſuits, and by the zeal he conſtantly manifeſts for the intereſts of this ſcience, has greatly promoted the ſtudy of it in almoſt every quarter of the globe; but particularly in Germany, where M. von. Zach is equally aſſiduous in forwarding its improvement. In all its collateral branches alſo we obſerve a degree of activity that has never been exceeded. New admeaſurements of the earth have been undertaken both in this country and in France, which, from the great improvements of inſtruments, and the ſkill and induſtry of the obſervers, promiſe a greater accuracy in the reſults than could have been obtained by thoſe who were formerly engaged in this undertaking. From the zeal and abilities of major Mudge, in particular, who is now employed by our government to make a trigonometrical ſurvey of the country, we may expect the moſt accurate details on this ſubject that have ever yet been preſented to the public.

We ſhall conclude by obſerving that there ſtill remains a number of diſcoveries to be made in this ſcience. We have not yet determined the times of rotation and the proper figures of ſome of the planets and their ſatellites; even we know with ſufficient preciſion the maſſes of thoſe bodies. The theory of their motions alſo conſiſts in a ſeries of approximations, of which the convergence depends both upon the perfection of inſtruments, and the progreſs of analyſis, and which for that reaſon ought to acquire continually new degrees of exactneſs. Obſervations on the return of comets already obſerved, as well as on thoſe which may hereafter appear, ſhould likewiſe be made with great care, and particularly on ſuch as may entirely change their orbits, as it has been conjectured was the caſe, by the action of Jupiter on the one which appeared in 1770; as alſo ſuch accidents which the proximity, and even the ſhock of theſe bodies, may occaſion to the planets and their ſatellites; ſuch are the principal objects which ſhould engage the attention of future aſtronomers.

For more particular accounts of the writings and authors on this ſcience, the reader may conſult Weidler's "Hiſtory of Aſtronomy," which is brought down to the year 1737, as alſo "Bailly's Hiſtory of Ancient and Modern Aſtronomy," Montucla's "Hiſtoire des Mathématiques," and the firſt volume of Lalande's Aſtronomy. The moſt modern and popular works on the ſubject are numerous and well known; as thoſe of Emerſon, Ferguſon, Long, Bonnycaſtle, &c.; in the latter of which, in particular, the elementary parts, and general outline of the ſcience, are deſcribed with great perſpicuity and elegance.

Astronomy is ſometimes divided with reſpect to its different methods of conſidering it.

Astronomy, *Ancient*, is that which the ancients, under Ptolemy and his followers, with all the apparatus of ſolid orbs, epicycles, excentrics, deferents, trepidations, &c.

Astronomy, *New*, is ſuch as the art has been ſince Copernicus, by whom thoſe fictitious machines were thrown out, and the conſtitutions of the heavens reduced to more ſimple, natural, and certain principles.

In Ricciolus's Almageſtum Novum, publiſhed in 1651, we have the ſeveral hypotheſes of all the aſtronomers, ancient as well as modern.—And in Dr. Gregory's Elementa Aſtronomiæ Phyſicæ & Geometricæ, in 1702, the whole modern aſtronomy, as founded on the diſcoveries of Copernicus, Kepler, and ſir Iſaac Newton.—The ſubſtance of the old aſtronomy is given by Tacquet; and of the new aſtronomy by Whiſton, in his Prælectiones Aſtronomicæ, in 1707. Mercator's Inſtitutiones Aſtronomicæ, publiſhed in 1676, contains the whole doctrine, both according to the ancients and moderns; and Dr. Keill's Introductio ad veram Aſtronomiam, in 1718, comprehends the modern; to which might be added Vince's Aſtronomy, in 2 vols. 4to. 1800; and his Practical Aſtronomy, 4to.

ASTROPECTEN, in *Natural Hiſtory*, a name given by ſome authors to a ſpecies of ſtar-fiſh, compoſed of a body, or central nucleus, furrowed in the manner of the ſhells of the common ſcallop, and parting into five principal rays, from each of which there iſſue ſeveral tranſverſe proceſſes, covered with a hairy down.

ASTROPODIA. See Asteria, and Star-*ſtone*.

ASTROSCOPE, in *Aſtronomy*, a kind of aſtronomical inſtrument, compoſed of two cones, on whoſe ſurface the conſtellations, with their ſtars, are delineated, by means of which the ſtars may eaſily be known.

The aſtroſcope is the invention of Wil. Schukhard, formerly profeſſor of mathematics at Tubingen, who publiſhed a treatiſe expreſsly on it, in 1698.

ASTROSCOPIA, from *ἀστὴρ*, *ſtar*, and *σκοπέω*, *I conſider*, the art of obſerving and examining the ſtars by means of teleſcopes, in order to diſcover their nature and properties.

Huygens improved this art conſiderably in his "Aſtroſcopia Compendiaria Tubi Optici molimine liberata," where he ſhews how to manage the largeſt glaſſes without help of a tube. See Telescope.

ASTROTHEMATA, in *Aſtrology*, the places or poſitions of the ſtars in a theme of the heavens. Vital. Lex. Math.

ASTROTHESIA, from *ἀστὴρ*, a ſtar, and *τίθημι*, *I place*, is uſed by ſome for a conſtellation or image in the heavens, compoſed of ſeveral ſtars.

ASTRUC, John, M. D. in *Biography*, a learned phyſician, and author of numerous medical and philoſophical works, was borne at Sauve, a conſiderable town in Lower Languedoc, on the 19th of March, 1684. He was early initiated into the knowledge of the claſſics by his father, and was ſent to complete his education to the univerſity at Montpelier, where he [illegible] and

and in 1702, bachelor of medicine. In the ſame year he publiſhed his diſſertation "De motus fermentativi cauſa," which was ſoon followed by ſeveral controverſial pieces on the manner in which the food is digeſted in the ſtomach, which he contended was effected by a peculiar leaven, exciting fermentations; contrary to the opinion of Pitcairne and other mechanical phyſicians, who attempted to prove that our food was triturated or ground to a pulp in the ſtomach by the action of the abdominal and other muſcles, to which they gave a power equal to ſeveral thouſand pounds weight. In 1710, he was made profeſſor of anatomy and medicine at Toulouſe. In 1716, he returned to Montpelier, where he was called to the profeſſor's chair vacant by the death of Chatelain. In 1720, he publiſhed his treatiſe "De Hydrophobia," and in 1721 "Sur l'Origine des Maladies Epidemiques, principalement de la Peſte," in which he ſtrongly ſupports the opinion that the plague is a contagious diſeaſe, in oppoſition to Chicanen and other writers, who then, as now, attempted to eſtabliſh a contrary doctrine. He ſuppoſed there was ſome analogy between the poiſon of the plague and the venereal diſeaſe. He took an early and active part in the diſpute between the faculty of medicine and the ſurgeons at Paris; and as he was well verſed in the hiſtory of medicine, he ſhewed that in early times the chirurgeons were examined by phyſicians previous to their being allowed to practiſe. In 1729, he was invited to Poland, and made phyſician to the king, Auguſtus the ſecond; but finding this place leſs favourable to his ſtudies, he returned to France, and fixed himſelf at Paris; and in 1730, was appointed conſulting phyſician to the king, and ſoon after, on the death of Geofroy, profeſſor of medicine in the Royal College at Paris, where the reputation he had previouſly acquired procured him a numerous and reſpectable auditory; pupils flocking to him from all parts of Europe. In 1737, he publiſhed "Memoires pour l'Hiſtoire naturelle de Languedoc," in which a particular account is given of the mineral waters of Balaruc. In 1745, he publiſhed "Tractatus Pathologicus;" and 1748, "Tractatus Theraupeuticus," both in 8vo.; which were in their time well received, but are ſuperſeded now by the adoption of new theories, in their turn to give way to ſubſequent ſpeculations. In 1736, he publiſhed his principal work "De Morbis Venereis," which ſoon, and deſervedly, raiſed his fame to the higheſt pitch of eminence. The work was eagerly received, and tranſlated into all the modern languages; the learned in every country being deſirous of naturaliſing a production, containing the compleateſt hiſtory, deſcription, and mode of treating the diſeaſe that had appeared. In the firſt part, the author labours to ſhew, that the diſeaſe was new, and of a nature diſtinct from all others; that it was firſt imported into Europe by the Spaniards who attended Columbus in the diſcovery of America. This part has lately been controverted, and paſſages from various early writers have been produced, that are ſuppoſed to point out the diſeaſe; a ſingle ſymptom or two reſembling ſome of thoſe attending the lues venerea being obſcurely noticed in them. He conſiders mercury as the ſole ſpecific in the cure of the lues venerea, and of the different ways of adminiſtering it, prefers that by inunction. The author ſoon after publiſhed "Doutes ſur l'Inoculation de la petite verole propoſé a la Faculté de Paris," but without his name; and in 1759, "Traité des Tumours et des Ulceres, avec deux Lettres, 1. ſur la compoſition des quelques remedes; et 2. ſur la nature et le ſucces des nouveaux remedes qu'on propoſe pour la gueriſon des maladies venerieuſes." In this work which has conſiderable merit, the author treats largely of hydatids paſſed off by ſtool and by vomiting, or found in the livers of perſons who have died tabid. He is one of the firſt writers who denies his aſſent to the opinion that marks, diſtortions, and mutilations of the bodies of infants, are occaſioned by the imaginations of the mothers. In 1761, he publiſhed "Traité des Maladies des Femmes," 6 vols. 12mo.; this has been tranſlated into Engliſh, as well as his "Art d'Accoucher, reduit a ſes principes;" the laſt work he lived to finiſh. The author had tried the effect of cicuta, he tells us, in cancer, but without advantage; and thinks its reputation for reſolving ſchirrhi had ariſen from indurated glands of the breaſt which were taken for them, but were not ſchirrous, having diſappeared under its uſe. This opinion has been confirmed by later experience. On the whole, we find in this writer great marks of genius, as well as of labour and reſearch, and he will be deſervedly handed down to poſterity as one who has contributed conſiderably to the improvement of the art of medicine. As early as the year 1743, he was admitted member of the faculty of medicine at Paris: he was a conſtant attendant at their meetings, and a zealous protector of their privileges. With an active mind, he had the good fortune to enjoy a ſtrong and vigorous conſtitution, which enabled him to continue his profeſſional exertions until within a very ſmall time of his death, which happened on the 5th of May 1766, at the age of 82 years. In the ſecond volume of the author's treatiſe "De Morbis Venereis," he has given a catalogue of all the writers who had treated on the ſubject before him, with brief ſketches of their lives, and analyſes of their works. This part appears to have been executed with fidelity, and has afforded us uſeful and valuable materials in our labours, as has likewiſe a poſthumous work of the author, his "Memoires pour ſervir a l'Hiſtoire de la Faculté du Medicine de Montpelier," publiſhed by Lorry in 1767, in 4to., and enriched with a beautiful coloured portrait of the author, and an account of his life. Hall. Bib. Med. & Chirur. Lorry Eloge Hiſt. de M. Aſtruc. One very ſingular work little noticed, and perhaps little deſerving notice, as founded ſolely on ſpeculation and conjecture, was his "Conjectures ſur les memoires originaux dont il paroit que Moiſe ſe ſervi pour compoſer le livre de Geneſe," Bruxelles, 1759. It does not appear that the works of this celebrated writer were ever collected and publiſhed together; but they are certainly deſerving that attention.

ASTRUM, or ASTRON, in *Aſtronomy*, a conſtellation or aſſemblage of ſtars. In which ſenſe it is diſtinguiſhed from *aſter*, which denotes a ſingle ſtar.

Some apply the term, in a more particular ſenſe, to the Great Dog; or rather to the great bright ſtar in his mouth. Vital.

ASTRUM, in *Ancient Geography*, the name of a large town of the Peloponneſus, in the Argolide.

ASTRUNO, in *Geography*, a mountain of Italy, famous for its baths.

ASTRUP, a town of Germany, in the circle of Weſtphalia, and biſhopric of Oſnaburgh, four miles north of Oſnaburgh.

ASTURA, in *Ancient Geography*, a river of Italy, and alſo an iſland, according to Pliny.—Cicero had a villa of this name near the ſea, within view of Circæum and Antium, whither he retired, with his brother and nephew, when he firſt received at his Tuſculan villa the news of the proſcription in which they were included, and whence they propoſed to tranſport themſelves directly out of the reach of their enemies. Here Cicero found a veſſel ready for him, in which he immediately embarked; but the winds being adverſe, he was obliged to land at Circæum, near which he ſpent a night, in great anxiety and irreſolution. The

queſtion

queſtion upon which he deliberated was, what courſe he ſhould take; and whether he ſhould fly to Brutus or to Caſſius, or to S. Pompeius; but, after all his deliberations, none of them pleaſed him ſo much as the expedient of dying; ſo that, as Plutarch ſays, he had ſome thoughts of returning to the city, and killing himſelf in Cæſar's houſe; in order to leave the guilt and curſe of his blood upon Cæſar's perfidy and ingratitude: but the importunity of his ſervants induced him to fail forwards to Cajeta, where he landed to repoſe himſelf in his Formian villa, about a mile from the coaſt; "weary of life and the ſea, and declaring that he would die in that country which he had often ſaved." Hither he was purſued by the ſoldiers that were ſent in queſt of him; and though he fled into the woods, he was overtaken and put to death. Middleton's Cicero, vol. ii. p. 495.

ASTURA, in *Geography*, a good harbour on the ſouth-weſt coaſt of Italy, about twelve or fourteen leagues ſouth-eaſt from the mouth of the Tiber, at the bottom of a bay eaſt from port Neptune, and nearly eaſt from mount Cercelli.

ASTURAGAMICOSK, a lake of Lower Canada, eighty-one leagues north-eaſt of Quebec. N. lat. 50° 25'. W. long. 67° 25'.

ASTURIA, in *Ancient Geography*, a kingdom of Spain, ſubdued by the Roman emperor Auguſtus, after the people had long reſiſted, in connection with the Cantabrians, repeated attempts to reduce them under the Roman yoke. But at length the diſtreſs of famine was ſo great, that they determined to ſurrender; upon which the Cantabrians, who, deſperate as their ſituation was, were reſolved to renew their efforts, fell upon them, and compelled 10,000 of them to ſeek an aſylum in the Roman intrenchments. Tiberius, however, refuſed to admit them into the camp; ſo that deſpairing of relief, ſome fell upon their own ſwords, others threw themſelves into the flames which they had kindled for this purpoſe, and others diſpatched themſelves by poiſon. The ſurviving Aſturians collected all their ſtrength againſt the next campaign; but the utmoſt efforts of their valour and deſpair proved fruitleſs. Weakened by repeated defeats, they were under the neceſſity of ſubmitting to the Roman power, till the ſubverſion of that empire by the Goths. In the beginning of the eighth century Don Palayo reſtored the Spaniſh monarchy in the Aſturias. Aſturia, the capital of the Aſturians, was, in ancient times, the famous "Colonia Auguſta," mentioned by Pliny. This place divided the Aſtures into *Auguſtani* and *Tranſmontani*. The ſeventh Roman legion, intitled "Auguſta Gemina," was ſettled between the Aſturian ſea and the capital of this diſtrict, called "Aſturia Auguſta," now ASTORGA. The country derives its name from the river Aſtura, and is now denominated "Aſturias." It was formerly celebrated by the poets for the gold it produced.

ASTURIAS, in *Geography*, the ancient *Aſturia*, a province of Spain, about forty eight leagues long, and eighteen broad; bounded on the eaſt by Biſcay, on the ſouth by Old Caſtile and Leon, on the weſt by Galicia, and on the north by the bay of Biſcay. It is uſually divided into two parts or diſtricts called Aſturia of Oviedo, and Aſturia of Santillane; and hence it derives its plural name Aſturias. The country is generally mountainous and rugged; and towards the ſouth are the mountains which branch from the Pyrenées, and ſeparate it from Old Caſtile and Leon; theſe are covered with extenſive foreſts. The ſoil, however, produces a ſufficiency of corn, great quantities of fruit, and excellent wine. Its horſes are in great eſteem, and maintain their reputation from the time of the Romans, who preferred them to all the other horſes in Spain. The inhabitants, who value themſelves even at this day on the purity of their blood, and their deſcent from the ancient Goths, are poor, but honeſt, generous, brave, and laborious. The principal towns are Oviedo, Santillane, and San Andero. The eldeſt ſon of the king of Spain takes the title of the prince of Aſturias, and bears the arms of the country.

ASTURICANI, in *Ancient Geography*, a people of Aſiatic Sarmatia. Ptolemy.

ASTURASPES, a name formerly given to a river of Abyſſinia, now called MAREB. It is one of the rivers repreſented by the ancients as forming the iſland of Meroe.

ASTY, a village of Egypt, mentioned by Diodorus Siculus; in the vicinity of Canopus, according to Steph. Byz.

ASTYAGES, in *Biography*, king of the Medes, was the ſon of Cyaxares, according to Herodotus (l. i. c. 74.) and Pauſanias (l. v. c. 10. p. 398.); and began his reign, according to Blair's tables, in the year 585 B. C. Sir Iſaac Newton (Chron. apud Oper. t. v. p. 222.) ſays, that Herodotus, followed by Pauſanias, has inverted the order of the kings Aſtyages and Cyaxares; making Cyaxares to be the ſon and ſucceſſor of Phraortes, and the father and predeceſſor of Aſtyages, the father of Mandane, and grandfather of Cyrus. Conſidering, he adds, that Cyaxares reigned long, and that no author mentions more kings of Media than one, called Aſtyages; and that Æſchylus, who lived in thoſe days, knew but of two great monarchs of Media and Perſia, the father and the ſon, older than Cyrus, he concludes, that Aſtyages, the father of Mandane, and grandfather of Cyrus, was the father and predeceſſor of Cyaxares; and that the ſon and ſucceſſor of Cyaxares, was called Darius. Accordingly, he ſays, that Aſtyages began his reign at the death of Phraortes, who was ſlain by the Aſſyrians in the year of Nabonaſſer 111., or 637 B. C., and reigned 26 years. According to Herodotus, Aſtyages married his daughter to a Perſian nobleman named Cambyſes. During her pregnancy he had a dream, ſignifying that the child that was to be born ſhould rule over all Aſia. This prediction alarmed him; and he determined to deſtroy the child. Harpagus, who was employed for this purpoſe, diſobeyed the royal command, and intruſted the nurture and education of the infant Cyrus with one of the king's herdſmen. When Cyrus was ten years old, Aſtyages diſcovered the fraud, and cauſed the only ſon of Harpagus to be killed, and his fleſh to be ſerved up to him in a banquet. Harpagus for ſome time diſſembled his indignation at this act of barbarity, but waiting a favourable opportunity of revenge, he called Cyrus, arrived at manhood, from Perſia, whither he had been ſent to his real parents, and aſſiſted him to revolt againſt his grandfather. Aſtyages was defeated; and cauſed the Magi, who had led him to imagine that the danger apprehended from his ſon's revolt was at an end, to be all impaled. In a ſecond engagement he was defeated and made priſoner; upon which he was depoſed by Cyrus, after having reigned 35 years, and the Medes were ſubjected to the Perſians. Aſtyages was confined to his palace, but ſuffered to cloſe his life by a natural death. Xenophon, in his "Cyropædia," a work which the beſt critics have conſidered more as a fiction than a true hiſtory, repreſents Cyrus as having been openly educated at the court of his grandfather Aſtyages, who retained the crown till his death, and was ſucceeded by his ſon Cyaxares II. Aſtyages has been reckoned by ſome the "Ahaſuerus" of ſcripture. Anc. Un. Hiſt. vol. iv. p. 23. See MEDIA, and PERSIA.

ASTYANAX, in *Ancient Hiſtory*, the only ſon of Hector and Andromache. Calchas, the ſoothſayer, predicted,

dicted, that if he lived to manhood, he would become valiant like his father, and avenge his death. It was therefore determined to dispatch him in his infancy. Andromache took pains for concealing him; but, it is told, that Ulyſſes diſcovered him, and precipitated him from the top of the Trojan walls. The death of Aſtyanax is the principal ſubject of Euripides's tragedy of the Trojans.

ASTYNOMI, in *Antiquity*, were magiſtrates at Athens who took the inſpection of the ſtreets, and the ſale of proviſions and liquors. They were ten in number, and were aſſiſted by the plebeian ædiles of Rome. See AGORANOMI.

ASTYPALÆA, in *Ancient Geography*, an iſland of Aſia, in the Cretan ſea, where, according to Cicero (De Nat. Deor. l. iii. c. 18.), divine honours were rendered to Achilles. Steph. Byz. ſays, that this iſland, one of the Cyclades, was called Pyrrha when the Caucans poſſeſſed it, and afterwards Pylæa. Its name Aſtypalæa, in its proper ſignification, means the "ancient city," and is ſaid to be derived from that of the daughter of Phœnix and Piramede, ſiſter of Europa, and beloved by Neptune, by whom he had Ancæus, who reigned over the people named Lelegi. Pauſan. l. vii. c. 4. It was alſo called "Theontrapeza," i. e. the table of the gods, becauſe its ſoil is fertile, and almoſt enamelled with flowers. It now bears the name of STAMPALIA.—Alſo, a town of the iſland of Cos. Strabo.—Alſo, a promontory of Aſia Minor, in Caria, in the territory of Mindus. Strabo.—Alſo, a town of the iſland of Samos.

ASTYRA, or ASTYRE, a town of Æolis; but it no longer ſubſiſted in the time of Pliny.—Alſo, a village of Aſia Minor, in the Troade, near mount Ida, in the vicinity of which was a grove conſecrated to Diana Aſtyræné.—Alſo, a town of Phrygia, in the neighbourhood of the iſle of Rhodes. Steph. Byz.

ASTYRON, a town of Illyria, built by the Argonauts.

ASUADA, a town of Paleſtine. Not. Imp.

ASUCA BAY, in *Geography*, lies on the ſouth part of the gulf of Sofala, on the S. E. coaſt of Africa, in the Indian ocean.

ASUM, in *Ancient Geography*, a town of the iſland of Crete (Pliny), the Aſos of Steph. Byz. whence Jupiter derived the appellation of Aſius.

ASUM, or *Oſſion*, in *Geography*, a town of Africa, on the ſea-coaſt of the kingdom of Adel.

ASUMATZ, a town of Walachia, eight miles eaſt of Buchoreſt.

ASWAD, a town of Arabia, 28 miles ſouth of Saade.

ASYLA, in *Ancient Geography*, a town of Spain, in the country of the Turdetani. Ptolemy.

ASYLUM, a ſanctuary or place of refuge, where a criminal who ſhelters himſelf is deemed inviolable, and not to be touched by any officer of juſtice.

The word is compounded of the privative particle α, and συλαω, *I hurt*; becauſe no perſon could be taken out of an aſylum without ſacrilege.

The firſt aſylum was eſtabliſhed at Athens, by the deſcendants of Hercules, to ſhelter themſelves from the fury of his enemies; to ſerve as a refuge for children who fled from the ill treatment of their parents, and, as ſome have ſaid, to be a ſanctuary for ſuppliants in general. This is ſaid by Statius, Theb. xii. and Servius, in Æneid viii. to have been the firſt aſylum; others ſuppoſe that it was firſt built at Thebes by Cadmus, for the reception of all criminals. Pauſan. l. viii. Æn. l. ii. v. 112. Eurip. Hecuba, v. 146. In imitation of the aſylum of Cadmus, Romulus eſtabliſhed one between the two groves on the Capitoline mount, which was free of acceſs to all criminals. The oracle of Delphos, according to Plutarch, ſanctioned this political eſtabliſhment of Romulus with its approbation. When Romulus enlarged his new city, which by this policy was ſtocked with inhabitants, the aſylum was incloſed within the walls, and thoſe who had fled to it, being brought under ſome regulations, became citizens of Rome. Plut. in Rom. l. v. c. 19. Dion. Hal. l. ii.

The temples, altars, ſtatues, and tombs of heroes, were, anciently, the ordinary retreat of thoſe who found themſelves aggrieved by the power of the laws, or oppreſſed by the violence of tyrants: but temples were held the moſt ſacred and inviolable refuge. It was ſuppoſed, that the gods took upon them to puniſh the criminal who thus threw himſelf upon them; and that it would be a great impiety in man to take vengeance out of the hands of the immortals.

The Iſraelites had their cities of refuge, which were of God's own appointment; where the guilty, who had not committed any deliberate crime, found ſafety and protection. As to the heathens, they allowed refuge and impunity even to the vileſt and moſt flagrant offenders, ſome out of ſuperſtition, and others for the ſake of peopling their cities; and it was by this means, and with ſuch inhabitants, that Thebes, Athens, and Rome, were firſt ſtocked. We even read of aſylums at Lyons and Vienne, among the ancient Gauls; and there are ſome cities in Germany which ſtill preſerve the ancient right of aſylum.

Hence, on the medals of ſeveral ancient cities, particularly in Syria, we meet with the inſcription ΑΣΥΛΟΙ, to which is added, ΙΕΡΑΙ. This quality of aſylum was given them, according to M. Spanheim, in regard to their temples, and of the gods revered by them.

The ſame qualities have alſo been given to deities: thus Diana of Epheſus is called ασυλος. Add, that the camp, formed by Romulus and Remus, was called aſylum, and afterwards became a city, in which was a temple erected to the god Aſylæus, Θεος Ασυλαιος. It appears from Plautus (Moſtell. v. 1.), that ſlaves had particular aſylums: ſuch was the temple at Athens; or the tomb of Theſeus; becauſe he never refuſed to avenge the oppreſſed, and to ſuccour the wretched. The temple of Diana at Epheſus was an aſylum for debtors. In proceſs of time, aſylums were ſo multiplied, that it became neceſſary to regulate and reform them, in the reign of Tiberius, as we are informed by Tacitus (Annal. l. iii. c. 60.); and Suetonius (Tiberii. c. 37.) ſays, they were utterly aboliſhed.

The emperors Honorius and Theodoſius granting the like immunities to churches, the biſhops and monks laid hold of a certain tract or territory, without which they fixed the bounds of the ſecular juriſdiction: and ſo well did they manage their privileges, that convents, in a little time, became next akin to fortreſſes, where the moſt notorious villains were in ſafety, and braved the power of the magiſtrate.

Theſe privileges, at length, were extended not only to the churches and church-yards, but alſo to the biſhops' houſes, whence the criminal could not be removed without a legal aſſurance of life, and an entire remiſſion of the crime. The reaſon of the extenſion was, that they might not be obliged to live altogether in the churches, &c. where ſeveral of the occaſions of life could not be decently performed.

But, at length theſe aſyla, or ſanctuaries, were alſo ſtripped of moſt of their immunities, becauſe they ſerved to make guilt and libertiniſm more bold and daring. In England,

gland, particularly, they were entirely abolished. See Synonyma.

ASYMMETRY, derived from the privative [illegible], and [illegible], q. d. [illegible], a want of proportion, or correspondence between the parts of a thing. See SYMMETRY.

In Mathematics, the word is more particularly used for [illegible]; which [illegible]; and [illegible]: as, $\sqrt{2}$, &c. are [illegible] to rational [illegible].

ASYMPTOTE, in *Geometry*, a line which continually approaches nearer and nearer to another; yet will never meet with it, though indefinitely produced.

[illegible], q. d. [illegible], or [illegible].

[illegible] ſtraight, others curve; ſome concave, others convex, &c. [illegible] lines, which approach nearer and nearer to ſome curve, of which they are ſaid to be the aſymptotes; but which, though they and their curve were indefinitely continued, would never meet: conſequently aſymptotes may be conceived as tangents to their curves at an infinite diſtance. [illegible] are ſaid to be aſymptotical, when they thus continually approach, without a poſſibility of meeting. Thus two parabolas, whoſe axes are in the ſame right line, are aſymptotical to one another.

Of lines of the ſecond kind, or curves of the firſt kind, that is, the conic ſections, only the hyperbola has aſymptotes, which are two in number, the properties of which have been [illegible] and [illegible].

All curves of the ſecond kind have at leaſt one aſymptote; but they may have three; and all curves of the fourth kind may have four aſymptotes.

The conchoid, ciſſoid, and logarithmic curve, though not reputed geometrical curves, have each alſo one aſymptote.

The nature of aſymptotes will be eaſily conceived from the inſtance of the aſymptote of a conchoid. Suppoſe M M A M, &c. (*Plate* ANALYSIS, *fig.* 1.) to be a part of a conchoid, C its pole, and the right line B D, ſo drawn that the parts Q A, E A, O M, &c. of right lines drawn from the pole C, are equal to each other; then will the line B D be an aſymptote of the curve; becauſe the perpendicular M I, &c. is ſhorter than M O, and M R than M Q, &c. ſo that the two lines continually approach; yet the points M, &c. and R, &c. can never coincide, ſince there is ſtill a portion of a line to keep them aſunder; which portion of a line is infinitely diviſible, and conſequently muſt be diminiſhed infinitely before it becomes nothing.

ASYMPTOTES *of the* HYPERBOLA are thus deſcribed. Suppoſe a right line D E (*Plate* I. CONICS, *fig.* 20.) drawn through the vertex A of the hyperbola, parallel to the ordinate M*m*, and equal to the conjugate axis, viz. the part D A, or A E, equal to the ſemi-axis: then, two right lines drawn from the centre C of the hyperbola through the points D and E, viz. the right lines C F and C G, are aſymptotes of the curve. The parts of any right line, lying between the curve of the common hyperbola and its aſymptotes, are equal to one another on both ſides, that is $rm = MR$. Thus alſo, in hyperbolas of the ſecond kind, if a right line be drawn, interſecting the curve and its three aſymptotes in three points, the ſum of the two parts of [illegible] extends in the contrary direction from the third aſymptote to the third point of the curve.

If the hyperbola G M R (*fig.* 12. N°2.) be of any kind whoſe nature with regard to the curve, and its aſymptote, is [illegible]; the right line P M be drawn any where parallel to the aſymptote C S, and the parallelogram P C O M be completed: this parallelogram is to the hyperbolic ſpace P M G B, contained under the determinate line P M, the curve of the hyperbola G M indefinitely continued towards G, and the part P B of the aſymptote indefinitely continued the ſame [illegible]; greater than the parallelogram, and ſo cannot be obtained; [illegible] parallelogram will be to the ſpace as a negative number to a poſitive one, and the ſaid ſpace is called by Dr. Wallis [illegible].

[illegible] be the logarithmic curve, P R an aſymptote, P T the ſubtangent, and M P an ordinate; then will the indeterminate ſpace $RPMS = PM \times PT$; and the ſolid, generated by the rotation of this curve about the aſymptote V P, will be half of a cylinder whoſe altitude is equal to the length of the ſubtangent, and the ſemidiameter of the baſe equal to the ordinate Q V. See LOGARITHMIC.

ASYMPTOTES, are by ſome diſtinguiſhed into various orders. An aſymptote is ſaid to be of the firſt order, when it coincides with the baſe of the curvilinear figure: of the ſecond order, when it is a right line parallel to the baſe: of the third order, when it is a right line oblique to the baſe: of the fourth order, when it is a common parabola, that has its axis perpendicular to the baſe: and, in general, of the order $n+2$, when it is a parabola, the ordinate of which is always as a power of the baſe, whoſe exponent is n. The aſymptote is oblique to the baſe, when the ratio of the firſt fluxion of the ordinate to the fluxion of the baſe, approaches to an aſſignable ratio, as its limit; but it is parallel to the baſe, or coincides with it, when this limit is not aſſignable.

The determination of the aſymptotes of curves, is a curious part of the higher geometry. M. de Fontenelle has given ſeveral theorems relating to this ſubject, in his "Geometrie de l'Infini." See alſo Stirling's "Lineæ tertii Ordinis," Prop. vi. where the ſubject of aſymptotes is elaborately diſcuſſed; and Cramer, "Introduction à l'Analyſe des Lignes courbes," art 147, &c. in which is given an excellent theory of geometrical curves and their branches. This ſubject is alſo treated accurately by Mr. Maclaurin, in his Fluxions, book i. chap. 10. where he has been careful to avoid the modern paradoxes concerning infinites and infinitеſimals. The areas bounded by curves, and their aſymptotes, tho' indefinitely extended, ſometimes have limits to which they may approach, ſo as to differ leſs from thoſe limits than by any given quantity. This happens in hyperbolas of all kinds, except the firſt, or Apollonian. The ſame is alſo true of the area, compriſed between the logarithmic curve and its aſymptote. See LOGARITHMIC *curve*. Thoſe who do not ſcruple to ſuppoſe the curve and its aſymptote to be infinitely produced, ſay, that the infinitely extended area becomes equal to its limit.

The aſymptotical area in the common or Apollonian hyperbola, and in many other curves, has no limit; and it is uſual to ſay, theſe areas are infinitely great; by which,

aſymptote, may be extended, till the ſpace comprehended between them exceeds any given magnitude. Some authors, and Dr. Wallis among the reſt, have talked of ſome of theſe areas, as if they were more than infinite. This happened from an analogy they imagined between poſitive, nothing, and negative, and what is finite, infinite, and more than infinite. See Hyperbola.

Solids generated by hyperbolic areas, revolving about their aſymptotes, have ſometimes alſo their limits; and ſometimes they may be produced, till they exceed any given ſolid. See art. 307. 309. of the above mentioned author. When a curve, and its aſymptote, are ſuppoſed to be produced infinitely, and the area, compriſed between them, to revolve about the aſymptote, the ſurface generated will be finite or infinite, according as the area of the generating figure is finite or infinite.

For the aſymptotes of curves, deſcribed by the interſections of right lines revolving about given poles, ſee Mr. Maclaurin's Fluxions, art. 313. ſeq.

Asymptote, *Parabolic*. See Parabolic *Asymptote*.

ASYMPTOTIC *Spaces*. See Hyperbola.

ASYNDETON, derived from the privative α, and συνδεω, *I bind together*, a figure in *Grammar*, implying an omiſſion of words, or a defect of thoſe particles that connect the members of a ſentence with one another. The want of ſuch particles repreſents either the celerity of an action, or the haſte and eagerneſs of the ſpeaker. As, in the inſtance, "veni, vidi, vici," "I came, I ſaw, I conquered;" in which Cæſar expreſſes his conqueſt of Pharnaces (Suet. in vit. c. 37.); where the copulative *et*, *and*, is omitted: or in that of Cicero concerning Catiline, "abiit, exceſſit, evaſit, erupit;" "he is gone, departed, eſcaped, broke out:" or in that verſe of Virgil,

"Ferte citó flammas, date vela, impellite remos."

This conciſe mode of ſpeaking adds a conſiderable emphaſis to an expreſſion; and, by bringing the ſeveral parts of a ſubject nearer together, affects the mind with greater force. Thus Cicero (pro Muræn. c. 29.) ſets Cato's character in a very ſtrong and beautiful light by the uſe of this figure. "Nature itſelf has made you a great and excellent man for integrity, gravity, temperance, magnanimity, juſtice, in a word, for all virtues."

Aſyndeton ſtands oppoſed to *polyſyndeton*, where the copulatives are multiplied.

ASYNT Point, or *Row Stoir*, in *Geography*, a cape on the weſt coaſt of Scotland, in the county of Sutherland. N. lat. 58° 13′. Long. 1° 58′ W. Edinburgh.

ASYPHUS, in *Ancient Geography*, a mountain of Africa, in the Marmarica. Ptolemy.

ATA, or Atatschai, in *Geography*, a rivulet of Perſia, in the province of Schirwan, ſerving as a boundary to ſome of the diſtricts into which it was divided.

ATABULI, in *Ancient Geography*, a people of Africa, placed by Pliny in the ſmall iſland of Meröe.

ATABULUS, in *Phyſiology*, a kind of wind in Apulia, of a dry pinching quality, and very noxious in its effects.

The ancient naturaliſts ſpeak of the atabulus in terms of horror, on account of the ravage it made among the fruits of the earth, which it ſcorched, or withered up.

ATABYRON, in *Geography*, the name of a mountain in the iſland of Rhodes, whence the iſland itſelf was denominated *Atabyria*. The name is ſuppoſed to have been derived from Phœnicia, where Atabyr denoted a place of good paſture, and it was applied to the Tabor of ſcripture, belonging to the tribe of Zabulon. On this mountain was ſituated a temple of Jupiter, hence called *Atabyrius*, much celebrated by heathen hiſtorians and poets. Here, fabulous report ſays, brazen oxen announced by their bellowings any approaching calamity. The fable is explained by ſuppoſing that the prieſts of this temple pretended to be endowed with the ſpirit of prophecy.—Alſo, a mountain of Sicily, ſo called on account of a temple of Jupiter Atabyrius, and of Minerva, that was erected on its ſummit.—Alſo, a town of Phœnicia, according to Steph. Byz.: or of Cæloſyria, according to Polybius.

ATACAMA, in *Geography*. See Attacama.

ATACINI, in *Ancient Geography*, a people of Europe, in Gaul, who inhabited the banks of the Atax (Aude), whence their name, near the Volcæ Tectoſages, and north of the Sardoni. Their capital was Narbo.

ATÆA, a town of Laconia. Steph. Byz.

ATAHUALPA, in *Biography*, the ſon of Huana Capac, by the daughter of the ſovereign of Quito, was appointed by his father, when he died in 1529, his ſucceſſor in the kingdom of Quito; the reſt of his dominions being bequeathed by him to Huaſcar, his eldeſt ſon by a mother of the royal race. The deſtination of Huana Capac concerning the ſucceſſion, excited general diſguſt at Cuſco; and Huaſcar, encouraged by his ſubjects, required his brother to renounce the government of Quito, and to acknowledge him as his lawful ſuperior. Atahualpa, having ſecured in his intereſt a large body of troops which had accompanied his father to Quito, and which formed the flower of the Peruvian warriors, firſt eluded his brother's demand, and then marched againſt him in hoſtile array. This conteſt between the brothers involved Peru in a civil war, which terminated in the defeat and captivity of Huaſcar, and in the extermination of the royal race by the murder of all the children of the ſun, as the deſcendants of Manco Capac were denominated, whom Atahualpa could ſeize either by force or ſtratagem. At this time Pizarro, the Spaniſh adventurer, arrived in Peru; and being ſolicited by meſſengers deputed by Huaſcar, to aſſiſt him in ſubduing his brother, who was repreſented as a rebel and an uſurper, he directed his courſe towards Caxamalca, a ſmall town at the diſtance of twelve days march from St. Michael, where Atahualpa was encamped, with a conſiderable body of troops. The reigning inca diſpatched a meſſenger to Pizarro, as he was advancing, with a valuable preſent, offering his alliance, and aſſuring him of a friendly reception at Caxamalca. Pizarro, on his part, returned profeſſions of regard, and a declaration that he was now advancing, as the ambaſſador of a very powerful monarch, with an intention to offer Atahualpa aid againſt thoſe enemies who diſputed his title to the throne. This pacific and friendly declaration removed the inca's fears; and Pizarro was allowed to march, without interruption, to Caxamalca; in his approaches to which he received renewed profeſſions of friendſhip from Atahualpa, and additional preſents. The perfidious Spaniard determined to avail himſelf of the unſuſpecting ſimplicity with which Atahualpa relied on his profeſſions, and to ſeize his perſon during the interview to which he had invited him. Accordingly he made preparations for this purpoſe; and as the inca drew near the Spaniſh quarters, with a numerous and ſplendid train, the friar Valverde advanced to meet him, with a crucifix in one hand, and a breviary in the other; and in a long diſcourſe explained to him the doctrines of religion, and the authority of the pope, cloſing his harangue with a requiſition, that the inca would embrace the Chriſtian faith, acknowledge the ſupreme juriſdiction of the pope, and ſubmit to the king of Caſtile as his lawful ſovereign. This requiſition was enforced by promiſes of protection, if he complied, and by threats of vengeance if he refuſed to obey the ſummons. The inca heſitated and demurred; he pleaded

his

his right to empire by hereditary ſucceſſion; he expreſſed his ſurpriſe that a foreign prieſt ſhould diſpoſe of territories which did not belong to him, and without the conſent of the rightful poſſeſſor; and he profeſſed that he had no inclination to renounce the religious inſtitutions eſtabliſhed by his anceſtors, and that he could not abandon the ſervice of the ſun, the immortal divinity whom he and his people revered, in order to worſhip the god of the Spaniards, who was ſubject to death. As to other matters, which he had never heard before, and the meaning of which he did not now underſtand, he deſired to know where the prieſt had learned ſuch extraordinary things: "in this book," replied Valverde, reaching out to him his breviary. The inca eagerly opened it, and turning over the leaves, lifted it to his ear: "this," ſays he, "is ſilent; it tells me nothing:" and he threw it with diſdain to the ground. The enraged monk exclaimed to his countrymen; "to arms, Chriſtians, to arms; the word of God is inſulted; avenge this profanation on thoſe impious dogs." The farce being now completed, the Spaniards ruſhed upon the innocent Peruvians, maſſacred many of them without mercy, and ſeized the perſon of the inca himſelf, who was detained in captivity. The dejected prince, anxious to regain his liberty, propoſed a ranſom, and ſuch was the amount of it, that the Spaniards themſelves were aſtoniſhed, even after all they knew concerning the opulence of his kingdom. The apartment in which he was confined was twenty-two feet long, and ſixteen broad; and the captive monarch propoſed to fill it with veſſels of gold as high as he could reach. Pizarro cloſed with the alluring propoſal, and a line was drawn upon the walls of the chamber to mark the ſtipulated height to which the treaſure was to riſe. When this immenſe maſs was nearly collected by the faithful attachment and active zeal of his ſubjects, the inca was allowed to ſacrifice to his own ſafety the life of his captive brother Huaſcar: but though the Spaniards divided among them the rich ſpoil of Peru, the inca was continued in confinement. He now became an object of contention between the ſoldiers of Pizarro, and thoſe that were newly arrived under Almagro; and the latter demanded his life, that there might be no pretext of inequality in ſharing the future plunder of Peru, under the notion of its being the inca's ranſom. Pizarro at length conſented to ſacrifice the inca; and after a mock trial, Atahualpa was found guilty, and condemned to be burnt alive. Friar Valverde proſtituted the authority of his ſacred function to confirm this ſentence, and by his ſignature warranted it to be juſt. Aſtoniſhed at his fate, Atahualpa endeavoured to avert it by tears, by promiſes, and by entreaties that he might be ſent to Spain, where a monarch would be the arbiter of his life. Pizarro was unrelenting; and the inca was led to execution. Valverde attended him, and attempted to convert him to embrace the Chriſtian faith, by a promiſe of procuring a mitigation of his puniſhment. The dread of a cruel death, at length, extorted from the trembling victim a deſire of receiving baptiſm. The ceremony was performed; and Atahualpa, inſtead of being burnt, was ſtrangled at the ſtake. This event happened A.D. 1533; and thus terminated the life and reign of the laſt inca of Peru. Robertſon's Hiſt. Amer. vol. iii. p. 29—57.

ATAJA, in *Ichthyology*, a name given by ſome writers to a ſpecies of Sciæna, obſerved by Forſkal. It is an inhabitant of the Red Sea.

ATAIR, in *Aſtronomy*. See Alcair.

ATAKKENI, in *Geography*, a town of Aſiatic Turkey, in the province of Natolia, forty-four miles north-weſt of Eregri.

ATALA, a ſmall town of Sicily, in the valley of Demona, agreeably ſituate on the ſtrait of Meſſina, between Meſſina and Taormina.

ATALANTA, in *Entomology*, a ſpecies of Papilio that inhabits Europe, and of which a variety is found in America. The wings are black, indented, and ſpotted with white; a red band acroſs the anterior pair; border of the poſterior pair of the ſame colour. This is Papilio *Atalanta* of moſt authors: Engliſh Aurelians call it the *red admirable butterfly*, and the French *Atalante*.

ATALANTA, in *Ancient Geography*, *Tutandi*, a ſmall iſland in a canal formed by the ſea between the iſland of Eubœa to the eaſt, and the coaſt of Locris to the weſt. The ancients, as Pliny, Euſebius, and Diodorus Siculus, have ſuggeſted that this tract of land was detached from the adjoining country.—Alſo, another iſland in the Saronic gulf.

ATALAYA, or Atalava, in *Geography*, a ſmall town of Portugal, in the province of Eſtremadura, conſiſting of one pariſh with about 200 inhabitants. It is defended by a fortreſs on an eminence of difficult acceſs; two leagues ſouth of Tomar.

ATALENUM, in *Ancient Geography*, a town of Aſia, in Armenia Major.

ATAMARAM, in *Botany*. See Annona.

ATAMASCO Lily. See Amaryllis.

AT-ANCHOR, in *Sea Language*, expreſſes the ſituation of a ſhip riding by her anchor.

ATANTA, in *Botany*, a name given by the people of Guinea to a kind of ſumach, called by Petiver Rhus *Guineenſe trifoliatum ſerratum ſcabium*, from its being trifoliate, and having rough and ſerrated leaves. This ſomewhat reſembles the hoary trifoliate African *ſumach* of Pluckenet; but it differs in this, that its leaves are edged with prickles, whereas thoſe of Pluckenet's kind are only deeply ſinuated. The people of Guinea are very fond of this for its medicinal virtues; they give it as a reſtorative, boiled in water. Phil. Tranſ. N° 232.

ATAPHYNI, in *Ancient Geography*, a people of Arabia. Steph. Byz.

ATARAXY, a term much uſed by the *Sceptics* and *Stoics*, to denote that calmneſs and tranquillity of mind, and that firmneſs of judgment, which ſets us free from any agitations or emotions ariſing from ſelf-opinion, and the knowledge we imagine ourſelves poſſeſſed of.

The word is compounded of ατα, *but*, and ταξις, *order*. In this ataraxy, they ſuppoſed the ſovereign good, or higheſt bliſs in this life to conſiſt.

ATARNA, in *Ancient Geography*, a town of Myſia upon the Helleſpont, over againſt the iſle of Leſbos. In the time of Pliny it was no more than a village; he calls it Aterna; and in D'Anville's chart it is Atarneus.

ATAVILLOS, in *Geography*, a people of South America, in Peru, at the ſource of the river Xauca, at ſome diſtance from the Pacific ocean and from Lima.

ATAXIA, ἀταξια, in *Medicine*, a term which ſignifies irregularity or diſturbance of action, from α privative and ταξις, *order*. This term is applied to fevers, when they are irregular in their type; to the pulſe, when it is fluttering and unequal; and to the operations of the functions of animals, when they are hurried and confuſed. An atactic condition of the pulſe and ſpirits, in acute diſeaſes, is generally a ſign of malignancy.

ATAXORA, in *Geography*, a town of Spain, in Navarre, four leagues from Olita.

ATBARA, a province of Abyſſinia, the capital of which is Teawa, thirty-three miles north from Rathid, in N. lat. 14° 2′ 4″. The ancient river Attaboras is now called Atbara, and the province is, according to Bruce, the

the ancient peninſula Meroe. The Darcinn Arabs, who conſtantly live in tents, bear a mortal enmity to all who inhabit villages, and, on occaſion of feud, have laid waſte the greateſt part of Atbara. The ſtrength of Teawa, ſays Bruce, was about twenty-five horſe, or which about ten were armed with coats of mail; and they had about a dozen firelocks. The reſt of the inhabitants might amount to 1200 men, naked, miſerable and deſpicable Arabs, like the reſt of thoſe that live in villages, who are much inferior to the Arabs that dwell in tents. In this deſert and poor country, it is not to be expected that trade of any kind ſhould flouriſh; but there is a miſerable manufacture of coarſe woollen cloths, of the length of [illegible], juſt enough to go round the middle, which paſs current, like ſpecie, all over Atbara; they are called "Dimoor," and are uſed inſtead of ſilver money. The amolee, a very bad copper coin, paſſes for ſmaller matters; ſo that the currency of Teawa ſtands thus:

20 rehalahs,	1 cruſh,
12 cruſh,	1 ruttel,
4 ruttel,	1 vakia.

The vakia of gold is worth about [illegible] ſhillings: but the only commerce of Teawa is carried on by exchange, as ſalt for grain, camels for [illegible]: the value of goods varying according to the ſcarcity or plenty of one ſort of commodities with reſpect to the other. Bruce's Trav. vol. iv. p. 406.

ATCHAIRSKOI, a fortreſs of Siberia, on the Irtiſh, twenty-eight miles ſouth-eaſt of Omſk.

ATCHAK, one of the Fox iſlands, about 800 verſts diſtant from the Aleutian iſles; lying in 56° N. lat. and extending from W.S.W. towards E.N.E. It reſembles Copper iſland, and has a convenient harbour on the north.

ATCHE, in *Commerce*, a ſmall ſilver coin, current in the ſtates of the Grand Seignor, equal to about a third part of the Engliſh penny. The atche is the ſmalleſt coin uſed in Turkey; where there is no copper money current, except in the province of Babylon. Some call the atche the little aſper: it is ſtamped like the para, with Arabic characters. Three or four atches are commonly given in exchange for the para.

ATCHIEVEMENT, in *Heraldry*, ſignifies the arms, creſts, and ſupporters, which a perſon has a lawful right to bear, with all the exterior ornaments, as helmet, mantle, motto, &c. &c. See Funeral *Atchievements*.

ATCHEIN, in *Geography*. See Acheen.

ATCHI Kounipi, a lake of America, in Labrador, which conveys its water ſoutherly, through a connected chain of ſmall lakes, into the river St. Lawrence.

ATCHINSK, one of the ſix diſtricts of the province of Tomſk, in Ruſſia, ſituate on the river Tchulym, falling into the Ob. The town is 424 miles E.S.E. of Tobolſk. N. lat. 56° 20'. E. long. 124° 36'.

ATE, derived from *ατaω*, *to hurt*, in *Mythology*, the daughter of Jupiter, and the goddeſs of miſchief. She was caſt down from heaven by Jupiter, who, deceived by Juno in cauſing Euriſtheus to be born before Hercules, was incenſed, and manifeſted his reſentment againſt *Ate*, as the cauſe of the offence, by precipitating her from heaven, and ſwearing that ſhe ſhould never return thither. Homer, Il. xix. 125. Mythologiſts explain the fable thus: Ate is the daughter of Jupiter, becauſe evil happens by the permiſſion of providence; and her baniſhment from heaven to earth ſignifies the dreadful effects of divine juſtice among men.

ATECA, in *Geography*, a town of Spain, in Arragon, upon the river Xalon, two leagues above Calatayud: ſuppoſed by Cluver to be the ancient "Attacum" of the Celtiberians, placed by others at Daroca.

ATEGAR, a weapon among the Saxons, which ſeems to have been a [illegible]. The word comes from the Saxon [illegible].

ATEGUA, in *Ancient Geography*, a town of Spain, ſituate near the river named "Flumen Salſum," or "Salſuſa." Pompey having paſſed this river, encamped between Ucubis and Ategua, to oblige Cæſar to raiſe the ſiege of the latter place; but it was taken in his preſence. It occurs in the route from Anticaria to Hiſpalis.

ATELA, a town of [illegible], in the Palmyrene. Ptolemy.

ATELEIA, in *Antiquity*, denotes an exemption from tribute, taxes, or other burdens.

Ateleia is frequently uſed, in the *Ancient Laws*, for an exemption from offices, granted to the Egyptian clergy by Conſtantius.

ATELLA, in *Ancient Geography*, a town of Italy, in the Campania, ſouth-weſt of Capua. It was firſt declared municipal, and afterwards became a colony. The ruins of this ancient city of the Oſcans may be now ſeen two miles to the ſouth of Averſa, at a place called "S. Aſpino di Atella."

Atella, in *Geography*, a town of Italy, in the kingdom of Naples, at the foot of the Apennines, in the Baſilicata, two leagues from Melphi.

ATELLANÆ, in *Antiquity*, a kind of comic and ſatiric pieces preſented on the Roman theatre; ſomewhat leſs ludicrous than the farces on the Engliſh ſtage, and yet leſs grave and ſerious than the Greek and Latin comedies and tragedies. The atellanæ, or fabulæ atellanæ of the Romans, anſwered to the ſatyræ among the Greeks. They were thus called from *Atella*, a city of Tuſcany, where they were firſt repreſented; and from whence, on account of their mirth and humour, they were introduced into Rome. But they became at length ſo licentious and impudent, that the ſenate was obliged to ſuppreſs them.

ATELLARA, or Atellari, in *Geography*, a river of Sicily, which runs into the ſea between Syracuſe and cape Paſſaro.

ATELLUM, in *Ancient Geography*, a town of Italy, in Magna Græcia, north-weſt of Venuſia.

A-TEMPO GIUSTO, in *Muſic*, implies a ſteady, juſt time; not very quick, but firm and exact. *A-tempo*, after recitative, a pauſe, or ralentando, implies a return to the firſt time.

ATENA, in *Geography*, a ſmall town of Italy, in the kingdom of Naples, ſituate on the river Negro, in the Principato Citra, ten miles weſt of Marſico Novo.

ATER, in *Ancient Geography*, a mountain of Africa, in the Syrtis Minor, which, according to Pliny, extended itſelf to a conſiderable diſtance from the eaſt to the weſt, and was called by the Romans, "Mons Ater," becauſe it was ſcorched by the heat of the ſun. The mountainous tract, known to the ancients by the name of Mons Ater, is now denominated the "Black Harutch."

Ater, in *Conchology*, a ſpecies of Mytilus, deſcribed in Molin. Hiſt. Chili, p. 177. and ſaid to be frequent on the ſhores of that country. It is ſulcated or grooved, with the poſterior part ſcaly. Gmel. This ſhell is rough like ſome ſpecies of pinnæ; dull blue; fiſh black, and not eatable.

Ater, a ſpecies of Strombus found in the boggy parts of the iſland of Amboyna. This ſhell is ſmooth, and has the lip ſeparated before and behind. The length is about two inches; colour black, brown, or bay, and white within; very finely ſtriated tranſverſely; aperture ovate; ſpire ſubulate,

ulate, and conſiſting of twelve contiguous ſcutiſh whorls. Gmel. Liſter, &c.—Müll. in his Hiſt. Verm. Howe. Terr. deſcribes it as Nauta teſta ſubulata lævi, aperturæ antice poſticeque ſinuata.

ATER, in *Entomology*, a ſpecies of DERMESTES found in the neighbourhood of Upſal, and deſcribed by Dr. Thunberg, in Nov. Act. Upſ. 4. p. 4. n. 4. It is gloſſy black, with the wing-caſes thinly punctured. This is a ſmall inſect.

ATER, a ſpecies of HYDROPHILUS, a native of Europe. This is black and glabrous; antennæ and ſhanks reddiſh. Gmel.

ATER, a ſpecies of BYRRHUS that inhabits Germany, and in ſhape and ſize reſembles byrrhus pilula. It is black and without ſpots. Fabr. This is *ciſtela nigra nitens glabra* of Geoffroy.

ATER, a ſpecies of TENEBRIO found in Europe. This is of a black colour, with ferruginous antennæ. Linn.

ATER, a ſpecies of CARABUS that inhabits Denmark. Black; wing-caſes ſtriated; claws ſomewhat ferruginous. Müll. Zool. Dan.

ATER, a ſpecies of CERAMBYX (*Callidium* Fabr.) found in the environs of Venice. It is black, with truncated wing-caſes, and moderate antennæ. Scopoli, Gmel. &c.

ATER, a ſpecies of GRYLLUS (*Acheta* Fab.) that inhabits Surinam. The colour is dark brown, and the tail of the female is unarmed. Degeer Inſ. 3.—Gmel.

ATER, a ſpecies of CIMEX (*Cimex grossus* Scop.). This inſect is gloſſy-black, with the apex of the wing-caſes very pale. Fabr. Mant. Inhabits Germany, and is about half the ſize of cimex zoſterae.

ATER, is alſo a ſpecies of CIMEX in the Linnæan Fn. Sv. 944. The body is entire, and in Gmelin's arrangement it belongs to the ſection *oblongus*. Geoffroy deſcribes it as being black and oblong, and the antennæ terminating each in a briſtle or hair. Inhabits the north of Europe and Calabria.

ATER, a ſpecies of CYNIPS, deſcribed by Schrank among the inſects of Germany, and which form and inhabit very large excreſcences on the ſtems of plants. It is black, with elevated dots; tarſi of the legs paler.

ATER, a ſpecies of BOMBYLIUS deſcribed by Scopoli, Schæffer, &c. It inhabits Germany. The colour is black; baſe of the wings half black; abdomen ſpotted with white. Fabr. Spec. Inſ.—Front of the head and thorax downy, and a white dot before each eye.

ATER, a ſpecies of ASILUS found in Europe. It is black and hairy, with a white beard. Fn. Sv. Scopoli calls it erax proſtratus.

ATER, a minute ſpecies of IPS found in England by Mr. Kirby, and deſcribed by Mr. Marſham, Ent. Brit. It is ſubcylindrical and black; thorax dotted with impreſſed points, and carinated along the middle; wing-caſes with crenate ſtriæ; ſoles of the feet pitchy black.—General colour black.

ATER, in *Natural Hiſtory*, a ſpecies of ANGUIS or ſnake. It inhabits Ceylon; black, faſciated with white, and the ſcales tipt with black. Laur. Amp. This is amphiſbœna ceilonica fœmina of Seba; and anguis ater, black-banded ſlow-worm of Dr. Shaw.

ATER, a ſpecies of LIMAX, (ſlug or ſnail), the body of which is black and rugged. Müll. Gmel. Of this kind there are ſeveral varieties; the firſt (α) is black, and pale beneath; it is figured by Liſter, exerc. anat. tab. iii. f. 1—5., and is probably cochlea nuda of Geſn. The ſecond variety (β) is black, with a pale greeniſh dorſal ridge. The third (γ) is deſcribed by Swammerdam; it is black above, whitiſh [illegible], and the mouth yellowiſh. The fourth (δ) is limax ſubrufus of Liſter; the colour of which is cheſnut-brown above, white beneath, and mouth yellowiſh. The fifth kind is of an obſcure brown, with a yellowiſh mouth and ſtreak on each ſide.

[illegible] The length is from an inch and four lines to five inches. The feelers are black in all; the ſhield rough, with many punctures; back and belly deeply furrowed or wrinkled.

ATER, in *Ornithology*, a ſpecies of FALCO that inhabits Europe. The cere and legs are yellow, body above browniſh-black; and the head, whitiſh; tail forked. Gmel. This is a kind of kite, and is ſomewhat ſmaller than the common ſpecies, [illegible]. Buff. calls it milvus niger; [illegible] noir; and Cramer, braunermaldygeyer. It is alſo the black gled of Sibbald, and black kite of Latham.

ATER, a ſpecies of PSITTACUS, of a black colour, gloſſed with green, with bill and eyes red, and yellow legs. This is the black maccaw of Engliſh writers; ara noir of Buff.; and ararauna ou machao of de Laët, &c. It lives about the ſummits of the dry mountains and rocky places in the interior parts of Guiana, and in that reſpect differs from the other kinds of maccaws found in that country. Buffon ſpeaks of it as a ſpecies well known to the inhabitants of Guiana, but had never ſeen it; and obſerves, that though the plumage is black, it is ſo blended with green, that in the ſunſhine it has a moſt ſplendid appearance.

ATER, the Gmelinian ſpecific name of the creſted black cuckow of Latham; a kind of CUCULUS, with a wedge-formed tail; body ſhining, black; feathers of the head elongated into a creſt; and the firſt five quill-feathers white at the baſe. This bird is a native of Africa, being found at the cape of Good Hope, and it is conjectured may be only a variety of cuculus ſerratus.

The length of this kind is twelve inches; the bill an inch and a quarter in length, and rather incurvated. Buffon ſays in his ſpecimen, the tail feathers are not regularly cuneated. The ſame author ſuppoſes his Jacobin huppé de Coromandel, or Coromandel creſted cuckow, to vary only through the difference of climate.

ATER, a ſpecies of PARUS, that inhabits the woods of Europe and North America, and is known in England by the name of the colemouſe. The head is black; back cinereous; back of the head and breaſt white. Gmel. &c. The bill and chin of this bird is black; vent, reddiſh; quill and tail feathers browniſh-aſh; legs and claws lead-coloured.

ATER, a ſpecies of PARUS, called in England the Colemouſe. It is ſmaller than the blue titmouſe, and is pretty common in woods, orchards, and gardens; feeds on inſects, and lays a number of eggs. This bird is found throughout Europe, and inhabits likewiſe Siberia, and ſome parts of North America. Linnæus (Fn. Suec.) deſcribes it ſpecifically as having the head black; back cinereous; hind-part of the head and breaſt white. Scop. Cram. Gmel. &c. This is parus atricapillus, la meſange à tête noire of Briſſon. av. et la petite charbonniere of Buffon; Friſch calls it kohlmeiſe.—General deſcription. Length four inches; weight two drachms; bill black; throat, as well as the head, of the ſame colour; from the bill, on each ſide, a broad band of white paſſing juſt under the eye to the ſides of the neck; between the breaſt and vent, rufous white; wing-coverts grey, tipped with white, forming two bands of that colour; quill and tail feathers browniſh-aſh, bordered with gray; tail rather forked; legs and claws lead colour.

ATERGATIS or ATARGATIS, called alſo *Derceto*, in

Mythology, a goddeſs of the Syrians, ſuppoſed to be the mother of Semiramis. She was repreſented with the face and breaſts of a woman, but the reſt of her body reſembled a fiſh. Voſſius ſays the term ſignifies *without fish*, and conjectures that the votaries of this deity abſtained from fiſh. According to Antipater, the ſtoic philoſopher of Tarſus, in his treatiſe on ſuperſtition, Atergatis is compounded of ἀτὰρ, *without*, and *Gatis*, the name of a Syrian queen, who being very fond of fiſh, forbad the uſe of it to her ſubjects; and the Syrians, it is ſaid, did not eat fiſh. Fabulous report ſays, that Atergatis was taken with her ſon Ichthys, by Mopſus king of Lydia, who drowned them both in a lake near Aſcalon, where they were devoured by fiſhes; and hence, it is added, proceeded the horror of the Syrians againſt this ſort of aliment. Atergatis, ſtyled Dercetus, ſays Bryant (Anal. An. Myth. vol. ii. p. 298.), is a compound of *Ater* or *Athar*, the ſame as On and Oſiris, an Egyptian deity, and of *gatus* or *catus*, rendered κῆτος by the Ionians, a fiſh. Dagon, Sidon, and Dercetus, were all names of the ſame hieroglyphic, and related to the perſon called Oanes by Beroſus and others, and alſo to the machine wherein he was preſerved. He lived both before and after the flood; he was repreſented at Babylon with two heads; and in other places he was differently exhibited. The meaning of which, according to this writer, was this, that though Oanes was really a man, yet he was typically eſteemed an animal of the ſea; and on that account they repreſented him with the ſkin and ſcales of a cetus or fiſh. All theſe characters were originally taken from hieroglyphics in Babylonia; they relate to the ſame hiſtory, and to one particular perſon who had eſcaped the waters when the earth was overflowed; and through whom arts and ſciences were ſuppoſed to have been renewed in the world. Semiramis, whom the generality of hiſtorians have repreſented as a great princeſs who reigned in Babylon, is deſcribed by other writers as a deity. Thus Athenagoras (Legatio, p. 307.) ſays, that "the Syrians worſhip Semiramis;" and he adds, "that ſhe was eſteemed the daughter of Dercetus, and the ſame as the Suria Dea." Diodorus alſo, (l. ii. p. 92.) makes her the daughter of Dercetus by Surus; but Surus, ſays Bryant, was the ſun, and the Dea Suria, was Dea ſolaris. Hence, many have conſidered Rhea, Iſis, Aſtarte, Atergatis, and Semiramis, as one deity. Lucian, (De Suria Dea, vol. ii. p. 885.) tells us, that they were ſo eſteemed by the Syrians of Hieropolis. According to Bryant, they were all different ſymbols relating to the ſame object. See SEMIRAMIS. It has been alſo ſuppoſed, that the Atergatis, or Derceto, of the proper Paleſtine in general, or of Aſcalon in particular, was the Babylonian or Aſſyrian Venus. To this purpoſe Strabo (l. xvi. p. 748.) ſays, that Atergatis was worſhipped at Hierapolis, and he makes her the ſame with the Syrian goddeſs. Others are of the ſame opinion (Plin. H. N. l. v. c. 23.); and among them Macrobius (in Saturn. i. c. 23.), who ſtyles her the mother of the gods, Aſtarte, and the Hierapolitan or Aſſyrian goddeſs. Upon the whole, we may obſerve, that Atergatis was Venus, Juno, Minerva, Aſtarte the Syrian goddeſs, and conſequently the celeſtial Venus of the Aſſyrians. So that we ſee her the ſame goddeſs tranſported from the banks of the Euphrates, into which ſhe is ſaid firſt to have plunged herſelf, in order to eſcape the inexorable Typhon (Man. Aſtron. iv.); and but juſt varied ſo far as to leave room for each particular country to claim her origin. The Syrians, who ſeem to have received her firſt, and who were neareſt to the place of her native abode, preſerved her, it is likely, in the moſt genuine form; the Phœnicians, who were next, altered her no farther than to make her a Phœnician; and the Philiſtines, or Aſcalonites, who were a little farther off that they too might make her their own, converted her into a monſter, woman upwards and fiſh downwards; they allowing her to have been in ſubordination to ſome other goddeſs, who had ſuch power over it as to chaſtiſe her by a metamorphoſis from her juſt ſhape. It appears, then, that the worſhip paid to this goddeſs was originally derived from Aſſyria and Babylonia, and was eſtabliſhed in other countries by the prevailing power of theſe two empires. We may alſo conclude, that the celeſtial Venus of the Aſſyrians, Aſtarte of the Phœnicians, and the Derceto or Atargatis of the later Philiſtines, were all derived from Semiramis, the firſt real or reputed foundreſs of Babylon; who ſeems to have been tranſlated into the queen of heaven the moon, as Belus or Pul, the firſt Aſſyrian monarch, was changed into the ſun; that all the Jupiters and Junos, and the reſt who are ſuppoſed to have been once mortal, or converſant on earth, are derived from this ſource; and that, on this Aſſyrian or Babylonian foundation, the whole ſuperſtructure of the Greek polytheiſm and idolatry was erected. For the Greeks had their religion from the Phœnicians partly, and partly from the Egyptians, who derived theirs originally from the banks of the Euphrates and Tigris, as may be gathered from the religious ſtate of the countries on either ſide of the Euphrates in the days of Abraham. The Egyptians, indeed, began in proceſs of time to have erected a ſyſtem of their own, though not very widely different from the Babylonians; and the Phœnicians, who had equally communication with the two nations, ſeem to have mixed both ſyſtems. See IDOLATRY, and POLYTHEISM.

ATERION, in *Ancient Geography*, a town of Sicily. Steph. Byz.

ATERIUS, a town of Italy, in Samnium, belonging to the Marrucini, ſituate on the ſea coaſt at the mouth of a river of the ſame name, now called *Peſcara*.

ATERRIMA, in *Conchology*, a ſpecies of NERITA, figured by Chemnitz. The ſhell is thick, opake, globoſe, very black, with coloured lines; within white; exterior lip glabrous, inner one tuberculated. Gmel. &c. This kind is very minutely ſtriated, and its habitat unknown.

ATERRIMA, in *Entomology*, a ſpecies of BLATTA, of a black colour, and deſtitute of ſpots; the tarſi of the legs are white, knees brown, ſhanks ſpinous. Herbſt. This inhabits India.

ATERRIMA, a new Britiſh ſpecies of CHRYSOMELA, deſcribed by M. Marſham, Ent. Brit. It is black and ſhining; thorax highly gloſſy; wing-caſes ſtriated; legs rather ferruginous.

ATERRIMUS, a ſpecies of CURCULIO, very common in Europe. This is black, with the wing-caſes ſhining. Linn. Fn. Sv. Fabr. &c. Gmelin has alſo another ſpecies of Curculio under the ſame name; this is of an oblong form, and black colour, with rufous antennæ. It inhabits Europe, and it is preſumed may be only a variety of Curculio chloropus.

ATERRIMUS, a ſpecies of CARABUS, entirely of ſhining black, with a roundiſh thorax; wing-caſes faintly ſtriated, with four excavated dots near the future. Herbſt. About half an inch in length.

ATERRIMUS, a ſpecies of ELATER, found in the north of Europe. The thorax is gloſſy black; wing-caſes black and ſtriated. Fabr. This is elater ater, thorace opaco punctato elytris ſtriatis of Linn. Faun. Succ.; and elater totus niger nitidus of Geoffroy.

ATERRIMUS, a ſpecies of CIMEX, (*Rotundatus* Sec.) that inhabits Spain. This inſect is deep black, with half the wing-caſes tranſparent. Forſt. Nov. Inſ.

ATERRIMUS,

ATERRIMUS, a ſpecies of SCARABÆUS (*Cerambyx*). It is of a dull black, with obſcure rufous ſpots on the wing-caſes. Fabricius. It inhabits the cape of Good Hope.

ATERRIMUS, in *Ornithology*, the ſpecific name of the great black Cockatoo of New Holland, a bird of a black colour, with a large and pale erect, and red naked cheeks. Gmel. This kind of Plittacus is called by Buffon kakatoës noir; and is the great black Cockatoo of Edwards, Glan. t. 326.

ATESTE, ESTE, in *Ancient Geography*, a Roman colony ſettled to the ſouth-weſt of Patavium in the Venetian territory.

ATFIEH, or ETFIEH, in *Geography*, a bunch of Egypt, on the eaſt coaſt of the Nile, 35 miles ſouth of Cairo. It is ſituated at the foot of a mountain, upon a narrow canal, formed by a pretty large inland. Some geographers have ſuppoſed that this town or village occupies the ſite of the ancient city of Venus, or *Aphroditopolis*. N. lat. 29° 28′. E. long. 31° 8′.

ATFIELD, EDWARD, in *Biography*, ſtudied at New College Oxford, where he took his degree of Doctor in Medicine in 1576, and was in much repute as a phyſician, particularly among thoſe of the Romiſh perſuaſion. He was impriſoned ſeveral months, Ant. Wood ſays, for correſponding with Mary queen of Scotland. The time of his death is not known.

ATH, ATHA, or ATHE, among our *Anglo-Saxon Anceſtors*, ſignifies an *oath*, eſpecially that taken by way of purgation. In this ſenſe we meet with breaking of *ath*, privilege of *ath*, *atha*, and *ordela*.

ATH, in *Geography*. See AETH.

ATHABASCA, RIVER, LAKE, and COUNTRY, lie in the north-weſt part of North-America, in about N. lat. 58° 40′. and W. long. 111° 40′. The ELK river is commonly called by the white people the Athabaſca river, in N. lat. 56° 42′. In the territory that lies between the Peace river and the lake of the hills, as far as the Elk river which is formed by the quantity of earth and mud that is carried down by the ſtream of theſe two great rivers, there are ſeveral lakes; the lake Clear Water, which is the deepeſt, lake Vaſſieu, and the Athabaſca lake, which is the largeſt of the three, and whoſe denomination in the Kniſtineaux language implies a flat, low, ſwampy country, ſubject to inundations. The two laſt lakes are now ſo ſhallow, that, from the cauſe juſt mentioned, there is every reaſon to expect, that in a few years they will have exchanged their character, and become extenſive foreſts. This country is ſo level, that at ſome ſeaſons it is entirely overflowed; and this circumſtance accounts for the periodical influx and reflux of the waters between the Lake of the Hills and the Peace river. Till the year 1782, the people of Athabaſca ſent or carried their furs regularly to Fort Churchill, Hudſon's Bay; and ſome of them have ſince that time repaired thither. The preſent trading eſtabliſhment is ſituated on an high bank on the north ſide of the river La Pluie, in N. lat. 48° 37′, where the people from Montreal meet thoſe from the Athabaſca country, and exchange lading with them. The traffic to fort Churchill is now in a great meaſure diſcontinued, as the Chepewyans were obliged to expend in the courſe of their journey that ammunition which was its moſt alluring object. See CHEPEWYAN. Mackenzie's Voyages, Introd. p. 56—91.

ATHABASCA is by ſome called ARATHAPESCOW, and ATHAPISCOW, and ATHAPUSCOW.

ATHABOLI, or AGATOPOLI, a town of European Turkey, in the province of Romania, 68 miles north-weſt of Adrianople.

ATHAMADULET, or ATHEMADAULET, the prime or chief miniſter in the Perſian empire.

The athamadulet is much the ſame with the grand viſier in Turkey, except that he has not the command of the army, which the viſier has.

The athamadulet is great chancellor of the kingdom, preſident of the council, ſuperintendent of the finances; and has the charge of all foreign affairs. He is a kind of viceroy or adminiſtrator of the kingdom: he ſends the king's mandates, or orders, in this ſtile; "Bendeh kemter atemadaulet," that is, "I, who am the ſupport of the power, the creature of this port, the higheſt of all ports, &c."

ATHAMANIA, in *Ancient Geography*, a country of Greece, at the ſource of the river Achelous, in Ætolia, according to Pliny; but in Illyria, according to Steph. Byz. Some have made it a part of Theſſaly, and others of Epirus. According to Ptolemy, it was divided from Epirus by the bay of Ambracia; and according to Strabo, from Ætolia, by the river Achelous. M. D'Anville places Athamania between the chain of the Pindus to the eaſt, and a ſmall lake to the weſt. In the midſt of this valley ran the river Avas. To the ſouth of this country were the Moloſſi and Aperantes, to the eaſt the Perrhœbi, and its capital was Argythæa. At their commencement the Athamanians were a very inconſiderable people; but they appeared with diſtinction in the wars of the Romans and Ætolians againſt Macedonia, towards the year 197, B. C. Livy relates that the Ætolians choſe Amïnander, king of the Athamanians, for their mediator in their conteſts with Philip, and that the Romans ſolicited his ſuccour againſt this ſame Philip. Their dominion extended over the whole chain of the mountains of Epirus; and they ſeem to have ſubſiſted at leaſt a century before the war of Troy.

ATHAMANTA, in *Botany* (named from Athamas in Theſſaly). Lin. Gen. 338. Schreb. 471. Juſſ. 223. Oreoſelinum, Tournef. Claſs, *pentandria digynia*. Nat. Order of *umbellatæ*. Generic Char. *Cal.* umbel univerſal, manifold, ſpreading; partial has fewer rays; involucre univerſal, many-leaved, linear, a little ſhorter than the rays; partial linear, equal with the rays; perianth proper, obſcure. *Cor.* univerſal, uniform; floſcules all fertile; proper with five petals, inflex-emarginate, a little unequal. *Stam.* filaments five, capillary, the length of the corolla; anthers roundiſh. *Piſt.* germ inferior; ſtyles two, diſtant; ſtigmas obtuſe. *Per.* none; fruit ovate-oblong, ſtriated, bipartile. *Seeds*, two, ovate, convex on one ſide, ſtriated; on the other flat.

Eſſ. Gen. Char. Fruit ovate-oblong, ſtriated. *Pet.* inflex, emarginate.

Species, 1. A. *Libanotis*, mountain ſpignel, or ſtone-parſley. With. Smith. Brit. Relh. Cantab. f. 113. Eng. Bot. 138. A. Oreoſel. Hudſ. "Leaves bipinnate, flat; umbel hemiſpherical; ſeeds hirſute." Root perennial, ſpindle-ſhaped, woody; ſtem about two feet high, erect, rather branched, ſmooth, angular and furrowed, leafy; leaves bipinnate, alternate; leaflets ſeſſile, oppoſite, pinnatifid, flat, acute, veined, pale on the under ſide, a little hirſute; petioles dilated at the baſe with a membranous margin; umbels erect, hemiſpherical, cloſe, and ſometimes proliferous; involucres and involucels patent-deflex, beſet with hairy leaves; flowers white, ſmall, uniform, and regular; fruit pubeſcent; ſtyles perſiſtent, purple, divaricate. It grows on Gogmagog hills, Cambridgeſhire, and flowers in Auguſt. It is common in many parts of Sweden, Denmark, &c. 2. A. *ſilvatica*, broad-leaved ſpignel, or black hart-root. Jacq.

Auſt. r. t. 69. "Leaves pinnate, decuſſated, gaſh-angled; ſeeds naked." Root perennial; ſtem five feet high, firm branching; leaves glaucous, ſmooth, with black veins underneath, and ſix pairs of pinnas. Moſt of the leaves are ſeſſile, elliptical, acuminate, toothed; corolla white, with a purple outſide. A native of the mountains of France, Switzerland, Germany, &c. 3. A. *ſibiricus*, Siberian ſpignel. Gmel. Sib. 1. 169. n. 3. t. 48. f. 1, 2. "Leaves pinnate, gaſh-angled." The deſcriptions of this plant by Linnæus, Gouan, and Scopoli, are ſo widely different, that we cannot ſuppoſe they mean the ſame plant. 4. A. *condenſata*, cloſe-headed ſpignel. "Leaves ſubbipinnate; leaflets imbricate downwards; umbel lens-form." Root perennial; ſtem ſimple, a foot high, angular, furrowed; leaflets alternately pinnatifid; umbel very cloſe, convex on both ſides, placed on branches ariſing at the axils. A native of Siberia. Introduced in 1773, by the earl of Bute. 5. A. *Oreoſelinum*, Divaricated ſpignel; "leaflets divaricate." Root perennial; leaves very large, firm, ſmooth, triply pinnate, divided at right and even obtuſe angles; diviſions broadiſh, not toothed, but two or three lobed; ſtem two feet high; petals white, with a bluſh of roſe colour. A native of Germany, Sweden, France, &c. 6. A. *ſicula*, ſlix-weed-leaved ſpignel. "Lower leaves ſhining, primordial umbels ſubſeſſile; ſeeds hairy." Root perennial; ſtems nearly three feet high. The umbels at their firſt appearance are very compact, but afterwards ſpread open and divide into ſeveral ſmall umbels. The flowers are white, and ſucceded by oblong woolly fruit. A native of Sicily. Cultivated in England in 1713. 7. A. *cretenſis*, Cretan ſpignel or candy carrot, Jacq. Auſt. 1. 62. "Leaflets linear, flat, hirſute; petals two-parted; ſeeds oblong, hirſute." The whole plant in its wild ſtate is villoſe; when cultivated it becomes ſucculent, brittle, and very ſhining; ſtem ſtreaked; leaves tripinnate; pinnules deeply two or three-parted. The univerſal involucre conſiſts of five, the partial of from four to ſeven leaflets; petals white. A native of the ſouth of Europe, flowering in June. The ſeeds have been medicinally employed for the ſame purpoſes as thoſe of wild carrot (ſee DAUCUS). 8. A. *annua*, annual ſpignel. "Leaves many-parted, diviſions linear, roundiſh, acuminate." It is a native of Candia or Crete, and was introduced in 1770, by Monſ. Richard. 9. A. *chinenſis*. "Seeds membranaceous, ſtriated; leaves ſuperdecompound, poliſhed, multifid." Stem angular, ſmooth; leaves like thoſe of chærophyllum, and ſmooth; umbel not much expanded. A native of China. 10. A. *rupeſtris*, Villars Dauph. 2. 648. "Leaflets briſtle-ſhaped, recurved, ſmooth; all the flowers fertile." Stem eighteen inches high; branching finely ſtreaked; leaves bipinnate; univerſal involucre two, partial many-leaved: petals white; ſeeds downy. A native of Carniola and Dauphiné. Villars ſuppoſes this to be a variety of the ſeventh ſpecies.

Propagation and Culture. All theſe plants are propagated by ſeeds, which ſhould be ſown in a bed of light dry ground in autumn, and in the following autumn planted at a foot diſtance in a bed of light ſandy earth, where the roots will continue ſeveral years, except the eighth ſpecies, which is an annual. The ninth has not yet been cultivated in England, and will probably require ſhelter.

ATHAMANTA *Meum*. See ÆTHUSA *Meum*.

ATHAMAS, in *Entomology*, the name given to a ſpecies of PAPILIO in Drury's Inſ. that inhabits India and South America. It is PAPILIO *Pyrrhus* of Linnæus and Fabricius. See PYRRHUS.

ATHAMAS, in *Ancient Geography*, a mountain of Greece, in Theſſaly. Pliny.—Alſo, a plain of Bœotia, between Acrephnia and the lake Cephiſſus. Pauſan. l. ix. Bœotic. c. 24.

ATHANÆ, a town of Arabia Felix. Pliny.

ATHANAGIA, a town of Hiſpania citerior, and the capital of the Ilergeti, according to Livy, who relates the manner in which this town was ſubdued by Scipio.

ATHANASIA, among the *Ancient Phyſicians*, an epithet given to a kind of antidotes ſuppoſed to have the power of prolonging life, even to immortality.

In the Auguſtan diſpenſatory we ſtill find a medicine under the appellation of *athanaſia magna*, commended againſt dyſenteries and hæmorrhages.

ATHANASIA, in *Botany*. Lin. g. 943. Schreb. 1279. Juſſ. 185. Gærtn. t. 165. Claſs, *ſyngeneſia polygamia æqualis*. Nat. Order, *compoſitæ diſcoideæ*. Gen. Char. *Cal.* common, imbricate, ovate; ſcales lanceolate, preſſed cloſe. *Cor.* compound, uniform, longer than the calyx; corollules hermaphrodite, equal, numerous; proper funnel-form; border five-cleft, acute, erectiſh. *Stam.* filaments five, capillary, ſhort; anthers cylindric, tubular. *Piſt.* germ oblongiſh; ſtyle filiform, a little longer than the ſtamens; ſtigma biſid, obtuſe. *Per.* none; calyx unchanged. *Seeds*, ſolitary, oblong; down chaffy, of very ſhort briſtles. *Rec.* chaffy; chaffs lanceolate, longer than the ſeed.

Eſſ. Gen. Char. *Cal.* imbricate; down chaffy, very ſhort; recept. chaffy.

Species, 1. A. *ſquarroſa*, croſs-leaved athanaſia, relhania ſquarroſa, L'Herit. Angl. n. 1. t. 29. "Peduncles one-flowered, lateral; leaves ovate, recurved." An underſhrub. Leaves alternate, ſeſſile, pointed, ſmooth; peduncles axillary, longer than the leaves; chaffs linear, the length of the florets. Introduced in 1774, by Maſſon. 2. A. *ſeſſiliflora*, ſeſſile-flowered athanaſia, Rel. lateriflora, L'Herit. 60. "Peduncles one flowered, ſhorter than the leaf; leaves linear, hairy." A very ſmall plant, found at the Cape by Thunberg. 3. A. *pumila*, dwarf athanaſia; Relh. pedunculata, L'Herit. l. c. "Peduncles one flowered, longer than the leaf; leaves linear, hairy." This is alſo a ſmall cape plant, diſcovered by Thunberg. 4. A. *crenata*, notch-leaved athanaſia; "flowers ſolitary, terminal; leaves linear." Stem ſhrubby; leaves alternate, obſcurely three-cornered; one terminal flower. 5. A. *uniflora*, one-flowered athanaſia; Relh. cuneata, L'Herit. l. c. "Flowers ſolitary, terminal, ſeſſile; leaves obovate, imbricate, ſmooth." A native of the Cape, diſcovered by Thunberg. 6. A. *capitata*, hairy athanaſia; "flowers terminal, ſubſeſſile; leaves lanceolate, hirſute." This has the appearance of buphthalmum capenſe, but the leaves are alternate; the flowers are diſcoid and floſculoſe. A native of the Cape, and introduced in 1774, by Maſſon. 7. A. *maritima*. (See SANTOLINA *Maritima*.) 8. A. *geniſtifolia*, broom-leaved athanaſia; Rel. geniſt. L'Herit. 60. "Corymbs ſimple; leaves lanceolate, undivided, naked, crowded." Stem underſhrubby; leaves ſeſſile, marked with very ſhort lines, ſmooth, ſomewhat keeled, bluntiſh; corymbs ſmall, with three or four ſubſeſſile flowers. 9. A. *pubeſcens*, villoſe-leaved athanaſia; "corymbs ſimple; leaves lanceolate, undivided, villoſe." This riſes ſix or ſeven feet high. Flowers yellow. 10. A. *annua*, annual athanaſia; "corymbs ſimple, contracted; leaves pinnatifid, toothed." Root annual; ſtem about nine inches high, branched at the top; leaves ſmooth, cut into ſegments like thoſe of buck's horn plantain; flowers of a bright yellow, large. Cultivated by Miller in 1768. (*β.*) Achillea inodora, Lin. Sp. Pl. 11. A. *trifurcata*, trifid-leaved athanaſia; "corymbs ſimple; leaves three-lobed, cuneiform." Shrubby; five or ſix feet high; leaves

leaves flat, glaucous, cut at the extremity into three ſegments; flowers of a bright yellow colour. Cultivated here in 1714. 12. A. *crithmifolia*, ſamphire-leaved athanaſia; ſantolina, Mill. fig. t. 227. f. 2. "Corymbs ſimple; leaves ſemitrifid, linear," divided, more than half their length into three or five narrow ſegments; flowers yellow. Cultivated in 1726 by Miller. 13. A. *linifolia*, flax-leaved athanaſia; "corymb ſimple; leaves linear." Stem round, ſmooth, like that of flax; leaves alternate, perfectly ſimple, linear, or ſubulate, flowers in a terminal corymb ovate and ſmooth. Found at the Cape by Maſſon, and introdueed in 1774. 14. A. *dentata*, tooth-leaved athanaſia. (*β.*) A. lævigata, Lin. Spec. 1181. "Corymbs compound; leaves recurved, the lower linear, toothed, the upper ovate-ſerrate." Shrubby, three feet high, with pale yellow flowers. Introduced in 1780, by the countefs of Strathmore. 15. A. *paruiflora*, ſmall-flowered athanaſia; tanacetum crithmifol. Lin. Spec. 1182. Mill. Dict. N° 6. "Corymbs compound; leaves pinnate, linear." Stem thick, ſhrubby, ſeven or eight feet high. The leaves ſit cloſe to the branches, which are terminated by roundiſh bunches of bright yellow flowers. It was introduced in 1774 by Maſſon. 16. A. *pinnata*. "Corymbs denſe, compound; leaves pinnate, linear, tomentoſe." Stem proliferous, ſhrubby, tomentoſe; leaves crowded with five or ſeven pinnas; calyxes villoſe. 17. A. *pectinata*. "Corymb compound; leaves pinnate, ſmooth." Found at the Cape by Thunberg. 18. A. *dentata*. "Corymb compound; leaves lanceolate toothed, ſerrate." Found at the Cape by Thunberg. This differs from the 14th, though it has the ſame name. 19. A. *filiformis*. "Corymb compound; leaves linear, ſmooth, ſpreading." This alſo was diſcovered at the Cape by Thunberg. 20. A. *cinerea*, lavender-leaved athanaſia. "Corymb compound; leaves linear, tomentoſe, entire." Introduced by Maſſon in 1774. All the above ſpecies are natives of the cape of Good Hope, except the ſeventh, and they are all perennial except the tenth.

Propagation and Culture. Theſe plants, with the exception of the annual ſort only, may be propagated by cuttings or ſlips during the ſummer months, and planted in pots or upon an old hot-bed cloſely covered with glaſſes, ſhading them during the heat of the day, and occaſionally refreſhing them with water; they will put out roots in five or ſix weeks, and in two months they may be taken up and planted in pots filled with light earth, and placed in a ſhady ſituation until they have taken new root. After this they ſhould be removed to a ſheltered ſituation, mixing them with other exotic plants, where they may remain to the middle or end of October, when they are to be placed in a dry ſtove or glaſs caſe, where they are to be allowed as much free air as poſſible, but ſecured from froſt. The annual ſpecies is to be propagated by ſeeds ſown on a moderate hot-bed the latter end of March, and as ſoon as they are advanced enough to remove, they ſhould be tranſplanted to another gentle hot-bed, at the diſtance of three inches from each other, obſerving to ſhade them till they have taken new root. About the end of May they will be ſtrong enough to be tranſplanted into the open air, and ſome may be planted in pots to place among other exotics. The Britiſh ſpecies ſhould be protected from the cold in ſevere winters. See Martyn's Miller's Dict.

ATHANASIAN Creed. See Creed.

ATHANASIUS, Saint, *in Biography*, a celebrated Chriſtian biſhop, flouriſhed in the fourth century, and was a native of Egypt, probably of Alexandria. Hiſtory has tranſmitted to us no records of his parentage, nor of the preciſe time and place of his birth. The attention of his early years ſeems to have been principally devoted to theology; and having engaged in the ſervice of the church, he was ordained a deacon by Alexander, biſhop of Alexandria, whom he ſerved as ſecretary, and accompanied to the council of Nice, and whom he ſucceeded in the year 326, in conſequence of his ſpecial nomination, and by the general ſuffrage of the people. At this time he was probably about 30 years of age, for he ſpeaks of the perſecution of Maximin as an event which he had been informed of by his fathers, and he lived 46 years after his epiſcopal ordination. Having diſtinguiſhed himſelf at the Nicene council, though then only a deacon, by a violent ſpeech againſt Arius, he was no ſooner advanced to the prelacy than he became a more zealous and powerful advocate in the cauſe of the Catholics againſt the Arians. Not content with reviling them and their opinions in the moſt opprobrious terms (ſee Arians), he employed his talents and influence in reſtraining and ſuppreſſing them. The Arians, on the other hand, were equally aſſiduous and active in counteracting the hoſtile efforts of the orthodox prelate, in reproaching his character, and in ſubverting his epiſcopal authority. As Athanaſius could be induced, neither by the requiſition of the emperor Conſtantine, nor by the menaces of Euſebius biſhop of Nicomedia, to acquieſce in the re-admiſſion of Arius to the communion of the catholic church, from which he had been excluded, the friends of the latter uſed all the means they could deviſe for diſgracing and removing their adverſary. Accordingly, in the year 331, they brought ſeveral accuſations againſt him before the emperor. The prelate, after much heſitation and reluctance, was at length obliged to obey the emperor's peremptory commands, and to appear before a council of 60 biſhops ſummoned at Tyre, in 335. Some of the charges that had been alleged againſt him were ſatisfactorily confuted; but others were confirmed. During the progreſs of the inquiry and trial, ſome members of the ſynod received Arius into communion at Jeruſalem; and Athanaſius himſelf ſeized an opportunity that occurred of ſailing for Conſtantinople, to intreat an audience of the emperor. In conſequence of this audience, the members of the council were ſummoned to appear before Conſtantine, that the cauſe might be fairly examined; but when they arrived, inſtead of renewing their former accuſations, they produced a new charge, alleging that Athanaſius had attempted to detain at Alexandria the ſhips which ſupplied Conſtantinople with corn, of which they were then in want. Upon this the emperor, from reſentment, conviction, or policy, conſented to his degradation; and the council pronounced againſt him a ſentence of depoſition and baniſhment. The place of his exile was Treves in Gaul; and here he remained, according to the moſt probable account, about 18 months. Upon the death of Conſtantine, Athanaſius was reſtored by an honourable edict of Conſtantius to his country and to his epiſcopal ſee. This proceeding was repreſented by the Arians as an offence againſt ſynodical authority; and a council of 90 biſhops was held at Antioch in 341, by whom the former depoſition of Athanaſius was confirmed, and Gregory of Cappadocia, one of their own party, placed in the ſee of Alexandria. The young emperor confirmed the nomination, and Athanaſius was conſtrained to fly for protection and ſupport to Julius, biſhop of Rome. At the end of three years he was ſent to Milan by the emperor Conſtans, who was diſpoſed to favour the Catholic party. A new council was appointed to be held at Sardica in Illyricum in the year 347, to ſettle the ſubjects in diſpute. The eaſtern and weſtern biſhops diſagreed and ſeparated; the latter, who were the partiſans of Athanaſius, remained at Sardica; and the former aſſembled at Philippopolis in

party regarded him as a faint; and the other repreſented him as a wicked diſturber of the peace of the church. Conſtans, however, was intent upon reſtoring him, and peremptorily demanded it of his brother Conſtantius, threatening him with war in caſe of non-compliance. Conſtantius ſubmitted, and ſolicited the return of the exiled prelate to take poſſeſſion of the Alexandrian ſee, which was now become vacant by the death of Gregory. The biſhop's zeal for the Catholic doctrine of the trinity was not in the leaſt abated by all the reverſes of his condition; for in his progreſs through the various cities that lay in his way to Alexandria, he admoniſhed the people to avoid the Arians, and to admit into their communion none but thoſe who adopted in their creed the word "conſubſtantial." In the year 350, he arrived at Alexandria, and was welcomed by his old friends and adherents with every expreſſion of joy; and from this time he enjoyed a ſhort interval of repoſe. The death of the emperor Conſtans, and of pope Julius, to whom he was chiefly indebted for his reſtoration, threatened him with new dangers. Conſtantius was his determined enemy, and he ſummoned a general council at Arles, in the year 353; and in this council the Arian party prevailed, and all the biſhops preſent, with one exception, ſigned the condemnation of Athanaſius. As Liberius, the ſucceſſor of pope Julius, was diſſatisfied with the proceedings of this council, another was held at Milan in the year 355. Here the emperor exerciſed his utmoſt influence, and at length a majority of 300 biſhops concurred in the condemnation of Athanaſius, and thoſe who refuſed were exiled by the authority of the emperor. The ſentence of theſe councils, however, was cautiouſly executed by Conſtantius. The prelate was perſuaded voluntarily to abdicate his ſee; but he remained inflexible, notwithſtanding all the meaſures that were uſed for this purpoſe. During this ſuſpence, a body of ſoldiers appeared in the midſt of Alexandria, and at midnight they inveſted the church in which the biſhop and his attendants were performing their devotions preparatory for the communion. In this moment of confuſion and terror, the prelate remained firm and intrepid, calmly expecting death, and animating the piety of his flock by ordering a pſalm of praiſe to be ſung. At length the congregation diſperſed, and the biſhop was conveyed through the tumultuous crowd to a place of ſafety. The ſee of Alexandria was beſtowed by the emperor upon George of Cappadocia, a ſtrenuous ſupporter of the Arian cauſe; and Athanaſius was proſcribed, with the promiſe of a large reward to any one who ſhould produce him dead or alive. The perſecuted prelate diſappeared, and remained for ſix years in impenetrable obſcurity. The place of his retreat was the deſert of Thebais; and among monks or hermits anxious to preſerve him from the ſearch of his enemies, he found an unmoleſted aſylum. From this recluſe abode he is ſaid to have ſometimes extended his excurſions in diſguiſe to viſit his confidential friends at Alexandria. Hence he alſo addreſſed his enemies with invectives, and his friends with conſolatory admonitions by his writings. The acceſſion of Julian, who ſucceeded Conſtantius in 361, and the death of George, biſhop of Alexandria, who was in the ſame year killed in a tumult, opened the way for a third return of Athanaſius to the ſee of Alexandria. With unabated zeal for the Catholic faith, and particularly for the doctrine of the trinity, he ſummoned a council at Alexandria, at which it was determined, that Arian biſhops, who recanted their errors, and ſigned the Nicene creed, might be admitted to the communion of the church, and reſtored to their ſees. However, Athanaſius's repoſe and influence were of ſhort duration. The emperor Julian regarded him with peculiar averſion; and in order to avoid the threatened tokens of his diſpleaſure, the prelate was obliged again to ſeek an aſylum in the receſſes of the deſert. Whilſt with this view he was ſailing up the Nile, his enemies followed him; but as ſoon as the prelate was informed that they had orders to apprehend him, and knowing that he muſt ſoon be overtaken, he inſtructed the mariners to turn about the boat and meet his purſuers. Having no ſuſpicion that Athanaſius was on board, they proſecuted their voyage, and the prelate eſcaped to Alexandria, and concealed himſelf till the death of Julian in the year 363. Upon the acceſſion of Jovian, Athanaſius once more reſumed his epiſcopal function, and under the patronage of the emperor, the Nicene creed became the general formulary of the churches. After the ſhort reign of Jovian, Valens ſucceeded to the eaſtern diviſion of the empire; and as he had adopted Arian principles, he iſſued edicts for baniſhing the biſhops who had regained their ſees under Jovian; and Athanaſius was again in the number of thoſe who were proſcribed. The efforts of his friends at Alexandria were exerted in his favour; but whilſt they were preparing to defend him by force, he thought it moſt prudent to retire; and on this occaſion, which has been denominated his fifth exile, he concealed himſelf for four months in the monument belonging to his family. The emperor relinquiſhed the conteſt; and the venerable prelate cloſed his days in tranquility in the 46th, or as ſome ſay in the 48th year of his prelacy, and in the year of Chriſt 373.

It is not eaſy to form a juſt eſtimate of the talents, learning, and character of Athanaſius, amidſt the adulation of his friends, and the reproaches of his enemies. "The immortal name of Athanaſius," ſays Mr. Gibbon, "will never be ſeparated from the Catholic doctrine of the trinity, to whoſe defence he conſecrated every moment and every faculty of his being."—"Amidſt the ſtorms of perſecution, he was patient of labour, jealous of fame, careleſs of ſafety; and though his mind was tainted by the contagion of fanaticiſm, Athanaſius diſplayed a ſuperiority of character and abilities which would have qualified him, far better than the degenerate ſons of Conſtantine, for the government of a great monarchy. His learning was much leſs profound and extenſive than that of Euſebius of Cæſarea, and his rude eloquence could not be compared with the poliſhed oratory of Gregory or Baſil; but whenever the primate of Egypt was called upon to juſtify his ſentiments or his conduct, his unpremeditated ſtyle, either of ſpeaking or of writing, was clear, forcible, and perſuaſive. He has always been received in the orthodox ſchool as one of the moſt accurate maſters of the Chriſtian theology; and he was ſuppoſed to poſſeſs two profane ſciences leſs adapted to the epiſcopal character, the knowledge of juriſprudence, and that of divination. Some fortunate conjectures of future events, which impartial reaſoners might aſcribe to the experience and judgment of Athanaſius, were attributed by his friends to heavenly inſpiration, and imputed by his enemies to infernal magic. But as Athanaſius was continually engaged with the prejudices and paſſions of every order of men from the monk to the emperor, the knowledge of human nature was his firſt and moſt important ſcience."—"Athanaſius was capable of diſtinguiſhing how far he might boldly command, and where he muſt dexterouſly inſinuate, how long he might contend with power, and when he muſt withdraw from perſecution; and while he directed the thunders of the church againſt hereſy and rebellion, he could aſſume, in the boſom of his own party, the flexible and indulgent temper of a prudent leader. The election of Athanaſius has not eſcaped the reproach of irregularity and precipitation; but the propriety of

of his behaviour conciliated the affections both of the clergy and of the people. The Alexandrians were impatient to riſe in arms for the defence of an eloquent and liberal paſtor. In his diſtreſs he always derived ſupport, or at leaſt conſolation, from the faithful attachment of his parochial clergy; and the hundred biſhops of Egypt adhered with unanimous zeal to the cauſe of Athanaſius. In the modeſt equipage which pride and policy would affect, he frequently performed the epiſcopal viſitation of his provinces, from the mouth of the Nile to the confines of Ethiopia; familiarly converſing with the meaneſt of the populace, and humbly ſaluting the ſaints and hermits of the deſert. Nor was it only in eccleſiaſtical aſſemblies among men whoſe education and manners were ſimilar to his own, that Athanaſius diſplayed the aſcendancy of his genius; he appeared with eaſy and reſpectful firmneſs in the courts of princes; and on the various turns of his proſperous and adverſe fortune, he never loſt the confidence of his friends, or the eſteem of his enemies."

The works of Athanaſius were numerous, and conſiſted chiefly of apologies for himſelf, or invectives againſt his enemies, or controverſial treatiſes againſt Arianiſm. His ſtyle is clear, eaſy, and not deſtitute of dignity and ornament. In his reaſonings he is ſufficiently copious; and in his attacks upon the Arians more than ſufficiently acrimonious. The more valuable of his genuine writings are the firſt book "Againſt the Gentiles;" "Apologies;" "Letter to thoſe that lead a Monaſtic Life;" "Letters to Serapion;" "Two books on the Incarnation;" "Conference with the Arians;" "The life of St. Antony;" and "The abridgment of the Holy Scriptures." The latter of theſe pieces contains an enumeration of all the canonical books of the Old and New Teſtament, with a ſummary of their contents, and an account of their reſpective authors; and it treats particularly of the four goſpels. This "Abridgment or Synopſis of the Holy Scriptures" has been reckoned genuine by ſome; but it is ſuppoſed by others to have been falſely aſcribed to him, and in the Benedictine edition of his works, it is rejected. His "Feſtal or Paſchal Epiſtle," which is generally allowed to be genuine, contains ſeveral valuable teſtimonies in favour of the ſacred books now received as canonical. Dupin, and alſo Cave, have diſtinctly enumerated both the genuine and ſpurious works of Athanaſius. For an account of the creed that has been called Athanaſius's, ſee CREED. The works of Athanaſius were firſt printed only in a Latin tranſlation, and in an imperfect ſtate by Calſanus, at Vicenza, in 1482; and enlarged editions appeared at Paris, in 1520; at Rome, in 1523; at Cologne, in 1532; at Baſil, in 1558; and at Paris, in 1608. The Greek text was firſt publiſhed in 2 vols. fol. by Commelinus, at Heidelberg, in 1601; and at Paris, in 1627. The beſt edition was printed in 3 vols. fol. by a learned Benedictine, Bernard de Montfaucon, at Paris, in 1698. This was reprinted with improvements, and an additional volume, at Padua, in 1774, 4 vols. fol. Socrates, E. H. Sozomen, E. H. Cave Hiſt. t. i. p. 138. &c. Dupin. Fabr. Bib. Græc. l. v. c. 2. Gibbon's Hiſt. vol. iii. p. 322—356. vol. iv. p. 131—228—267. Lardner's Works, vol. iv. p. 280, &c.

ATHANATI, an order of ſoldiers among the ancient Perſians.

The word is Greek, and ſignifies *immortal;* being compounded of the privative *α*, and *θανατος, death.*

The athanati were a body of cavalry, conſiſting of ten thouſand men, always complete, becauſe when any one of them died another was immediately put into his place.—It was for this reaſon that they were called "athanati" by the Greeks, by the Latins "immortales."

ATHANOR, ſometimes corruptly written ACANOR, is a term derived from the Greek Αθανος, *unfading*, and was applied by the ancient chemiſts to a ſpecies of furnace provided with a magazine of fuel, by which a long-continued heat might be kept up without the neceſſity of conſtant attendance. Some ſay that the word athanor is derived from the Arabs, who call an oven *tannuron*, from the Hebrew תנור, *tannur, an oven or furnace:* whence with the additional part elonk, אלתניר, *alnnanur*, &c. The athanor was particularly uſed in thoſe tedious alchemical proceſſes which were deemed neceſſary, in order to convert the inferior metals into gold: hence it is not unfrequently deſcribed by the name *fiat lapis*. The patience of modern chemiſts being inferior to that of their predeceſſors, or rather being no longer upheld by the hope of riches, the moſt powerful, and at the ſame time, the baſeſt of all motives, recoils from the idea of commencing experiments that demand weeks, and even whole months for their completion. Hence it is, that perpetual lamps and furnaces are now become obſolete.

The body of the athanor may be varied at pleaſure, according to the particular purpoſe which it is intended to ſerve, but it is connected by the top, or one of the ſides, with a hollow perpendicular tower communicating freely by one or more openings at its baſe, with the fire place. This tower is furniſhed with a moveable cover, which fits accurately, ſo as to be nearly air tight, into the top.

When the athanor is to be uſed, the fire place muſt be filled with the proper quantity of lighted charcoal, and then as much unlighted charcoal, in moderate ſized pieces, as the tower will hold, is to be poured in by the top, which is afterwards to be carefully cloſed by its cover. In proportion as the fuel in the grate is conſumed, the deficiency is ſupplied by that of the tower, which falls through the holes at the baſe, which while in the tower, having no communication with the external air, can only burn when it arrives at the grate below. The combuſtion is thus kept up till all the charcoal in the tower or magazine is conſumed.

Although this furnace might ſtill be advantageouſly applied in certain caſes which require a long and moderate, rather than a ſhort and violent heat, yet it is not without ſome inconveniences: the charcoal often ſticks faſt in the tower, and the fire goes out for want of a regular ſupply, or it falls irregularly, and by large quantities at a time, and beats the lighted charcoal through the grate into the aſh-pit.

ATHAPUSCOW, in *Geography*, a large lake in the north-weſt parts of North America. Mr. Hearne, who traverſed theſe parts in 1770, deſcribes it as full of iſlands covered with tall trees, which appeared like maſts. According to the report of the natives, it was 120 leagues long from eaſt to weſt, and twenty wide. It is ſtored with a great number of fiſh, as pike, trout, perch, barbel, and two ſorts called by the natives tillameg and methy. The northern ſhore conſiſts of continued rocks and hills, but the ſouthern is level and beautiful: and there are many wild cattle and mooſe deer; the former, particularly the bulls, being larger than the Engliſh black cattle. The centre of this lake is placed by Mr. Hearne in N. lat. 62° and W. long. 125°. It is probably the ſame with the Slave Lake of Mackenzie, in the ſame latitude, but in longitude 115°. The Athapuſcow River, which Mr. Hearne found about two miles in breadth, is the Slave River of Mackenzie. See SLAVE *Lake* and *River*.

ATHAR, in *Scripture Geography*, a city of Paleſtine, in the tribe of Simeon. Joſh. xix. 7.

ATHAROTH, a town of Judæa, in the tribe of Gad.

given

given by Moſes to the Iſraelites, on account of its excellent paſturage. Numb. xxxii. 34.—Alſo, a town of Samaria, in the tribe of Ephraim, four miles north of Sichem or the city of Samaria; called by Joſephus Sebaras:—and another on the frontiers of Ephraim, between Jaboth and Jericho, Joſh. xvi. 7. probably the ſame with Ataroth-Addar, mentioned, ver. 5. xviii. 13.

ATHARRHABIS, a town of Egypt. Steph. Byz.

ATHBOY, in *Geography*, a market and poſt town in the county of Meath, and province of Leinſter, in Ireland, which, before the union, ſent two members to the Iriſh parliament. At its weekly market, there has been a good deal of corn ſold of late years; ſome yarn and merchandiſe for the peaſantry. It has alſo four fairs, chiefly for cattle. It is ſituate twenty-eight Iriſh miles N. W. of Dublin. Thompſon's Statiſtical Account of Meath.

ATHEE, in *Geography*, a town of France, in the department of the Mayenne, and chief place of a canton in the diſtrict of Craon, three miles north of Craon.

ATHEIST, derived from the privative α, and Θεος, *God*, a perſon who does not believe the exiſtence of a God, nor a Providence; and who has no religion, true or falſe.

In general, a man is ſaid to be an atheiſt, who owns no being ſuperior to nature; that is, to men, and the other ſenſible beings in the world.

In this ſenſe, Spinoza may be ſaid to be an atheiſt, and it is an impropriety to rank him, as the learned commonly do, among deiſts; ſince he allows of no other God beſide nature, or the univerſe, of which mankind makes a part; and there is no atheiſt but allows of the exiſtence of the world, and of his own exiſtence in particular. See SPINOZA.

Plato diſtinguiſhes three kinds of atheiſts. Some, who deny, abſolutely, that there are any gods; others, who allow the exiſtence of gods, but maintain that they do not concern themſelves with human affairs, and ſo deny a Providence; and others, who believe there are gods, but think they are eaſily appeaſed, and that they may remit the greateſt crimes for the ſmalleſt ſupplication.

The learned Cudworth (Intellectual Syſtem, b. i. c. 3. vol. i. p. 104—178.) reduces the ancient atheiſm of the Greek philoſophers into four different forms, comprehending the two claſſes of hylozoics or hylopathii, and atomici or atomiſts, under the denominations of Anaximandrian, Democritical, Stratonical, and Stoical. The Anaximandrians attempted to ſolve the phenomena of nature by having recourſe to the unmeaning language of qualities and forms. Theſe were contained actually or potentially in that infinite chaos of matter, deſtitute of all underſtanding and life, which was the firſt principle or only real numen of Anaximander; and by their fortuitous ſecretion and ſegregation, they produced, firſt, the elements of earth, water, air, and fire, and then the bodies of the ſun, moon, and ſtars, and both the bodies and ſouls of men and other animals; and, laſtly, innumerable or infinite ſuch worlds as theſe, as ſo many ſecondary or native gods. (Plato De Leg. l. x. p. 666.) See ANAXIMANDER, and ANAXIMANDRIANS. Some have called this ſcheme of atheiſm, which deduces all things from matter by means of qualities and forms, Peripatetic or Ariſtotelic, becauſe Ariſtotle uſed this kind of language in his phyſiology. But as Ariſtotle cannot be juſtly denominated an atheiſt, Cudworth diſtinguiſhes this form of atheiſm by the appellation of Anaximandrian. Democritus and Leucippus new-modelled atheiſm from the Anaximandrian and Hylopathian into the atomic form, and derived the original and production of all things from atoms, devoid of all forms and qualities, and poſſeſſing only, as firſt principles, magnitude, figure, life, and motion; and as they conceived that life and underſtanding, and other qualities, could be only accidental and ſecondary reſults from certain fortuitous concretions and contextures of atoms, they excluded a deity, and every thing like counſel and deſign from the formation of the univerſe. The Epicureans borrowed many of their notions from Democritus, and framed a ſyſtem very much reſembling the atomical or Democritical. See DEMOCRITUS, and EPICURUS. The Stratonical atheiſm was of the hylozoic kind; and was ſo called from Strato Lampſacenus, who acknowledged no other deity than a certain ſtupid and plaſtic life, belonging to all the parts of matter, by means of which they arranged and framed themſelves, without reflection. See STRATO. The Stoical, or Pſeudo-Stoical, or coſmoplaſtic atheiſm, adopted by ſeveral of the Stoics, ſuppoſed a certain kind of plaſtic and ſpermatic, or methodical and artificial nature, without ſenſe or conſcious underſtanding, to preſide over the whole world, and to diſpoſe and preſerve all things in that regular order which they aſſume and maintain. Some of the Stoics conceived that this plaſtic nature, or ſpermatic principle, was ſubordinate to a ſentient and intellectual nature, or corporeal ſoul and mind of the univerſe, that preſided over it; and this ſeems to have been the genuine doctrine of Heraclitus and Zeno; whilſt others rejected the latter principle, and maintained, that the plaſtic or ſpermatic nature, devoid of all animality or conſcious intelligence, was the higheſt principle in the univerſe. All the ancient atheiſts agreed in this, viz. that there was nothing but matter or body in the univerſe; whilſt ſome thought it animate, and were called hylozoics; and others thought it inanimate, and were denominated atomici. Hobbes ſeems to have inclined to the opinion of the Stratonici; for he ſuppoſes (Phyſ. c. 25. § 5.) that all matter, as matter, is endued not only with figure and a capacity of motion, but alſo with an actual ſenſe or perception, and wants only the organs and memory of animals to expreſs its ſenſation. Sir William Temple, according to the account given of him by biſhop Burnet (Hiſt. Time. vol. i. p. 531, 8vo.) thought that the preſent ſyſtem of things is neceſſary and eternal. The Chineſe have been repreſented as a nation of atheiſts. Accordingly Burnet (ubi ſupra) ſtates it as the opinion of ſir W. Temple, that Confucius and his followers are to be reckoned among thoſe who were atheiſts themſelves, and left religion to the people. But Couplet maintains, that Confucius and the earlier teachers among the Chineſe, were votaries to pure religion. Confucius, however, ſays little of thoſe duties that relate immediately to God; and though he ſpeaks of the great ſpirits in heaven and earth, what he ſays coincides merely with the notion of a plaſtic power, ſimilar to that maintained by ſome of the Grecian philoſophers.

Some diſtinguiſh *ſpeculative* atheiſts, or thoſe who are ſo from principle and theory—from *practical* atheiſts, whoſe wicked lives lead them to believe, or rather to wiſh, that there were no God.

Dr. Clarke (Demonſtration of the Being of a God, p. 2. 8vo.) ſays, that atheiſm ariſes either from ſtupid ignorance, or from corruption of principles and manners, or from the reaſonings of falſe philoſophy; and he adds, that the latter, who are the only atheiſtical perſons capable of being reaſoned with at all, muſt of neceſſity own, that, ſuppoſing it cannot be proved to be true, yet it is a thing very deſirable, and which any wiſe man would wiſh to be true, for the great benefit and happineſs of man, that there was a God, an intelligent and wiſe, a juſt and good being, to govern the world. Whatever hypotheſis theſe men can poſſibly frame, whatever

whatever argument they can invent, by which they would exclude God and Providence out of the world; that very argument or hypotheſis, will of neceſſity lead them to this conceſſion. If they argue, that our notion of God ariſes not from nature and reaſon, but from the art and contrivance of politicians; that argument itſelf forces them to confeſs, that it is manifeſtly for the intereſt of human ſociety, that it ſhould be believed there is a God. If they ſuppoſe that the world was made by chance, and is every moment ſubject to be deſtroyed by chance again; no man can be ſo abſurd as to contend, that it is as comfortable and deſirable to live in ſuch an uncertain ſtate of things, and ſo continually liable to ruin, without any hope of renovation; as in a world that were under the preſervation and conduct of a powerful, wiſe, and good God. If they argue againſt the being of God, from the faults and defects which they imagine they can find in the frame and conſtitution of the viſible and material world; this ſuppoſition obliges them to acknowledge, that it would have been better the world had been made by an intelligent and wiſe Being, who might have prevented all faults and imperfections. If they argue againſt Providence, from the faultineſs and inequality which they think they diſcover in the management of the moral world; this is a plain confeſſion, that it is a thing more fit and deſirable in itſelf, that the world ſhould be governed by a juſt and good Being, than by mere chance or unintelligent neceſſity. Laſtly, if they ſuppoſe the world to be eternally and neceſſarily ſelf-exiſtent, and conſequently that every thing in it is eſtabliſhed by a blind and eternal fatality; no rational man can at the ſame time deny, but that liberty and choice, or a free power of acting, is a more eligible ſtate, than to be determined thus in all our actions, as a ſtone is to move downward, by an abſolute and inevitable fate. In a word, which way ſoever they turn themſelves, and whatever hypotheſis they make, concerning the original and frame of things, nothing is ſo certain and undeniable, as that man, conſidered without the protection and conduct of a ſuperior Being, is in a far worſe caſe; than upon ſuppoſition of the being and government of God, and of men's being under his peculiar conduct, protection, and favour. Nevertheleſs, abſurd and joyleſs as is the ſyſtem of atheiſm, Diagoras and Theodorus among the ancients, and Vanini among the moderns, have been reckoned martyrs for it. Mr. Bayle has pretended to prove, that it is better to be an atheiſt than an idolater; or in other words, that it is leſs dangerous to have no religion at all than a bad one. "I had rather," ſaid he, "it ſhould be ſaid of me, that I had no exiſtence, than that I am a villain." This, as Monteſquieu (Sp. of Laws, vol. ii. p. 145.) juſtly obſerves, is only a ſophiſm, founded on this, that it is of no importance to the human race to believe that a certain man exiſts, whereas it is extremely uſeful for them to believe the exiſtence of a God. From the idea of his non-exiſtence, immediately follows that of our independence; but if we cannot conceive this idea, that of diſobedience. To ſay that religion is not a reſtraining motive, becauſe it does not always reſtrain, is equally abſurd as to ſay that the civil laws are not a reſtraining motive. It is a falſe way of reaſoning againſt religion, to collect in a large work a long detail of the evils it has produced, if we do not give at the ſame time an enumeration of the advantages which have flowed from it. Was it of no advantage for ſubjects to have religion, it would ſtill be of ſome if princes had it, and if they whitened with foam the only rein which can reſtrain thoſe who fear not human laws. A prince who loves and fears religion is a lion, who ſtoops to the hand that ſtrokes, or the voice that appeaſes him. He who fears and hates religion is like the ſavage beaſt that gnaws and breaks the chain which prevents his flying on the paſſenger. He who has no religion at all is that terrible animal, who perceives his liberty only when he tears in pieces, and when he devours. The queſtion is not to know, whether it would be better that a certain man or a certain people had no religion, than to abuſe what they have; but to know which is the leaſt evil, that religion be ſometimes abuſed, or that there be no ſuch reſtraint as religion on mankind.

Cicero repreſents it as a probable opinion, that they who apply themſelves to the ſtudy of philoſophy believe there are no gods.—This muſt, doubtleſs, be meant of the academic philoſophy, to which Cicero himſelf was attached, and which doubted of every thing: on the contrary, the Newtonian philoſophers are continually recurring to a Deity, whom they always find at the end of their chain in natural cauſes. Some foreigners have even charged them with making too much uſe of the notion of a God in philoſophy, contrary to the rule of Horace—

"Nec Deus interſit, niſi dignus vindice nodus."

Among us, the philoſophers have been the principal advocates for the exiſtence of a Deity. Witneſs the writings of ſir Iſaac Newton, Boyle, Ray, Cheyne, Nieuwentyt, &c. To which may be added divers others, who, though of the clergy (as was alſo Ray), yet have diſtinguiſhed themſelves by their philoſophical pieces, in behalf of the exiſtence of a God; e.gr. Derham, Bentley, Whiſton, Samuel and John Clarke, Fenelon, &c. So true is that ſaying of lord Bacon, that though a ſmattering of philoſophy may lead a man into atheism, a deep draught will certainly bring him back again to the belief of a God and Providence. See God, Providence, and Religion.

ATHELING, among our Saxon anceſtors, was a title of honour properly belonging to the eldeſt ſon of the reigning prince, or the preſumptive heir of the crown.

The word is formed from the Saxon *æthelıng*, of *æthel*, *noble*. It is ſometimes alſo written, adeling, edling, ethling, and etheling.

King Edward the Confeſſor, being without iſſue, and intending to make Edgar, to whom he was great uncle by the mother's ſide, his heir, firſt gave him the honourable appellation of atheling.

Antiquaries obſerve, that it was frequent among the Saxons to annex the word *ling*, or *ing*, to a Chriſtian name, to denote the ſon, or younger; as *Edmundling*, for the ſon of Edmund; *Edgaring*, for the ſon of Edgar; and, accordingly, ſome have thought *atheling* might primarily import the ſon of a nobleman, or prince: and ſir Henry Spelman obſerves, that all noblemen had anciently been called *Adelingi*: however, from a paſſage in the laws aſcribed to Edward the Confeſſor, it appears, that in his time, and at leaſt a century afterwards, this word was appropriated to the royal family by the Engliſh. In reality, *atheling*, when applied to the heir of the crown, [illegible] perſon endowed with [illegible] and corresponds to the [illegible] among the Romans.

ATHELNEY, *Ethelingia* in Geography, a [illegible] ground, on the north ſide of Stanmoor, in the county of Somerſet, about one mile E. N. E. of Taunton, bounded on the north-weſt by the river Tone; over which is a wooden bridge, ſtill called Athelney bridge. The [illegible] the [illegible] to this ſpot was [illegible] robles, [illegible] was [illegible] by [illegible]. Athelney. It was formerly ſurrounded by almoſt impaſſable marſhes and moraſſes, and will be for ever memorable for the retreat of king Alfred from the fury of the Danes, when they had overrun the eaſtern part of his dominions. Having [illegible]

encountered his enemies for nine ſucceſſive years, according to the ſtatement of the regiſter of Athelney, he was at length reduced to the neceſſity of ſeeking refuge from their violence in this little iſland. After he had left his retirement, and his enemies were totally defeated, he founded a monaſtery for Benedictine monks, on the ſpot which had given him ſhelter, and dedicated it to the honour of St. Saviour and St. Peter the apoſtle, and endowed the eſtabliſhment with the whole iſle of Athelney (amounting to about two acres of firm land), exempt from taxes and all other burdens. In proceſs of time other privileges and benefactions were confered on the monks, and confirmed by different kings and nobles.

ATHELSTAN, in *Biography*, king of England, was of illegitimate birth, and yet, being of mature age and capacity, ſucceeded his father Edward the elder, in preference to his lawful children, in the year 925. Soon after his acceſſion, he marched to Northumberland in order to quell ſome commotions among the Danes, and conferred the title of king on Sithric, a Daniſh nobleman: but, upon the death of Sithric, when his two ſons Anlaf and Godfrid, or Guthfert, aſſumed the regal authority without his conſent, he expelled them both; one taking refuge in Ireland, and the other in Scotland. The protection afforded to the latter by Conſtantine, king of Scotland, brought on a war, which terminated ſo much to the diſadvantage of Conſtantine, that he was obliged, for the preſervation of his crown, to do homage to Athelſtan. Hoſtilities, however, were renewed; and a confederacy was formed by Conſtantine, Anlaf, and ſome Welch princes, whoſe united forces were totally defeated by Athelſtan, at Brunanburgh in Northumberland, A. D. 938. In conſequence of this victory, the king of England enjoyed his crown without moleſtation; and having governed the kingdom with great ability, he died at Glouceſter in 941, after a reign of ſixteen years, and was ſucceeded by his brother Edmund. In this reign commerce was greatly encouraged, and a law was paſſed, conferring the rank of thane on every merchant who had made three ſea-voyages on his own account. Athelſtan, with a view of further facilitating and promoting commerce, eſtabliſhed a mint, or mints, in every town in England that had any conſiderable foreign trade, ſo that the merchants might have an opportunity of converting the bullion which they brought home for their goods into current coin, without much expence or trouble. Theſe towns were London, Canterbury, Wincheſter, Rocheſter, Exeter, Lewes, Haſtings, Chicheſter, Southampton, Wareham, and Shafteſbury. By theſe and ſimilar regulations the ſhipping and ſeamen of England were ſo much increaſed, that Athelſtan maintained the dominion of the ſea, and obliged the Daniſh and Norwegian princes to court his friendſhip. Hume's Hiſt. vol. i. p. 102, &c. Henry's Hiſt. vol. iii. p. 94, &c. vol. iv. p. 225, &c.

ATHEMON, in *Entomology*, a ſpecies of PAPILIO. (*Pleb. rur.* Linn.; *Heſperia* Fabr.) The wings are entire and browniſh.

ATHENA, in the *Ancient Phyſic*, a plaſter or liniment, commended againſt wounds of the head and nerves, of which we find deſcriptions given by Oribaſius, Ælius, and Ægineta.

ATHENÆ, in *Ancient Geography*. See ATHENS.

ATHENÆ is alſo a name given to various other places: as, a town of Arabia. Pliny.—Alſo, a place at the eaſtern extremity of the Euxine ſea, where was a temple of Minerva. Arrian.—Alſo, a town of the Peloponneſus, in Laconia. Steph. Byz. and Suidas.—Alſo, a place of Aſia Minor, in Caria. Steph. Byz.—Alſo, a town of Greece, in Bœotia, ſituate on the river Triton, overwhelmed, according to Strabo, by an inundation.—Alſo, a town of Acarnania: another of Liguria: another of Italy: and another of Sicily. Steph. Byz.

ATHENÆA, in *Antiquity*, a feaſt of the ancient Greeks, held in honour of Minerva, who was called Αθηνη. Theſe were afterwards called PANATHENÆA.

ATHENÆA, in *Botany* (probably from Athenæus). Schreb. 661. Iroucana. Aubl. Guian. 127. Claſs, *octandria monogynia*. Gen. Char. *Cal.* perianth one-leafed, coloured, five-parted; parts oblong, acute, erect, ſpreading at top. *Cor.* none. *Stam.* filaments eight, filiform, erect; of which five are of the length of the calyx, the three alternate ones a little ſhorter; anthers ſagittate; eight plumoſe briſtles, ſhorter than the filaments, growing together with the filaments to a gland ſurrounding the germ. *Piſt.* germ ſuperior, ovate, ſurrounded at the baſe by an annular gland; ſtyle ſetaceous, longer than the ſtamens; ſtigma depreſſed, five-parted. *Per.* capſule globoſe, one-celled, three-valved; valves ſomewhat fleſhy; ſeeds three to five, rounded, covered with a pulpy-coloured membrane, affixed to the receptacle in the bottom of the capſule.

Eſſ. Gen. Char. *Cal.* coloured, five-parted. *Cor.* none; briſtles eight, feathered, between the filaments; ſtigma five-parted; capſule globoſe, one-celled, three-valved. *Seeds*, three to five.

Species, A. *guianenſis*. Iroucana guianenſis. Aubl. l. c. t. 12. This is a branching ſhrub with a ſtem four or five inches in diameter, covered with a wrinkled gray bark; leaves alternate, ovate, ſmooth, toothed, deciduous, four inches long; petioles very ſhort, having a ſmall ſharp ſtipule on each ſide of the baſe; flowers in bundles, from the axils, and upon the tubercles of the ſtem and branches, each on a peduncle; calyx white; there is no corolla; ſeeds covered with a viſcid membrane, of a ſcarlet colour; the bark, leaves, and fruit are ſharply aromatic; the laſt, by the Creoles, is called *Caffé diable*. A native of Cayenne, and the neighbouring continent of Guiana, growing in a ſandy ſoil, about half a mile or more from the ſhore.

ATHENÆUM, in *Antiquity*, a public place wherein the profeſſors of the liberal arts held their aſſemblies, the rhetoricians declaimed, and the poets rehearſed their verſes.

The word is derived from Athens, a learned city, where many of theſe aſſemblies were held; or from the name of Minerva, Αθηνη, goddeſs of polite arts and ſciences; intimating, that Athenæum was a place conſecrated to Minerva, or rather ſet apart for the exerciſes over which ſhe preſides.

The Athenæa were built in form of amphitheatres; and were all encompaſſed with ſeats, which Sidonius calls cunei.

The three moſt celebrated Athenæa were thoſe at Athens, at Rome, and at Lyons; the ſecond of which, according to Aurelius Victor, was built by the emperor Adrian, for the accomodation of the profeſſors of the liberal arts, and of thoſe who wanted to read their writings before a conſiderable number of people. It appears from the beginning of Juvenal's Satires, that this manner of reading in public was very common; and that Fronto lent the uſe of his houſe and gardens to the poets, who had occaſion to recite their verſes before a numerous audience. This was done by others; but as it belonged to the perſon, who wiſhed to read his compoſitions, to furniſh the room, and to pay the charge of the feaſts, it is probable, that the emperor Adrian, for the encouragement of works of taſte and ſcience, conſtructed the Athenæum with a view of obviating this inconvenience. Hence the name has been applied to all kinds of buildings or colleges intended for teaching the ſciences and languages.

ATHENÆUS,

ATHENÆUS, in *Biography*, a Greek grammarian, was born at Naucratis in Egypt, and flouriſhed in the third century. Suidas has erroneouſly referred him to the time of Antoninus Pius; but it appears from his own work (Deipnoſophiſt. l. xii. p. 537. ed. Caſaub.), that he wrote after the death of Commodus, and after the time of Oppian the poet. (Ib. l. ii. p. 13.) He was one of the moſt learned men of the age in which he lived; and, for the extent of his reading, and tenaciouſneſs of his memory, he has not been improperly called the Varro, or Pliny, of the Greeks. The only work of this author extant is a valuable compilation from various writings, to which we have now no acceſs, entitled Δειπνοσοφισται, "Deipnoſophiſtæ," or "The Table Converſation of the Sophiſts." In this work the author has introduced a great number of learned perſons of all profeſſions, and repreſented them as converſing together on a variety of ſubjects at the table of Larenſius, a citizen of Rome. It contains a large collection of facts and anecdotes, forming a rich treaſure of antiquities, which ſerve more to amuſe the reader than to ſupply correct information. The author has interſperſed with his ſeveral narrations many ſatirical reflections and ſcandalous ſtories, which tend to aſperſe and degrade the characters of the philoſophers of whoſe names and writings he has given an account; and, therefore, the work, copious as it is in uſeful inſtruction, muſt be peruſed with caution. It conſiſts of fifteen books; but of the two firſt, part of the third, and alſo of the laſt, we have merely an abridgment. Few works have ſuffered more from the careleſſneſs of tranſcribers, and the negligence of editors. The firſt edition was publiſhed by Aldus Manutius, in Greek, at Venice, in 1514, fol.; and at Baſil, in 1535, with a bad Latin tranſlation by Natalis Comes. Dalechamp devoted his leiſure hours, for thirty years, to the tranſlation of Athenæus, which was publiſhed with annotations, by Cauſabon, in folio, at Leyden, in 1583, 1597, 1612, and 1657. This work was alſo tranſlated into French by Marolles in 1680. Caſaubon mentions an abridgment of this work by an unknown author, and at a period which he could not preciſely aſcertain, though he ſuppoſes it to have been made before the time of Euſtathius. Præf. Caſaub. in Athen. Suidas. Gen. Dict. Fabr. Bibl. Græc. l. iv. c. 20. § 5—8. t. iii. p. 631, &c.

ATHENÆUS, a popular orator and Peripatetic philoſopher, was born at Seleucia in Cilicia, had a ſhare in the government, and was for ſome time a demagogue in his own country. In the time of Auguſtus he came to Rome, and became an intimate friend of Murena. He was charged with being concerned in his conſpiracy; but the emperor not finding him guilty, ſet him at liberty. Upon his return to Rome after his flight on this occaſion, he repeated to his friends theſe words of Euripides:

"Ηκω νεκρῶν κευθμωνα και σκοτιε πύλας Λιτών."

"From death's dread ſeats and gloomy gates I come."

The manner of his death was tragical, as he was cruſhed by the fall of his houſe. Strabo, l. xiv. t. ii. p. 987.

ATHENÆUS, a mathematician, flouriſhed about 200 years before Chriſt; but his country is unknown. His Greek treatiſe "On Machines of War," dedicated to Marcellus, who took Syracuſe in the 142d Olympiad, 212 B. C., is contained in the Collection of Ancient Mathematicians, publiſhed in folio at Paris, in 1693. Fabr. Bib. Græc. l. iii. c. 24. § 1. t. ii. p. 587.

ATHENÆUS, born at Attalia, in Cilicia, in the 9th year of our æra, as M. Goulin conjectures, was the principal of the ſect of pneumatics. Galen, who gives a particular account of the doctrines of theſe philoſophers, ſays, they eſteemed the qualities of cold and heat, moiſture and dryneſs, as four elements, entering into the compoſition of all bodies. To theſe a fifth was added, called ſpirit, to which Athenæus attributed the motion of the pulſe. Spirit was alſo ſuppoſed to pervade and give life and energy to body. Galen repreſents Athenæus as a voluminous writer; no part, however, of his works remains, except ſome chapters preſerved by Oribaſius, which throw very little light on the manner in which he applied his doctrine to practice. Le Clerc, Hiſt. de Med.

ATHENAGARUM, in *Ancient Geography*, a diſtrict of India; ſuppoſed by major Rennell, from its ſituation, to be OUDE.

ATHENAGORAS, in *Biography*, a Chriſtian philoſopher, was a native of Athens, and flouriſhed towards the cloſe of the ſecond century. His youth was ſpent among the philoſophers of his time; and removing from Athens to Alexandria, he became a convert to Chriſtianity. The manner of his converſion, according to Philip Sidetes, a writer of the fifth century held in no high eſtimation, was as follows. Propoſing to write againſt the Chriſtians and deſirous of rendering his work the more complete, he read the ſcriptures, and was thus converted. Philip adds, that he was the firſt preſident of the catechetical ſchool of Alexandria, and maſter of Clement who wrote the Stromata. Little upon which we can rely is ſaid concerning Athenagoras by the ancients, and his character and opinions are chiefly deduced from his own works. The principal of theſe was his "Apology for Chriſtians," addreſſed to Marcus Aurelius Antoninus, and Lucius Aurelius Commodus, whoſe names are prefixed to it, ſays Fabricius, in all the manuſcripts; and probably written about the year 177 or 178. In this work he repels the calumnies of the pagans againſt the doctrines and manners of the Chriſtians. He alſo explains the notions of the Stoics and Peripatetics, concerning God and divine things, and expoſes with accurate and ſtrong reaſonings their reſpective errors. He diſcovers much partiality for the ſyſtem of Plato, and ſupports his arguments by the authority of this philoſopher, and hence he has been ranked among the Platoniſing fathers. In what he advances concerning God and the Logos, or divine reaſon, he evidently blends the doctrines of Paganiſm with the doctrines of Chriſtianity. According to Athenagoras, God is underived, indiviſible, and diſtinct from matter; there are middle natures between God and Matter; from the beginning, God, the eternal mind, being from eternity rational, had the Logos within himſelf; the ſon of God is the reaſon of the Father in idea and energy; for ſince the father and ſon are one, by him and through him all things are made; the Logos was produced, that the ideas of all things might ſubſiſt, and they are contained in his ſpirit. On the imperfect and untractable nature of matter, on angels, demons, and other natures compounded of matter and ſpirit, and on other philoſophical topics, Athenagoras reaſons with all the ſubtlety of the Grecian ſchools, ſo that in every page he is ſeen to have been by profeſſion a philoſopher; and indeed he is ſaid to have retained the name and habit of a philoſopher with a view of gaining greater credit to the Chriſtian doctrine among the unconverted heathens. In moral philoſophy, he adopted the common auſterities, particularly with reſpect to marriage. He repreſents celibacy as meritorious, and ſecond marriages as legaliſed adultery. In Athenagoras's "Diſcourſe of the Reſurrection of the Dead," probably written after the "Apology," he argues rather from reaſon than ſcripture, in order to prove the poſſibility and fitneſs of a reſurrection. His writings, upon the whole, manifeſt an happy union of Attic elegance with philoſophical penetration; ſo that he is reckoned a polite writer, and his Greek is Attic, though his ſtyle is rendered leſs agreeable

by frequent parentheſes. The two treatiſes of Athenagoras have been uſually printed together, in Greek and Latin. They were publiſhed in 4to. at Paris, in 1541; by H. Stephens, at Paris, in 8vo. in 1557; by Rechenberg, at Leipſic, in 1684, in 2 vols. 8vo.; by Fell, biſhop of Oxford, with notes, at Oxford, in 1682, 12mo.; and with various notes by Dechair, from the ſame Sheldon preſs, in 1706, 8vo. The romance under the name of Athenagoras, ſaid to be a tranſlation from a Greek MS. brought from the eaſt, and publiſhed in 1599, and in 1612, in French by M. Fumée, intitled "True and Perfect Love, written in Greek by Athenagoras an Athenian philoſopher, containing the chaſte loves of Theogonus and Charides, of Pherecides and Mirrigenes," is a fiction; and was probably written in imitation of the Theagenes and Chariclea of Heliodorus, after the overthrow of Greece by Alaric, or the deſtruction of the Greek empire by the Turks. Cave, H. L. t. 1. p. 79. Lardner's works, vol. ii. p. 180. &c. Fabr. Bibl. Græc. l. v. c. 1. t. v. p. 85—91. Gen. Dict. Brucker's Hiſt. Philoſ. by Enfield, vol. ii. p. 205.

ATHENATORIUM, among *Chemiſts*, a thick glaſs cover, placed on a cucurbit, having a ſlender umbo or prominent part, which enters like a ſtopple within the neck of the cucurbit.

ATHENIANS, in *Ancient Geography*. See ATHENS, and ATTICA.

ATHENIENSIUM PORTUS, or the port of the Athenians, was a harbour of Greece, between the port Bucephalon and the promontory of Spiræum, on the eaſtern ſide of the Argolide, in the Saronic gulf.

ATHENION, in *Biography*, a Greek hiſtorical painter, who flouriſhed in the year 300 before Chriſt.

ATHENIPPUM, in the *Ancient Phyſic*, a collyrium, commended againſt divers diſeaſes of the eyes; thus denominated from its inventor Athenippus.

Its deſcription is given by Scribonius Largus, and by Gorræus after him.

Galen mentions another athenippum, of a different compoſition, by which it appears, this was a denomination common to ſeveral collyriums.

ATHENIS, in *Biography*, a famous Grecian ſtatuary, who flouriſhed at Cnio, about 538 years before Chriſt. See BUPALE.

ATHENODORUS, a Stoic philoſopher, was a native of Cana, near Tarſus, in Cilicia, and the preceptor and friend of Auguſtus. During his reſidence at Rome, he was much reſpected by the emperor on account of his wiſdom and probity, admitted into his confidence, and allowed to give him free and faithful counſel. Auguſtus, being addicted to gallantry, indulged a criminal paſſion for the wife of a ſenator, who was a friend of Athenodorus, and who communicated to him his diſtreſs. The philoſopher availed himſelf of this opportunity of impreſſing upon the mind of the emperor a ſenſe of the danger to which he expoſed himſelf by ſuch practices. Accordingly, he dreſſed himſelf in woman's clothes, and, providing himſelf with a poignard, put himſelf into the chair in which the lady was to have been conveyed. When he appeared before Auguſtus in this diſguiſe, he ſaid to him, "See, ſir, to what danger you expoſe yourſelf! An enraged huſband may arm himſelf in this manner, and revenge with your blood the injury you offer him." The admonition is ſaid to have produced its deſigned effect; the emperor received it with deference; and he became more circumſpect for the future. Zoſimus (l. i. c. 6.) attributes the mild plan of government adopted by Auguſtus to the influence of the counſels of Athenodorus. Before he left the court of Auguſtus, he is ſaid by Plutarch (Apophthegm. Oper. t. 2. p. 207.) to have warned the emperor againſt exceſs of paſſion, and, as a preſervative, to have adviſed him to rehearſe the twenty-four letters of the alphabet, before he allowed himſelf to ſay or do any thing. Upon this, Auguſtus took him by the hand, ſaying to him, "I want your aſſiſtance ſtill longer," and kept him for another year. Such was his intereſt with Auguſtus, that he obtained for his fellow citizens, the inhabitants of Tarſus, relief from ſome of the taxes which oppreſſed them; and on this account he was honoured by them with an annual feſtival. At an advanced age the emperor permitted him to return to his native country; and finding it diſtracted by factions, which had been excited by Boethus, whom Antony had inveſted with power, he exerted himſelf with prudence and firmneſs, in order to reſtrain and ſuppreſs them By recruiting the exhauſted funds of Tarſus, correcting the abuſes which threatened its ruin, and introducing a new code of municipal law, he contributed to the revival and permanence of its proſperity. Having ſerved his country faithfully during a prolonged life, he cloſed it with honour, and with the regret of his fellow-citizens, at the advanced age of eighty-two years. He was a conſiderable writer; and ſeveral of his works are cited by the ancients. Strabo ſays, (l. i. p. 6.), that he wrote concerning the ocean and its tides; and Stephanus (art. Αγχιαλη) informs us, that he wrote the hiſtory of his own country; but none of his works are now extant. This Athenodorus is not the ſame who is mentioned by Suetonius (in Claud. c. 4.), as having been entruſted by Auguſtus with the charge of the education of Claudius Nero, afterwards emperor. Fabricius, however, aſſerts that they were the ſame perſon. Gen. Dict. Strabo, l. 14. t. ii. p. 991. Brucker's Hiſt. Phil. by Enf. vol. ii. p. 117. Fabr. Bib. Græc. l. iii. c. 15. t. ii. p. 391.

ATHENODORUS *Cordylio*, a Stoic philoſopher of Tarſus, was probably a native of Pergamus, lived about 50 years before Chriſt, and was the intimate friend and companion of Cato of Utica. He was keeper of the public library at Pergamus; and having refuſed ſeveral ſolicitations to leave this retreat, he was at laſt prevailed upon by Cato, who viſited Aſia for this purpoſe, to join him in the war which he had undertaken for the reſtoration of Roman liberty. Cato is ſaid to have valued himſelf upon the ſucceſs of his application to Athenodorus, more than if he had ſhared the conqueſts of Lucullus or Pompey. Strabo ſays, that he lived and died with Cato. Fabricius ſuggeſts, that this Athenodorus was the author of a work againſt the Categories of Ariſtotle, mentioned by Porphyry, Simplicius, and Stobæus. Plat. in Vit. Caton. Oper. t. i. p. 665. Diog. Laert. Strabo, l. xiv. t. i. p. 991. Fabr. Bib. Græc. l. iii. c. 15. t. ii. p. 371.

ATHENODORUS, a famous ancient ſculptor, who was born at Rhodes. According to Pliny, he was a ſcholar of Polycletus, who flouriſhed about the eighty-ſeventh olympiad, or 432 years before Chriſt. He was one of the three who jointly executed the famous group of Laocoon: the other two were Ageſander and Polidore.

ATHENOPOLIS, in *Ancient Geography*, a town of Gallia Narbonnenſis, on the coaſt of the Maſſilians, between port Cithariſta and Forum Julii, according to Pliny. Its preciſe ſituation is not now known.

ATHENRY, in *Geography*, a borough town of the county of Galway, in Ireland, which gives name to a barony. Within an extenſive circuit of dilapidated walls, and their ruinous towers, the remains of caſtles and abbeys, that are intermixed with the cottages of a now ſmall village, preſent a monument of its former conſequence. There are alſo many ruins of caſtles and churches in its neighbourhood. At this town was fought a battle between Fedlin O'Connor, prince of Connaught, an aſſociate of Edward Bruce, and an Engliſh army under William de Burgo and Richard de Bermingham

Bermingham, in which, after a desperate engagement, the Irish were defeated with the loss of their prince and eight thousand men. This event happened in the year 1316. Distance from Dublin nearly 92 miles. W. long. 8° 40′ 30″. N. lat. 53° 14′. Bermoot. Leland.

ATHENS, in *Ancient Geography* and *History*, a celebrated city, called by way of eminence ἄστυ, or πόλις, *the city*, was the capital of Attica, and the seat of the Grecian empire. It was founded by Cecrops, about 1556 years before Christ, and from him called "Cecropia." It afterwards, as some say, in the reign of Erichthonius, about 1487 years B. C., or according to others, in the reign of Erichtheus, about 1397 years B. C. assumed the name of Athens, from Minerva, denominated by the Greeks Ἀθηνᾶ, and considered as the protectress of the city. Cecropia was seated upon a hill or rock in the midst of a spacious and fertile plain, partly with a view of securing it against piratical invaders, and partly to prevent its being overwhelmed by inundations, which were much dreaded in those ancient times. In process of time, as the number of inhabitants increased, the whole plain was covered with buildings, which were denominated from their situation, "the lower city," and Cecropia was called "Acropolis," or "the upper city." See Acropolis. The old city, or citadel, was sixty stadia, or about 2¾ leagues in circuit; it was fenced with wooden pales, and as some say, set about with olive-trees; and it was also fortified with a strong wall, partly built by Cimon, the son of Miltiades, out of the spoils of the Persian wars, and situate on the south side of the citadel; and partly on the north side, by Agrolas and Hyperbius, who, according to Pausanias (in Attic. l. i. c. 28. p. 67.), migrated from Sicily to Acarnania, and denominated from them, who were called Pelasgi, the Pelasgic wall. The only entrance into the citadel was by one gate on the south-west, constructed at a great expence by Pericles, and denominated Propylæum. See Propylæum. The inside of the citadel was adorned with innumerable edifices, statues, and monuments, all of which it would be too tedious to recount. The most remarkable are the following.—At the entrance was a temple dedicated to Victory, adorned with paintings which were principally the work of Polygnotus, and constructed of white marble. Within the citadel were an immense number of statues erected by religion or gratitude, on which the chissels of Myron, Phidias, Alcamenes, and other artists of renown, seem to have bestowed animation. Of these statues some were those of famous Athenian generals, such as Pericles, Phormio, Iphicrates, and Timotheus; and others, those of the gods. About the middle of the citadel were the magnificent temple of Minerva, denominated Hecatompedon, and Parthenon (see Parthenon); and the temple of Minerva Polias and Neptune Erechtheus, one part of which was consecrated to the former, and the other to the latter. On one side was exhibited the olive-tree which sprang out of the earth at the command of the goddess, and which so greatly multiplied in Attica; and on the other, the well, whence they pretend that Neptune caused the water of the sea to gush out. Thus these divinities are said to have contended for the honour of conferring their names on the rising city; but the gods decided in favour of Minerva, and the Athenians for ages preferred agriculture to commerce. Here, however, they have erected one common altar, which is called the altar of oblivion. Before the statue of the goddess was suspended a golden lamp, the work of Callimachus, which was supplied with oil once a year, the wick of which was made of amianthus, and which burned night and day. The columns of the front of the temple of Neptune are standing, together with the architrave; and also the frieze and portico of Minerva Polias, with a portion of the cell retaining traces of the partition wall. The order of this building is Ionic. The portico is now used as a powder magazine, and near it is a battery commanding the town. The Turks use it to give notice of their ramazan and bairam, and on other public occasions. Contiguous to this temple was the Pandroseum. (See Pandroseum). Behind Minerva's temple was the public treasury, called Opisthodomos, surrounded by a double wall.

The lower city comprehended all the buildings that surrounded the citadel, together with the harbours of Phalerum, Munychiæ, and the Piræus. The whole circuit of the city in its most flourishing state was no less, according to Aristides, than a day's journey; or, according to more exact computation, 178 stadia, or about 22 Roman miles. The port of Phalerum was connected with the city by a wall 35 stadia, or 1½ league in length, built by Themistocles, of stones, fastened by iron and lead, and forty cubits high; and that of Piræus was joined to it by a wall 40 stadia or 1½ league long, and erected by Pericles. These were almost closed at their extremity by a third wall of 60 stadia; and they inclosed not only these two harbours, and also that of Munychia, which lay between them, but also a multitude of houses, temples, and monuments of every kind; so that the entire circumference of the city has been estimated at nearly 200 stadia, or above 7½ leagues. In the wall that encompassed the city there were several gates, the principal of which were those of Ægeus, of Diocharis, of the Diomians, of Melite, of Acharna, of Hippades, of Thriasia, or Dipylon, of Itonia, sacred gate, and that of the Piræus. The streets of Athens were in general irregular, and the houses small and incommodious. Besides the rock of the museum, close to the citadel on the south-west, separated by a valley from the hill on which the Areopagus stood, other eminences contributed to render the city extremely uneven. In these hillocks they had several springs of water, but not sufficient, without additional wells and cisterns, for the supply of the inhabitants. The city was encompassed by the rivers Ilissus and Cephisus, which joined their streams in the marsh of Phalerum, and near the banks of which were several public walks, and also public and private buildings. The three harbours of Athens were the Phalerum, Munychia, and Piræus; for an account of which see the articles. The principal edifices and places of note in and about the city are the following: —Without the gate of Piræus is a cenotaph, erected by the Athenians in honour of Euripides, who died in Macedonia, on which is inscribed "the glory of Euripides has all Greece for a monument;" and within this gate is a stately building, called Pompeion, in which are kept the sacred utensils used at festivals, and from which commence the processions of young persons exhibited on occasions of this kind. In an adjoining temple dedicated to Ceres are admirable statues of that goddess, Proserpine, and young Iacchus, executed by Praxiteles. In the street leading from the Piræus to the citadel, are numerous porticoes, some of which stood detached, and others contiguous to buildings, to which they serve as vestibules. To the left of this street [illegible] the part of the Pnyx, which was very populous; and [illegible] that of the Ceramicus, or pottery grounds, so called from the earthen ware formerly fabricated there. This extensive space was divided into two parts; one without the walls, where the academy was situated; and another, in which was the [illegible] square or [illegible]. In the [illegible] where the council of the areopagus held its tribunal, and where the [illegible]

ſometimes aſſembled, were ſeveral ſtatues, ſuch as thoſe of Pindar, Conon, Timotheus, and Evagoras king of Cyprus. Near the royal portico was that of Jupiter Liberator, where Euphranor the painter had repreſented in a ſeries of pictures the twelve gods, Theſeus, the people of Athens, and an engagement of the cavalry, in which Gryllus, the ſon of Xenophon, attacked the Thebans commanded by Epaminondas. The Apollo of the adjoining temple was the work of the ſame maſter. From the royal portico two ſtreets branch out, and terminate in the forum: that on the right was decorated by a number of Hermæ, or heads of Mercury ſupported by pedeſtals, erected for recording ſome glorious atchievements, or for inculcating ſome leſſons of wiſdom. This ſtreet is terminated by two porticoes that front the forum; the one, that of the Hermæ; the other, and the moſt handſome, is called the Pœcile, at the gate of which was the ſtatue of Solon. The walls within the Pœcile were covered with bucklers taken from the Lacedæmonians and other nations, and enriched with the works of Polygnotus, Micon, Panoenus, and other celebrated painters. The forum, which was extremely ſpacious, was decorated with buildings deſtined to the worſhip of the gods, or the ſervice of the ſtate, or as places of aſylum to the wretched; and ſtatues of kings or individuals who had merited well of the republic. An adjoining ſquare contained a temple in honour of the mother of the gods, with a ſtatue of her by Phidias; and the palace in which the ſenate aſſembled. In the temple of Mars, at a ſmall diſtance, was a ſtatue of that god, executed by Alcamenes, a pupil of Phidias.

In the middle of the city, between the forum and the citadel, was the temple of Theſeus, built by Cimon ſome years after the battle of Salamis; it was ſmaller than that of Minerva, but built after the ſame model; like that, it was of the Doric order, and an elegant ſtructure. It was enriched by the labours of ſkilful painters; and the remains of it are to be ſeen at this day. It was allowed the privilege of being a ſanctuary for ſlaves, and for all perſons of mean condition who fled from the perſecution of men in power; in honour of Theſeus who, whilſt he lived, was the protector of the diſtreſſed. Near to the temple of Theſeus, Pauſanias places the temple of the Dioſcuri, or of Caſtor and Pollux; and above this temple was the grove of Aglaurus, ſituate under the Acropolis. Near to this grove, north of the Acropolis, was the Prytaneum, where citizens who had rendered ſignal ſervices to the ſtate, were maintained at the public expence. See PRYTANEUM. Beyond this building, on the north-eaſt ſide of the citadel, was the ſtreet of the Tripods, or the ſtreet of triumphs, in which were temples and houſes containing tripods of braſs, which were dedicated by thoſe who had been victorious in the conteſts that ſubſiſted among the poets, muſicians, and dancers. In one of theſe edifices was the famous ſatyr, called by the Greeks Περιβόητος, eſteemed by Praxiteles himſelf one of the fineſt of his productions, and ranked by the public among the maſterpieces of art. The ſtreet of the Tripods led to the theatre of Bacchus, where the people ſometimes aſſembled to deliberate on affairs of ſtate, or to be preſent at the repreſentation of tragedies or comedies; and oppoſite to this theatre was the temple of Bacchus, one of the moſt antient temples of Athens; it was ſituated in the quarter of Limnæ, or Marſhes, and was opened only once a year. Between the ſtreet of the Tripods and the theatre of Bacchus was the Odeum, built by Pericles for muſical competitions. (See ODEUM.) In the quarter of the marſhes, ſouth of the citadel, was the temple of the Olympian Jupiter, begun by Piſiſtratus, continued by ſeveral ſucceeding governors, and finiſhed in the time of Adrian. The ruin of this temple conſiſts of very large and beautiful columns of the Corinthian order, fluted, about ſix feet in diameter and ſixty in height. The temple of the Pythian Apollo lay to the north-weſt of that of Jupiter Olympius, and nearer to the citadel; and near to the Propylæum, at the bottom of the citadel, on the north ſide, is the temple of Apollo and Pan, in a grotto or cave, where Apollo is ſaid to have deflowered Creuſa, daughter of king Erichtheus. Beſides theſe there were ſeveral other temples, ſuch as the temple of Diana, that of the Eight Winds, and the Pantheon dedicated to all the gods. (See PANTHEON.)

Without the city, between the wall and the river Ilyſſus, was the dromos or ſtadium (ſee STADIUM, and CYNOSARGES). Beyond the Ilyſſus, and to the eaſt of the Stadium, was mount Hymettus, and the diſtrict called Agræ, in which were the temples of Ceres, and of Diana Agrotera, or the huntreſs. Above this were the Gymnaſia of the Lyceum (ſee LYCEUM), and of the Cynoſarges. To the north-weſt, in the Ceramicus that lay without the city, and diſtant from it about ſix ſtadia, was the Academy. (See ACADEMY.) Beyond the Academy was a hill called Colonos, on which Sophocles laid the foundation of his Œdipus Coloneus. The river Cephiſus enriched this diſtrict with its waters, though in ſummer this ſtream, and alſo the Ilyſſus, were occaſionally dry.

The topography of ancient Athens, given by Pauſanias, ſo far correſponds to thoſe remains, whoſe names and ſituations have been deſcribed by modern travellers, as to afford a ſtrong preſumption of its accuracy; and it affords a kind of ſtandard by which the correctneſs of other deſcriptions may be eſtimated. In order to form a juſt notion of his plan, it is neceſſary to conſider the ſtations from which his routes commenced; and theſe will appear to be in a natural order, and to have embraced in the moſt comprehenſive manner the whole of the city of Athens. His two principal ſtations were the Ceramicus and the Prytaneum; and his routes from the former ſtation noticed thoſe parts that lay to the north-weſt, and thoſe from the latter ſuch as were ſituated to the north, eaſt, and ſouth of the Acropolis. Having arrived at Athens from the Piræus, and paſſing through the outer Ceramicus and the city gate, he entered the inner Ceramicus, which was his firſt ſtation. On the right hand, he ſays, is ſeen the royal porch, and he there enumerates among other objects, the temple of the mother of the gods; the ſenate-houſe of five hundred; the Thelus; the temple of Mars; the Odeum; the fountain called Enneakrounos; the temple of Ceres and Proſerpine; and another. Pauſanias having finiſhed his firſt route, without deſcribing any objects in returning, commences his ſecond, which appears to be very ſhort; remarking only the temples of Vulcan, and of Venus Urania, above the Ceramicus, and which may be ſuppoſed to have been northward of the gate Dipylon. He then proceeds to ſay, that the traveller, directing his courſe to the Poecile or Poikile, will obſerve the ſeveral objects in the following order: beſides others, the Market place, the Gymnaſium, the temple of Theſeus, the temple of the Dioſcuri, and the grove of Aglaurus: the temple of Theſeus ſtill remains. According to the order of Pauſanias, we muſt look for the Poikile, the Market place or forum, and the Gymnaſium, between the gate Dipylon and the temple. According to Pauſanias, the temple of the Dioſcuri was near to that of Theſeus; and above the temple of the Dioſcuri was the grove of Aglaurus; and as this grove was under the Acropolis, it muſt have been between that place and the temple of Theſeus, or nearly between the Acropolis

Acropolis and the hill of the Areopagus. Near to the grove of Aglaurus was the Prytaneum, north of the Acropolis, and this was the ſecond ſtation of Pauſanias. The firſt route from this ſtation is explained as deſcending from the Prytaneum to the lower parts of Athens; and it includes the temple of Serapis, of the goddeſs Lucina, of the Olympian Jupiter, and the Delphinian Apollo, the Gardens, the Lyceum, the river Ilyſſus, the temple of Diana the huntreſs, and the Stadium. Without deſcribing any objects in his return from the Stadium to the Prytaneum, Pauſanias commences his ſecond route from that ſtation by the way called Tripodes, in which, he ſays, there are temples, tripods, and other works deſerving notice; and, in the following order he mentions the temple of Dionyſius, the temple of Bacchus, the imitation of the tent of Xerxes, the theatre of Bacchus, the wall called Southern, the tomb of Calus, the temples of Æſculapius, of Themis, of Earth, and of Virid Ceres; and then enters the Propylea of the Acropolis. Within the Acropolis, he deſcribes, among other objects, the Parthenon, the temples of Erectheus, Polias, and Pandroſus; and his deſcriptions agree ſo exactly with the remains found there, that this part of his topography affords an evidence of his preciſion in other reſpects. He then paſſes from the Acropolis over the Areopagus, thence to the tombs, and to the Academy; and this route is in the order of their ſituation; for he had before paſſed under the north-eaſt ſide of the Areopagus, in his route from the temple of Theſeus to the Prytaneum. The tombs, which are in the neighbourhood of the Muſeum, according to Dr. Chandler, were evidently in the ſituation to which Pauſanias alludes; and the academy is known to have been to the weſt of the walls of the city. It has been the uniform opinion of antiquaries, that the old city of Athens was built on the northern ſide of the Acropolis; and the inſcription of Adrian's arch is a confirmation that the addition to the city, built by that emperor, and called after him Adrianople, was on the ſouthern ſide. Mr. Stewart, however, in his "Antiquities of Athens" (vol. iii.), conjectures, that the ancient city was on the ſouth ſide of the Acropolis; but it has been alleged, that there are no remains which countenance this ſuppoſition; and, beſides it ſhould be recollected, that the Pelaſgi, who fortified the Acropolis, were permitted to dwell beneath the walls: they were afterwards accuſed by the Athenians of way-laying their daughters, as they went from the city to fetch water from the Ilyſſus: this could not poſſibly have happened, without ſuppoſing that the ancient city was on the north ſide of the Acropolis, and that the part inhabited by the Pelaſgi was on the ſouth ſide: for no other part would correſpond to the account of the Pelaſgi being in a ſituation between the city and the river. The Pelaſgi were afterwards driven out of Attica; the ſpot on which they dwelt was execrated; and the Delphic oracle adviſed, that it ſhould be kept rough and uncultivated. It is, however, well known, that this ſpot, in after times, was inhabited; but it is ſomewhat ſingular, that, except the theatre and ſome few monuments, immediately under the walls of the Acropolis, the whole of the plain between the Acropolis and the Ilyſſus, contains no remains of ancient works, beſides one ſolitary column. This furniſhes a ſtrong argument againſt the ſuppoſition of the ancient city being erected in this ſituation; for undoubtedly the chief monuments of their grandeur would be contained within the city. This circumſtance alſo accounts for Pauſanias paſſing by, without deſcribing any thing as ſituated there: it was ſterile in antiquities, and therefore furniſhed no object deſerving his notice. For theſe obſervations, we are indebted to an anonymous writer. See Monthly Review enlarged, vol. xvii. p. 56. For the plans of Athens, annexed to the travels of Anacharſis, ſee the Maps of this work.

Athens, *and the Athenians, Hiſtory of.* It has been already obſerved, that the city of Athens was founded by Cecrops about 1556 years B. C. This prince reigned fifty years. Under the reigns of his ſucceſſors, various circumſtances combined to determine the character and ſituation of the nation. The ſucceſſion of princes appears, with few exceptions, the ſucceſſion of improvement. Under the reign of Erichthonius, the colony of Cecrops accuſtomed horſes, already docile to the bit, to draw wheel carriages; and profited by the labour of bees, which uſeful race of inſects they carefully preſerved on mount Hymettus. Under Pandion, they made new progreſs in agriculture; but a long drought having deſtroyed the hopes of the huſbandman, the harveſts of Egypt ſupplied the wants of the colony, which thence contracted a taſte for commerce. Erichtheus, his ſucceſſor, rendered his reign illuſtrious by uſeful inſtitutions, and the Athenians dedicated a temple to him after his death. A conſiderable portion of barbariſm ſtill remained; the country, very imperfectly cultivated, maintained great numbers of ſavage animals, and ſtill more ſavage men. The Grecian woods and mountains abounded in lions, boars, and other fierce animals, that often roamed from their haunts, and ſpread terror and deſolation among the adjoining vallies. The vallies themſelves teemed with men of brutal ſtrength and courage, who availed themſelves of the weakneſs of government, to perpetrate horrid deeds of violence and cruelty. About the year 1300. B. C. the firſt worthies of Greece, animated rather with the daring and uſeful, than with the romantic ſpirit of chivalry (Plutarch's Theſeus), ſet themſelves with one accord to remedy evils which threatened the exiſtence of ſociety. Theſe travelled over Greece, and freed it from the violence both of kings and individuals: they appeared to the Greeks as beings of a ſuperior order; and that infant people, no leſs extravagant in their gratitude than fears, rewarded the exploits with ſo much glory, that the honour of protecting them became the firſt ambition of noble minds. Of theſe, one of the moſt eminent was Theſeus, the ſon of Egeus king of Athens, who was ardently deſirous of rivalling the exploits of Hercules. The Pallantides, a powerful family of Athens, having attempted to wreſt the ſceptre from the aged hands of Egeus, young Theſeus, now approaching to man's eſtate, overwhelmed the projects of the conſpirators. (Plutarch's Theſeus.) Marathon, the ſecond city in Attica, had its environs infeſted by a ferocious bull; the heroic prince ſubdued this terrible animal (Plutarch's Theſeus); and the Athenians regarded his ſucceſs with aſtoniſhment and admiration. But his countrymen had ſoon after a call for their wonder and gratitude in a much more ſignal atchievement, and more momentous benefit. Minos, king of Crete, accuſed them of having put to death his ſon Androgeus, and compelled them by force to deliver him, at ſtated intervals, a certain number of youths and maidens. Theſe were to be choſen by lot, and their deſtiny was death or ſlavery. (Plutarch's Theſeus.) It was now the third time that the pledges of their affections were to be torn from their unhappy parents. All Athens was in tears, but Theſeus revived her hopes. He undertook to free the city from this odious tribute; and, to accompliſh the noble project, voluntarily enrolled himſelf in the number of the victims, and embarked for Crete. The adventures of Theſeus in Crete, exhibited by the inventive and often fanciful poetry of the Greeks, contain a great portion of the marvellous, through which a ſkilful and diſcerning reader may

may diſcover the probable. According to the tale which the Athenians relate, it was the cruel practice of Minos to ſhut up his tributary victims, the moment he received them, in a labyrinth, where they were ſoon after devoured by the minotaur, a monſter half a man and half a bull, the offspring of the infamous amours of Paſiphae, queen of Crete: they add, that Theſeus, having ſlain the minotaur, brought back the young Athenians, and was accompained on his return by Ariadne, daughter of Minos, who aſſiſted him in eſcaping from the labyrinth, and whom he abandoned on the ſhores of Naxos. The Cretans, on the contrary, allege, that the Athenian hoſtages were deſtined to the victors in the celebrated games in honour of Androgeus; that Theſeus, having obtained permiſſion to enter the liſts, overcame Taurus, general of the troops of Minos; and that this prince had the generoſity to do juſtice to his valour, and pardon the Athenians.

Minos had eſtabliſhed an excellent ſyſtem of government, which equally ſecured the authority of the prince and the liberty of the people, and connected religious with political influence. (Ariſtotle's Politics.) The advantages of this ſyſtem Theſeus diſcerned, and having returned and aſcended the throne of Attica, vacant by the deceaſe of his father, he reſolved to improve the government of his country. The twelve towns, founded by Cecrops, were become ſo many republics, each of which had its particular magiſtrates and chiefs almoſt independent, whoſe intereſts claſhing continually, produced frequent wars; and though imminent dangers ſometimes obliged them to have recourſe to the protection of the ſovereign, the ſucceeding calm ſoon awakened their ancient jealouſies. The royal authority, fluctuating between deſpotiſm and degradation, alternately inſpired terror and contempt; and the people, by the vice of a conſtitution, the nature of which was not exactly underſtood either by prince or ſubjects, had no means whatever to defend themſelves againſt the extremity of ſlavery, or the exceſs of licentiouſneſs. Theſeus formed his plan; and, ſuperior even to minute obſtacles, took upon himſelf its execution in detail. He traverſed the different diſtricts of Attica, and endeavoured every where to inſinuate himſelf into the favour of the people, who with ardour received a project which ſeemed to reſtore to them their primitive liberty; but the wealthier claſs, fearing to loſe the authority they had uſurped, and apprehenſive of ſeeing a kind of equality eſtabliſhed between all ranks of citizens, murmured at an innovation which diminiſhed the royal prerogative: not daring, however, openly to oppoſe the will of a prince, who was endeavouring to obtain by perſuaſion, what he might exact by force, they conſented, but with a ſecret determination to proteſt againſt the meaſure when circumſtances might be more favourable. It was now determined that Athens ſhould be the metropolis and centre of the ſtate; that the ſenates of the cities ſhould be aboliſhed; that the legiſlative power ſhould reſide in the general aſſembly of the nation, divided into three claſſes, the nobles, the huſbandmen, and the artificers; that the firſt magiſtrates, choſen out of the former, ſhould have the ſuperintendance of the ſacred rites, and be the interpreters of the laws; that the different orders of citizens ſhould form a mutual balance, the firſt, having in its favour the ſplendor of dignities; the ſecond, the importance of ſervices; and the third, the ſuperiority of number. (Plutarch's Theſeus.) It was determined in fine, that Theſeus, placed at the head of the republic, ſhould be the defender of the laws it might enact, and the general of the troops deſtined to its defence. He erected tribunals for the magiſtrates; enlarged the capital, and embelliſhed it as far as the imperfection of the arts at that time would permit. Strangers, invited to become citizens, flocked thither from all parts, and were incorporated with the ancient inhabitants. He added the territory of Megara to the country; he placed a column on the iſthmus of Corinth, as a boundary between Attica and Peloponneſus; and revived, near this pillar, the Iſthmian games, in imitation of thoſe lately inſtituted by Hercules at Olympia. Every thing now ſeemed favourable to his views: he governed a free people, retained in obedience, by his moderation and his bounties; he dictated laws of peace and humanity to the neighbouring nations, and enjoyed a foretaſte of that profound veneration with which ſucceeding ages gradually honour the memory of great men. Theſeus alſo engaged in new undertakings of valour, ſome of them very unjuſtifiable (ſee THESEUS, HERCULES, and PIRITHOUS), and all of them prejudicial to his country, by occupying that time which might have been employed in the farther improvement of the ſtate. But with theſe exceptions, Theſeus was a very great and beneficial ſovereign, and his reign was a very important epoch in Athenian hiſtory. For ſeveral ages, however, Athens was only a ſecondary power: in the time of Homer, that ſtate ſent but fifty ſhips, whereas ſeveral other countries ſent eighty, and Mycene a hundred. The compliment of men to each, being 120, the troops amounted to about 6000.

Full fifty more from Athens ſtem the main,
Led by Meneſtheus thro' the liquid plain;
No chief like thee, Meneſtheus! Greece could yield,
To marſhal armies in the duſty field,
Th' extended wings of battle to diſplay,
Or cloſe th' embodied hoſt in firm array.
Neſtor alone, improv'd by length of days,
For martial conduct bore an equal praiſe.

See Pope's Homer's Iliad, l. ii.

At the time of the Trojan war, B. C. 1184. Athens, like other ſtates of Greece, was ſubjected to a limited monarchy, but not ſtrictly hereditary. Meneſtheus ſucceeded Theſeus, in preference to the ſon of that monarch. Meneſtheus was ſucceeded by Demophoon, who diſtinguiſhed himſelf at the ſiege of Troy, and on his return was eminent for political improvement. By him was erected the famous court of the EPHETÆ, for trying wilful murder by a tribunal to which the Britiſh jury bears a conſiderable analogy. By this court, the king himſelf afterwards ſubmitted to be tried, for having accidentally killed one of his ſubjects. He reigned thirty-three years, and was ſucceeded by his ſon Oxyntes, who reigned twelve years. Oxyntes was ſucceeded by his ſon Aphydas, who was murdered by Thymætes, the baſtard ſon of Oxyntes. Thymætes demonſtrated himſelf very unworthy to reign, and was at length dethroned to make room for a man who had diſtinguiſhed himſelf in the following manner. There happened to ariſe a conteſt between the king of Bœotia and the Athenians, about a frontier town. The hoſtile prince challenged Thymætes to determine their diſpute by a ſingle combat. The Athenian ſovereign choſe to decline, but Melanthus, an exile from Meſſenia, who then reſided at Athens, accepted the challenge. When they encountered, Melanthus demanded of his adverſary, why, contrary to articles, he had brought a ſecond into the field? He turned about to ſee who the alleged ſecond was, whereupon Melanthus run him through the body. Delighted with this victory, the Athenians did not regard the means by which it had been obtained, and appointed the conqueror their king. Melanthus was ſucceeded by his ſon Codrus: this prince was attacked by the Heraclidæ: having heard that the oracle promiſed the victory to that army which ſhould loſe its general in the battle, he voluntarily devoted himſelf

to death; a ſacrifice which ſo animated his troops, that they entirely defeated their enemies. Codrus was the laſt king of Athens; and on his death, the government became republican, by the eſtabliſhment of Archons; B. C. 1070; an office which was at firſt hereditary, and little inferior, in point of power, to royalty itſelf. Medon, the ſon of Codrus, firſt held the office of ARCHON. His brothers Neleus and Androclus, probably diſſatisfied with theſe tranſactions, determined to leave their country. This deſign was approved by the Achæan and Meſſenian refugees, and by many Athenian citizens, who complained that Attica was too narrow and barren to maintain the increaſing numbers of its inhabitants. The reſtleſs ſpirits in Phocis, Bœotia, and other neighbouring provinces, eagerly joined the emigrants. They ſailed to Aſia Minor, B. C. 1055, expelled the ancient inhabitants, a mixed race of Lydians, Carians, and Pelaſgi, and ſeized the central and moſt beautiful portion of the Aſiatic coaſt. (Herodotus, Clio.) Their colonies were gradually diffuſed from the banks of the Hermus, to the promontory of Poſeidon. They afterwards took poſſeſſion of Chios and Samos: and all theſe countries were united by the common name of Ionia, to denote that the Ionians compoſed the moſt numerous diviſion of the colony. See IONIANS.

The governmernt of the Archons, after ſeveral changes, at length became annual, and their number was nine. Peloponneſus being now involved in the long and bloody wars between the Meſſenians and the Spartans, the Spartans being in great danger, applied for aſſiſtance to the Athenians, who ſent them aid on one occaſion, and were inſtrumental to the reduction of the Meſſenians, and the aggrandiſement of the Spartans, deſtined to become formidable rivals to themſelves. During the firſt ages of Archontic government, Athens was little occupied by foreign wars, but very greatly by diſſenſions and ſeditions. They had no written laws, and were perpetually diſagreeing on points of religion and government. The inhabitants of Attica were ſeparated into three factions, each of which had at its head one of the moſt ancient families of Athens. Divided as they all were by intereſt, diverſity of character, and ſituation, it was impoſſible for them to agree in the choice of a form of government. The pooreſt and moſt independent, confined to the adjacent mountains, favoured a democracy; the wealthieſt, diſperſed over the plain, wiſhed for an oligarchy; while the inhabitants of the coaſts, engaged in maritime and commercial affairs, were for a mixed government, which might ſecure their poſſeſſions, without proving injurious to public liberty. To this ſource of diviſions, each party united the inveterate hatred of the poor againſt the rich. Obſcure citizens, overwhelmed with debts, had no reſource but that of ſelling their liberty, or that of their children, to mercyleſs creditors; and the greateſt part of them had determined to abandon a country which held out only ineffectual labour to ſome of them; and eternal ſlavery, and the ſacrifice of every ſentiment of nature, to the remainder. From the growth of knowledge, new ſources of induſtry, new neceſſities and vices, were diffuſed through ſociety. Licentiouſneſs was either paſſed over with impunity, or reprehended by arbitrary puniſhments. The life and fortune of individuals were left at the diſcretion of magiſtrates, who, ſubjected to no certain limitations, were but too much diſpoſed to liſten to their prepoſſeſſions or their intereſts. In this confuſion, which menaced the ſtate with immediate deſtruction, Draco was choſen, B. C. 624, with full powers to exerciſe the whole of legiſlation, in its moſt extenſive or circumſtantial views. The particulars of his private life are little known to us; but he has left the reputation of a man of wealth, poſſeſſed of real knowledge, and ſtrongly attached to his country. Other ſtrokes of character might perhaps embelliſh his hiſtorians, but are not worthy to [illegible] memory. Like all preceding and ſubſequent legiſlators, he formed a code of laws and morals; he took the citizen at the moment of his birth, preſcribed the manner of his earlieſt education, followed him through the different ſtages of his life, and, connecting theſe partial views with the main object, flattered himſelf he ſhould be able to form [illegible] and virtuous citizens: but he only produced malecontents, and his regulations excited ſo many murmurs, that he was compelled to take refuge in the iſland Ægina, where he ſoon after died.

His laws were ſtrongly impreſſed with the peculiarity of his character; they were as ſevere as his manners had been rigid. Death was the chaſtiſement he inflicted on idleneſs, and the only puniſhment he decreed for the ſlighteſt offences, as well as for the moſt atrocious crimes; he was accuſtomed to ſay, that he knew of none milder for the former, and could deviſe no other for the latter. It ſeems as if his powerful mind, virtuous even to exceſs, was incapable of any indulgence for crimes at which it revolted, or for thoſe weakneſſes over which it triumphed without an effort. As he had not attempted any change in the form of government, the inteſtine diviſions augmented from day to day. One of the principal citizens, named Cylon, formed the project of ſeizing on the ſovereign authority; he was beſieged in the citadel, where he had long defended himſelf, and at length, wanting proviſions, and deſtitute of every hope of ſuccour, eluded, by flight, the puniſhment due to his crime. His followers took refuge in the temple of Minerva; from which aſylum they were enticed by the promiſe of life, and inſtantly maſſacred. Some of theſe unfortunate men were murdered even on the altars of the awful Eumenides. The indignation excited by this action was univerſal; the people at once execrated the perfidy, and ſhuddered at the impiety of the victors; and the whole city expected that ſome dreadful calamity would be immediately inflicted by celeſtial vengeance. Amidſt this general conſternation, news was brought that the city of Niſæa and the iſle of Salamis had fallen by the arms of the Megarenſians. To this melancholy intelligence ſucceeded, ſoon after, an epidemical diſtemper. The public imagination, already agitated, was ſuddenly ſeized with panic terrors, and haunted by a thouſand terrifying chimeras. The augurs and oracles being conſulted, declared that the city, polluted by the profanation of the holy places, muſt be purified by the ceremonies of expiation. The Athenians, therefore, ſent to Crete for Epimenides, B.C. 612, conſidered as a man who had an intercourſe with the gods (Pauſanias, l. i.), and who ſaw into futurity. He really appears to have been a reformer endued with talents and knowledge to engage confidence in his opinions, and auſterity of manners to command reſpect. The firſt years of his youth he paſſed in ſolitary places, and ſeemed wholly abſorbed in the ſtudy of nature, forming his imagination to enthuſiaſm, by faſting, ſilence, and meditation, without any other ambition than by making himſelf acquainted with the will of the gods, to ſecure his dominion over the minds of men. His ſucceſs ſurpaſſed his hopes, and he acquired ſuch a reputation for wiſdom and ſanctity, that, in times of public calamity, nations intreated from him the favour of purifying them by rites, which, as they alleged, he could render more acceptable to the divinity. Athens received him with tranſports of hope and fear. He directed that new temples and new altars ſhould be built to immolate the victims he had choſen, and that theſe ſacrifices

ſhould be accompanied by certain hymns. As while ſpeaking he ſeemed agitated with a divine inſpiration, his impetuous eloquence was irreſiſtible. He availed himſelf of the aſcendency he had acquired, to effect ſeveral changes in the religious ceremonies, and in the manners of the people; and by various uſeful regulations, he endeavoured to bring the Athenians to the two principles of ſocial union and juſtice. But the reform of Epimenides, though beneficial as far as it extended, was very inadequate to the evils. The people were ſtill ſuffering under combined anarchy and oppreſſion; the magiſtrates plundered the treaſury and the temples; and often betrayed for bribes the intereſts of their country: the rich tyranniſed over the poor, the poor continually alarmed the ſafety of the rich: the rapacity of creditors knew no bounds; they compelled the inſolvent debtors to cultivate their lands like cattle, to perform the ſervice of beaſts of burden (Gillies, v. ii. 107.), and to transfer to them their ſons and daughters, whom they exported as ſlaves to foreign countries. In ſuch a diſtreſſed ſituation, there aroſe for their relief the illuſtrious Solon, B.C. 594. This celebrated ſage firſt diſtinguiſhed himſelf by military policy and warlike efforts. The Athenians had been long engaged in a war againſt the Megarenſians, concerning the iſland of Salamis; fatigued and broken by tedious and arduous hoſtilities, they abandoned the enterpriſe in deſpair, and even made a law enacting the puniſhment of death againſt any one who ſhould propoſe the capture of that iſland. Solon, aware of the importance of a poſſeſſion that commanded the coaſts of Attica, and deeming the national deſpondence inglorious as well as impolitic, ardently deſired to rouſe his countrymen to more vigorous counſels; but the new penal law reſtrained his efforts. At length he deviſed an expedient for patriotically tranſgreſſing the puſillanimous law, and avoiding the puniſhment. He accordingly counterfeited inſanity, and cauſed his family to report that he was actually mad (Plutarch's Solon); the rumour being ſpread and generally believed, he compoſed a poem, deſcribing the advantages of Salamis, and inciting the Athenians to renew the war. His verſes, ſtrong and impreſſive, produced the deſired effect. The people were rouſed, an expedition was undertaken, and Solon is, by Plutarch, ſaid to have deviſed the following ſtratagem for cutting off the Megarenſians, who then occupied Salamis. With his friend Piſiſtratus he ſailed at the head of an armament to Colias, there finding a number of women ſacrificing to Ceres, he ſent a confidential perſon to Salamis, inſtructed to profeſs himſelf a deſerter, and to tell the Megarenſians, that if they deſired to ſeize the chief Athenian women, to make all ſail to Colias. The Megarenſians, taking the ſtory for truth, preſently manned a ſhip; and Solon deſcrying this ſhip juſt as it put off from the iſland, commanded the women to be gone, and ordered ſome beardleſs youths, dreſſed in theſe women's clothes, their ſhoes and mitres, and privately armed with daggers, to dance and wanton near the ſhore, till the enemies had landed, and the ſhip was in their power. Things being thus ordered, the Megarenſians were allured with the appearance, and, coming near the ſhore, ſtrove who ſhould leap out firſt, as it were only to ſeize the women; but were ſo warmly received, that not one of them eſcaped. The Athenians ſailed for the iſland, thus deprived of its defenders, and annexed Salamis to the territories of Athens. The fame which Solon thus acquired, he ſoon increaſed by his policy and conduct with regard to another ſubject of foreign policy.

The Criſſeans were a flouriſhing ſtate, not far from Delphi, and, commanding the approaches to that rendezvous of Grecian ſuperſtition, derived conſiderable emolument from the expences of the devotees. But with theſe advantages they were not ſatisfied; they began to exact vexatious and exorbitant duties from the merchants who came to expoſe their wares in the ſacred city; which, on account of the great concourſe of profligate pilgrims from every quarter, ſoon became the ſeat, not of devotion only, but of diſſipation, vanity, and licentious pleaſure. It was in vain for the merchants to exclaim againſt theſe unexampled impoſitions; the taxes were continually increaſed; the evil admitted not the expectation of either remedy or relief; and the ſtrangers, familiariſed to it by cuſtom, began to ſubmit without murmur; and perhaps endured the hardſhip with greater patience, when they perceived that they drew back the tax in the increaſed price of their commodities. Encouraged by this acquieſcence in their tyranny, the Criſſeans levied a ſevere impoſt on the pilgrims, whether Greeks or Barbarians, who viſited the temple of Apollo; a meaſure directly inconſiſtent with a decree of the Amphictyons, which declared that all men ſhould have free acceſs to the oracle, as well as extremely hurtful to the intereſt of the Delphians, who ſoon felt a gradual diminution of their profits from the holy ſhrine. The Criſſeans, totally regardleſs of the ſentiments of religion, plundered the temple of Delphi, with many circumſtances of aggravating atrocity. Solon rouſed his countrymen to avenge the ſacrilege; and to his ingenuity and ſkill it was chiefly owing that the Criſſeans were vanquiſhed (Gillies, vol. i. 221.), but Solon was deſtined to render himſelf, by legiſlation, moſt beneficial to his country. The general opinion of his genius and virtues, joined to the experience of his military talents, ſucceſs in wars, and political addreſs, had procured him diſtinguiſhed influence over the people. His experienced ability, and above all, his approved wiſdom and equity, pointed him out for the nobleſt and moſt ſublime employment of humanity, that of regulating the laws and government of a free people. Such, at leaſt, the Athenians may be conſidered, when their unanimous ſuffrage rendered Solon the abſolute umpire of their whole conſtitution and policy. When he undertook the reform of the ſtate, tyranny and diſorder prevailed; the wretched populace, deriving courage from deſpair, had determined no longer to ſubmit to ſuch multiplied rigours; and, before the wiſdom of the lawgiver interpoſed, they had taken the reſolution to elect and follow ſome warlike leader, to attack and butcher their oppreſſors, eſtabliſh an equal partition of lands, and inſtitute a new form of government. But the numerous clients and retainers, who, in a country little acquainted with arts and manufactures, depended on the wealthy proprietors of the lands and mines of Attica, rendered this undertaking alike dangerous to both parties; ſo that both became willing rather to ſubmit their differences to law, than to decide them by the ſword. The impartiality of Solon merited the unlimited confidence of his country. He maintained the ancient diviſion of property, but aboliſhed debts: he eſtabliſhed the rate of intereſt at 12 per cent. at which it afterwards remained; but forbade that the inſolvent debtor ſhould become the ſlave of his creditor, or be compelled to ſell his children into ſervitude. After theſe preliminary regulations, which ſeemed immediately neceſſary to the public peace, Solon proceeded, with an impartial and ſteady hand, to new model the government; on this generous, but equitable principle, that a few ought not, as hitherto, command, and the many obey; but that the collective body of the people, legally convened into a national aſſembly, were entitled to decide, by a plurality of voices, the alternatives of peace and war; contract or diſſolve alliances with foreign ſtates; enjoy all the branches of legiſlative or ſovereign power; and elect, approve, and judge the magiſtrates or miniſters entruſted, for a limited time, with the executive authority. Strangers, and

and all thoſe who could not aſcertain their Athenian deſcent, both in the male and female line, were totally excluded from the aſſembly and courts of juſtice. The regulations of Solon marked the utmoſt attention to preſerve the pure blood of Athens unmixed and uncorrupted; nor could any foreigner, whatever merit he might claim with the public, be admitted to the rank of a citizen, unleſs he abandoned for ever his native country, profeſſed the knowledge of ſome highly uſeful or ingenious art, and, in both caſes, had been choſen by ballot, in a full aſſembly of ſix thouſand Athenians. The numbers of this convention, and ſtill more their impetuoſity and ignorance, muſt have proved inconſiſtent with good government, if Solon had not ſecured the veſſel of the republic from the waves of popular frenzy, by the two firm anchors of the ſenate and the areopagus; tribunals originally of great dignity, and of very extenſive power, into which men of a certain deſcription only could be received as members. Solon divided the Athenians into four claſſes, according to the produce of their eſtates. The firſt conſiſted of thoſe whoſe lands annually yielded five hundred meaſures of liquid, as well as dry commodities, and the minimum of whoſe yearly income may be calculated at ſixty pounds ſterling, which is equivalent, if we eſtimate the relative value of money by the price of labour, and of the things moſt neceſſary to life, to about ſix hundred pounds Sterling in the preſent age. The ſecond claſs conſiſted of thoſe whoſe eſtates produced three hundred; the third two hundred; the fourth, and by far the moſt numerous claſs of Athenians, either poſſeſſed no landed property, or at leaſt enjoyed not a revenue in land equal to twenty-four pounds ſterling, or, agreeably to the above proportion, two hundred and forty pounds of our preſent currency. All ranks of citizens were alike admitted to vote in the public aſſembly, and to judge in the courts of juſtice, whether civil or criminal, which were properly ſo many committees of the aſſembly. But the three firſt claſſes were excluſively entitled to ſit in the ſenate, to decide in the areopagus, or to hold any office of magiſtracy. To theſe dignities they were elected by the free ſuffrages of the people, to whom they were accountable for their adminiſtration, and by whom they might be puniſhed for malverſation or negligence, although they derived no emolument from the diligent diſcharge of their duty. The ſenate of four hundred, which, eighty-ſix years after its inſtitution, was augmented to five hundred by Cliſthenes, enjoyed the important prerogatives of convoking the popular aſſembly; previouſly examining all matters before they came to be decided by the people, which gave them a negative before debate in all public reſolutions; and of making laws, which had force during a year, without requiring the conſent of the populace. Beſides this general ſuperintendence and authority, the ſenate was excluſively inveſted with many particular branches of the executive power. The preſident of that council had the cuſtody of the public archives and treaſury; the ſenate alone built ſhips, equipped fleets and armies, ſeized and confined ſtate criminals, examined and puniſhed ſeveral offences, which were not expreſsly forbidden by any poſitive law. The weight of ſuch a council, which aſſembled every day, except feſtivals, infuſed a large mixture of ariſtocracy into the Athenian conſtitution; this, as we ſhall immediately explain, was ſtill farther increaſed by the authority of the AREOPAGUS.

The principal magiſtrates in Athens were the nine archons. (See ARCHON.) Theſe nine archons, or preſidents of the ſeveral courts of juſtice, like all other Athenian magiſtrates, were, at the expiration of their annual office, accountable to the people; and when their conduct, after a ſevere ſcrutiny, appeared to merit public approbation and gratitude, they were received, and remained for life, members of the areopagus, a ſenate inveſted with a general inſpection over the laws and religion, as well as over the lives and manners of the citizens; and which, in dangerous emergencies, was even entitled to aſſume dictatorial power. See Lyſias, Iſocrates, Anacharſis, vol. i. and Gillies's Greece, vol. ii. Thus did the ſenate of the areopagus, and that of the four hundred, become two counterpoiſes ſufficiently powerful to ſecure the republic againſt the ſtorms from which all ſtates are inceſſantly in danger (ſee Plutarch, in Solon.); the former, by repreſſing the enterpriſes of the rich by its general cenſure; and the latter, by reſtraining by its decrees and its preſence the exceſſes of the multitude. New laws were enacted in ſupport of theſe regulations. The conſtitution might be attacked either by the general factions which had ſo long agitated the different orders of the ſtate, or by the ambition and intrigues of certain individuals. To guard againſt theſe dangers, Solon denounced puniſhments againſt thoſe citizens who, in time of public commotion, refuſed openly to declare for one of the parties. (Plutarch, in Solon.) His view, in this admirable inſtitution, was to rouſe men of merit and integrity from a ſtate of fatal inactivity, to oppoſe them to the factious, and ſave the republic by the courage and aſcendency of virtue. By a ſecond law, every citizen convicted of having attempted to make himſelf maſter of the ſovereign authority, was condemned to death. Laſtly, in the caſe of an attempt to erect another government on the ruins of the popular form, this wiſe legiſlator could imagine but one method to reanimate the nation; and that was by obliging the magiſtrates to reſign their employments; and hence this ſtern and menacing decree:—it ſhall be lawful for every citizen, not only to put to death a tyrant and his accomplices, but any magiſtrate who ſhall continue to exerciſe his functions after the deſtruction of the democracy. Such is the great outline of the conſtitution eſtabliſhed by Solon, according to which every Athenian citizen enjoyed the ineſtimable privilege of being judged by his peers, and tried by laws to which he himſelf had conſented. Although the legiſlative and judicial powers were thus lodged with the people, men of property and ability were alone entruſted with the adminiſtration of government; and as power in ſome meaſure followed property, the ſame expedient which ſerved to maintain a due diſtinction of ranks in ſociety, tended alſo to promote the induſtry and frugality of the multitude, that they might thereby become entitled to ſhare thoſe honours and offices to which perſons of a certain eſtate only could aſpire. (See Gillies, vol. ii. p. 114.) Conformable to this conſtitution was the code of laws which was framed by this illuſtrious legiſlator. As a ſyſtem of juriſprudence, the inſtitutions of Solon poſſeſs extraordinary excellence. They have the merit of eaſily coaleſcing with great variety and diſſimilarity of political ſyſtems, and are indeed well adapted to any limited government. Transfuſed into the Roman law, they have, in the forcible and eloquent language of Dr. Gillies, ſerved after an interval of above ſixteen hundred years, to aboliſh the barbarous practices of the Gothic nations, and to introduce juſtice, ſecurity, and refinement among the modern inhabitants of Europe. The laws of Solon conſider the citizen in the various relations of domeſtic, civil, and political ſociety. They accurately mark the duties belonging to theſe relations, and preſcribe the rules for directing and enforcing the performance of them, and for preventing their violation. To form the citizen early to the habits moſt beneficial to the community, the laws of Solon deſcribe the plan of his education. They recommend the exerciſes corporeal, intellectual, and moral, which tend

ſhould be accompanied by certain hymns. As while ſpeaking he ſeemed agitated with a divine inſpiration, his impetuous eloquence was irreſiſtible. He availed himſelf of the aſcendency he had acquired, to effect ſeveral changes in the religious ceremonies, and in the manners of the people; and by various uſeful regulations, he endeavoured to bring the Athenians to the two principles of ſocial union and juſtice. But the reform of Epimenides, though beneficial as far as it extended, was very inadequate to the evils. The people were ſtill ſuffering under combined anarchy and oppreſſion; the magiſtrates plundered the treaſury and the temples; and often betrayed for bribes the intereſts of their country: the rich tyranniſed over the poor, the poor continually alarmed the ſafety of the rich: the rapacity of creditors knew no bounds; they compelled the inſolvent debtors to cultivate their lands like cattle, to perform the ſervice of beaſts of burden (Gillies, v. ii. 107.), and to transfer to them their ſons and daughters, whom they exported as ſlaves to foreign countries. In ſuch a diſtreſſed ſituation, there aroſe for their relief the illuſtrious Solon, B.C. 594. This celebrated ſage firſt diſtinguiſhed himſelf by military policy and warlike efforts. The Athenians had been long engaged in a war againſt the Megarenſians, concerning the iſland of Salamis; fatigued and broken by tedious and arduous hoſtilities, they abandoned the enterpriſe in deſpair, and even made a law enacting the puniſhment of death againſt any one who ſhould propoſe the capture of that iſland. Solon, aware of the importance of a poſſeſſion that commanded the coaſts of Attica, and deeming the national deſpondence inglorious as well as impolitic, ardently deſired to rouſe his countrymen to more vigorous counſels; but the new penal law reſtrained his efforts. At length he deviſed an expedient for patriotically tranſgreſſing the puſillanimous law, and avoiding the puniſhment. He accordingly counterfeited inſanity, and cauſed his family to report that he was actually mad (Plutarch's Solon); the rumour being ſpread and generally believed, he compoſed a poem, deſcribing the advantages of Salamis, and inciting the Athenians to renew the war. His verſes, ſtrong and impreſſive, produced the deſired effect. The people were rouſed, an expedition was undertaken, and Solon is, by Plutarch, ſaid to have deviſed the following ſtratagem for cutting off the Megarenſians, who then occupied Salamis. With his friend Piſiſtratus he failed at the head of an armament to Colias, there finding a number of women ſacrificing to Ceres, he ſent a confidential perſon to Salamis, inſtructed to profeſs himſelf a deſerter, and to tell the Megarenſians, that if they deſired to ſeize the chief Athenian women, to make all ſail to Colias. The Megarenſians, taking the ſtory for truth, preſently manned a ſhip; and Solon deſcrying this ſhip juſt as it put off from the iſland, commanded the women to be gone, and ordered ſome beardleſs youths, dreſſed in theſe women's clothes, their ſhoes and mitres, and privately armed with daggers, to dance and wanton near the ſhore, till the enemies had landed, and the ſhip was in their power. Things being thus ordered, the Megarenſians were allured with the appearance, and, coming near the ſhore, ſtrove who ſhould leap out firſt, as it were only to ſeize the women; but were ſo warmly received, that not one of them eſcaped. The Athenians ſailed for the iſland, thus deprived of its defenders, and annexed Salamis to the territories of Athens. The fame which Solon thus acquired, he ſoon increaſed by his policy and conduct with regard to another ſubject of foreign policy.

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and all thoſe who could not aſcertain their Athenian deſcent, both in the male and female line, were totally excluded from the aſſembly and courts of juſtice. The regulations of Solon marked the utmoſt attention to preſerve the pure blood of Athens unmixed and uncorrupted; nor could any foreigner, whatever merit he might claim with the public, be admitted to the rank of a citizen, unleſs he abandoned for ever his native country, profeſſed the knowledge of ſome highly uſeful or ingenious art, and, in both caſes, had been choſen by ballot, in a full aſſembly of ſix thouſand Athenians. The numbers of this convention, and ſtill more their impetuoſity and ignorance, muſt have proved inconſiſtent with good government, if Solon had not ſecured the veſſel of the republic from the waves of popular frenzy, by the two firm anchors of the ſenate and the areopagus; tribunals originally of great dignity, and of very extenſive power, into which men of a certain deſcription only could be received as members. Solon divided the Athenians into four claſſes, according to the produce of their eſtates. The firſt conſiſted of thoſe whoſe lands annually yielded five hundred meaſures of liquid, as well as dry commodities, and the minimum of whoſe yearly income may be calculated at ſixty pounds ſterling, which is equivalent, if we eſtimate the relative value of money by the price of labour, and of the things moſt neceſſary to life, to about ſix hundred pounds ſterling in the preſent age. The ſecond claſs conſiſted of thoſe whoſe eſtates produced three hundred; the third two hundred; the fourth, and by far the moſt numerous claſs of Athenians, either poſſeſſed no landed property, or at leaſt enjoyed not a revenue in land equal to twenty-four pounds ſterling, or, agreeably to the above proportion, two hundred and forty pounds of our preſent currency. All ranks of citizens were alike admitted to vote in the public aſſembly, and to judge in the courts of juſtice, whether civil or criminal, which were properly ſo many committees of the aſſembly. But the three firſt claſſes were excluſively entitled to ſit in the ſenate, to decide in the areopagus, or to hold any office of magiſtracy. To theſe dignities they were elected by the free ſuffrages of the people, to whom they were accountable for their adminiſtration, and by whom they might be puniſhed for malverſation or negligence, although they derived no emolument from the diligent diſcharge of their duty. The ſenate of four hundred, which, eighty-ſix years after its inſtitution, was augmented to five hundred by Cliſthenes, enjoyed the important prerogatives of convoking the popular aſſembly; previouſly examining all matters before they came to be decided by the people, which gave them a negative before debate in all public reſolutions; and of making laws, which had force during a year, without requiring the conſent of the populace. Beſides this general ſuperintendence and authority, the ſenate was excluſively inveſted with many particular branches of the executive power. The preſident of that council had the cuſtody of the public archives and treaſury; the ſenate alone built ſhips, equipped fleets and armies, ſeized and confined ſtate criminals, examined and puniſhed ſeveral offences, which were not expreſsly forbidden by any poſitive law. The weight of ſuch a council, which aſſembled every day, except feſtivals, infuſed a large mixture of ariſtocracy into the Athenian conſtitution; this, as we ſhall immediately explain, was ſtill farther increaſed by the authority of the AREOPAGUS.

The principal magiſtrates in Athens were the nine archons. (See ARCHON.) Theſe nine archons, or preſidents of the ſeveral courts of juſtice, like all other Athenian magiſtrates, were, at the expiration of their annual office, accountable to the people; and when their conduct, after a ſevere ſcrutiny, appeared to merit public approbation and gratitude, they were received, and remained for life, members of the areopagus, a ſenate inveſted with a general inſpection over the laws and religion, as well as over the lives and manners of the citizens; and which, in dangerous emergencies, was even entitled to aſſume dictatorial power. See Lyſias, Iſocrates, Anacharſis, vol. i. and Gillies's Greece, vol. ii. Thus did the ſenate of the areopagus, and that of the four hundred, become two counterpoiſes ſufficiently powerful to ſecure the republic againſt the ſtorms from which all ſtates are inceſſantly in danger (ſee Plutarch, in Solon.); the former, by repreſſing the enterpriſes of the rich by its general cenſure; and the latter, by reſtraining by its decrees and its preſence the exceſſes of the multitude. New laws were enacted in ſupport of theſe regulations. The conſtitution might be attacked either by the general factions which had ſo long agitated the different orders of the ſtate, or by the ambition and intrigues of certain individuals. To guard againſt theſe dangers, Solon denounced puniſhments againſt thoſe citizens who, in time of public commotion, refuſed openly to declare for one of the parties. (Plutarch, in Solon.) His view, in this admirable inſtitution, was to rouſe men of merit and integrity from a ſtate of fatal inactivity, to oppoſe them to the factious, and ſave the republic by the courage and aſcendency of virtue. By a ſecond law, every citizen convicted of having attempted to make himſelf maſter of the ſovereign authority, was condemned to death. Laſtly, in the caſe of an attempt to erect another government on the ruins of the popular form, this wiſe legiſlator could imagine but one method to reanimate the nation; and that was by obliging the magiſtrates to reſign their employments; and hence this ſtern and memacing decree:—it ſhall be lawful for every citizen, not only to put to death a tyrant and his accomplices, but any magiſtrate who ſhall continue to exerciſe his functions after the deſtruction of the democracy. Such is the great outline of the conſtitution eſtabliſhed by Solon, according to which every Athenian citizen enjoyed the ineſtimable privilege of being judged by his peers, and tried by laws to which he himſelf had conſented. Although the legiſlative and judicial powers were thus lodged with the people, men of property and ability were alone entruſted with the adminiſtration of government; and as power in ſome meaſure followed property, the ſame expedient which ſerved to maintain a due diſtinction of ranks in ſociety, tended alſo to promote the induſtry and frugality of the multitude, that they might thereby become entitled to ſhare thoſe honours and offices to which perſons of a certain eſtate only could aſpire. (See Gillies, vol. ii. p. 114.) Conformable to this conſtitution was the code of laws which was framed by this illuſtrious legiſlator. As a ſyſtem of juriſprudence, the inſtitutions of Solon poſſeſs extraordinary excellence. They have the merit of eaſily coaleſcing with great variety and diſſimilarity of political ſyſtems, and are indeed well adapted to any limited government. Transfuſed into the Roman law, they have, in the forcible and eloquent language of Dr. Gillies, ſerved after an interval of above ſixteen hundred years, to aboliſh the barbarous practices of the Gothic nations, and to introduce juſtice, ſecurity, and refinement among the modern inhabitants of Europe. The laws of Solon conſider the citizen in the various relations of domeſtic, civil, and political ſociety. They accurately mark the duties belonging to theſe relations, and preſcribe the rules for directing and enforcing the performance of them, and for preventing their violation. To form the citizen early to the habits moſt beneficial to the community, the laws of Solon deſcribe the plan of his education. They recommend the exerciſes corporeal, intellectual, and moral, which tend

moſt powerfully to invigorate the bodily conſtitution; to enlarge, refine, and direct the underſtanding; to form, ſtrengthen, and liberalize the heart. They ſtrongly reprobate idleneſs, and recommend induſtry, pointing out the objects, private and national, for which it would be moſt uſefully and honourably exerted. They forcibly inculcate temperance, and cenſure the contrary as a principal ſource of miſconduct. Although the Athenian law was tranſfuſed into the Roman on many ſubjects; in ſeveral there is a very conſiderable difference. In Athens, the inſtitutions regarding women, and the relations in which they are concerned, were much more liberal than thoſe of Rome, although they fall greatly ſhort of thoſe in modern times, when men reſpect the natural equality of the ſex. Solon conſiders marriage as an engagement of mutual love and affection, the ends of which are to give happineſs to the family, and uſeful citizens to the ſtate. He does not conſider the wife, as the Romans afterwards did, as only part of the family property, which the huſband, the proprietor, was to uſe as he pleaſed. He regards her as the domeſtic companion of her huſband, nearly equal to him in the care of the children: he rigorouſly puniſhes thoſe who violate the obligations of the married ſtate: he permits divorce, not according to the caprice of the huſband, but after a diſcuſſion before a magiſtrate: he permits women to ſeparate from their huſbands on the ſame ground as men from their wives. His law for the protection of unmarried women was highly equitable. Whoever ſeduced a woman of before unimpeached conduct, was, if unmarried, obliged to atone to her by marriage for the injury. On this law hinge the plots of moſt of Terence's plays. The married deſtroyer of virgin innocence was puniſhed with a ſalutary rigour. The reciprocal duties of parent and child Solon did not leave to the mere operation of natural affection, but added poſitive laws. Theſe enjoined parents to beſtow ſuch pains on the education of their children as might enable them to perform their various duties as men and citizens. They oblige children to maintain their parents in declining years, two caſes excepted; e. g. if the children had been born of a courtezan, or had been educated to no profeſſion. In the firſt caſe, they ſuppoſed that children owe nothing to parents who had begotten them to diſgrace; in the ſecond, who deſtined them to uſeleſſneſs and dependence. Domeſtic tribunals were not permitted by Solon's laws. A citizen could only be judged by his peers, and by them only deprived of property, liberty, or life. The magiſtrates civil, military, and eccleſiaſtical, were by Solon's laws entitled to reſpect and obedience, whilſt they acted agreeably to the end of their office. (See Anacharſis, Gillies, and Ariſtotle's Politics.) Theſe are a few of the outlines of the proviſion made by Solon's laws for maintaing what judge Blackſtone ſtyles the *rights of perſons*. The laws of Solon reſpecting property were founded on principles of pure ethics, and regarded moral conduct as well as the preſervation of property and political expediency. They conſidered private virtue as well as private right and public tranquillity; they not only provided that one man ſhould not injure another, but endeavoured to prevent ſuch motives from exiſting as tend to produce injury. Thus by the Athenian law, the next heir is incapable of being guardian to a minor, becauſe it might be apprehended that ſuch a guardian might be more deſirous of appropriating the inheritance than of promoting the good of the ward. That regulation therefore conſiders moral motives, and withholds temptations. All the inſtitutions of Solon reſpecting ſucceſſions and teſtaments united the two conſiderations of regard to property and to moral principle. Solon allowed the citizen to diſpoſe of his property at pleaſure; at the ſame time by his regulations he guards againſt the arts of legacy hunters; and thus while he reſpects property, withholds motives to injuſtice. In that part of his code which treats of what the civilians termed *delicts*, and judge Blackſtone *private wrongs*, Solon's deſcription of injuries, and meaſures of redreſs, are nearly the ſame as in the Roman and Engliſh law. They all proceed upon a plain and obvious principle in ethics, that every injury done muſt be redreſſed. The injuries which may be done to an individual, affect either his liberty, property, character, or perſon, and are in general nearly the ſame in all countries. On this principle (ſays Gibbon, ſpeaking of that branch of law), the civilians of every country have erected a ſimilar juriſprudence, the fair concluſion of univerſal reaſon and juſtice. In that part which the civilians ſtyle penal law, and Blackſtone *public wrongs*, Solon differs very conſiderably from the Roman law, and agrees with the Engliſh. This difference is partly in the deſcription of crimes, and partly in the mode of cognizance. Public wrongs are either ſuch actions or omiſſions as tend to affect the tranquillity and happineſs of a ſtate. The ſame actions therefore muſt be wrong in very different degrees in different ſtates and circumſtances. The perfection of a penal code depends on the connection in the deſcription of laws, between crimes and public injuries in the firſt place; and in the ſecond, between crimes and puniſhment. If every action which generally hurts the public, is by the laws a crime, and if the puniſhment be exactly in proportion to the crime, and be not inflicted without certain proof of the commiſſion, that muſt be a good penal code. A wiſe lawgiver apportions puniſhment to crime, but does not conſider *puniſhing juſtice* only, he alſo takes *preventive* into his conſideration. One of the many great excellencies of our Engliſh law is, that it has adopted efficacious means for preventing crimes. To this branch of legiſlation Solon alſo had paid conſiderable attention. The prevention of crimes depends chiefly on two things: firſt, vigilance in obſerving the conduct of thoſe who, either from their general character, or from particular circumſtances, may be ſuppoſed moſt likely to commit them; ſecondly, on the previous care beſtowed on the morals of the people. This laſt is undoubtedly the ſureſt way of preventing crimes from being general. As a great ſource of criminal conduct is idleneſs, Solon enacted a law which obliged every citizen to exerciſe ſome trade or profeſſion. "None," ſays the learned and ingenious Drummond, "among the various inſtitutions of Solon has been more deſervedly celebrated than that which obliged every citizen to exerciſe ſome trade or profeſſion. In countries where the climate naturally diſpoſes men to ſloth and inactivity, every law which incites the mind to exertion, or which rouſes the latent energy of its faculties, muſt neceſſarily be attended with the moſt ſalutary effects." This law had a tendency not only to prevent the negative evil of ſloth, but the poſitive evil of active criminality. By the inſtitutions of Solon, extravagance, intemperance, and debauchery underwent a ſevere animadverſion. Magiſtrates were empowered to watch the buddings of noxious practices which might, if not cruſhed, ripen into crimes. Solon's deſcription of the various kinds and meaſures of crimes is very accurate, and the annexed puniſhment is generally proportionate. No action of pernicious tendency is by the Athenian laws exempted from penal animadverſion. By the Roman law, ſuicide (according to the juſt and ſtriking deſcription of Blackſtone, "the pretended heroiſm, but real cowardice of the Stoic philoſophers, who deſtroyed themſelves to avoid thoſe ills which they had not the fortitude to endure") was not only not puniſhed, but

was encouraged. By Solon's laws, the ſelf-murderer was branded with public infamy, and expoſed to what, according to the religious notions of his countrymen, conſtituted public puniſhment. Solon deſcribes the various ſpecies of fraud, theft, robbery, and homicide with the greateſt accuracy. Of the laſt in particular, the different ſhades from what our laws call chance medley, to parricide, are delineated with a moſt diſcriminating preciſion. It is not only the deſcription of crime, and the annexation of puniſhment, that is of importance in penal caſes, but alſo the tribunal which is to take cognizance of the caſe. By Solon's laws, every Athenian citizen had a right to be tried by his peers; the Athenian law was in this ſuperior to the Roman, which, in many caſes, admitted domeſtic tribunals. The father took cognizance of the crimes of his own family. Thus at Rome, the accuſed frequently was not tried by a tribunal of his peers, bound to act according to a fixed law, but by an arbitrary judge, whoſe own will was his only rule. Solon, like every wiſe lawgiver, endeavoured to extend the influence of religion over the minds of his countrymen. He enjoined a profound veneration for divinities, and deſcribed actions as pleaſing or diſpleaſing to them, according to the intention of the agent combined with the known tendency of the act: aware that the internal ſentiments of religion are ſtrengthened and confirmed by external rites, he ſtrictly enjoined the regular performance of rites and ceremonies.

Such was the code of Solon, ſuch the civil and political inſtitutions which contributed ſo powerfully to render this ſmall territory ſo very great a ſtate. The laws of Solon were to continue in force only for a century. Conceiving that conduct depends chiefly upon habits, he thought that the practice of a hundred years would confirm the Athenians in the habitual obſervance of ſuch beneficial rules. But the reſtrictions being contrary to the licence of ſtrong paſſions, appeared to many encroachments upon natural liberty; and they wiſhed for modifications which might admit fuller ſcope to their deſires. When the firſt novelty was worn off, Solon was ſurrounded by a crowd of importunate citizens, who overwhelmed him with queſtions, advices, commendations, or reproaches. Some preſſed him for an explanation of particular laws, capable, according to them, of different interpretations; others propoſed a variety of things to be added, modified, or ſuppreſſed. Solon having exhauſted his patience, and tried every conciliatory method in vain, was ſenſible that time alone could perfect and give ſtrength to his work; he therefore departed, after requeſting permiſſion to abſent himſelf for ten years (ſee Plutarch, in Solon), and binding the Athenians by a ſolemn oath, not to make any alteration in his laws during his abſence. (See Herodotus, Clio.) The adventures of Solon during his peregrination, belonging to himſelf individually, and not to the Athenians, will be ſeen under the articles Solon, Croesus, &c. The object of his travels being, as Herodotus informs us, to view mankind; after having, like Ulyſſes, traverſed many countries, and ſeen many men, he returned to his native country to behold the operation and effects of his inſtitutions. He found that much time is required before men, who have been either the ſlaves of deſpotiſm or the ſharers in licentiouſneſs, can be reconciled to juſt and equitable laws. The Athenians were ready again to ſink into anarchy. (See Plutarch's Life of Solon.) The three parties, which had ſo long rent the republic, ſeemed to have ſuſpended their hatred during the legiſlation only to vent it with more violence in his abſence; in one point alone were they united, in deſiring a change in the conſtitution, without any other motive than a ſecret reſtleſſneſs, or any object but vague hopes. Solon, received with the moſt diſtinguiſhed honours, willed to avail himſelf of the favourable diſpoſitions to calm diſcuſſions too frequently renewed. At firſt, he thought himſelf powerfully ſeconded by Piſiſtratus, who was at the head of the popular faction; and who, apparently eager to maintain equality among the citizens, declared himſelf an irreconcilable enemy to every innovation which might tend to its deſtruction; but he ſoon diſcovered that this profound politician concealed the moſt inordinate ambition under the mask of an affected moderation. Never did a man unite more qualities to captivate the mind of the people: he was of an illuſtrious birth, and poſſeſſed of great wealth, acknowledged worth (ſee Herodotus, in Terpſichore, his 5th book), a commanding figure, a perſuaſive eloquence, to which the muſical tones of his voice lent new charms, and a mind enriched with the talents beſtowed by nature, and the information procured by ſtudy. No man was a greater maſter of the paſſions, or knew better how to turn to advantage thoſe virtues he really poſſeſſed, and thoſe of which he had only the appearance. His ſucceſs has proved, that in proportion to the [illegible] nothing can beſtow a more decided ſuperiority than [illegible] and flexibility of character. With ſuch eminent advantages, Piſiſtratus, acceſſible to the loweſt citizens, laviſhed on them thoſe conſolations and ſuccours, which dry up the ſource, or palliate the bitterneſs of ſuffering. Solon, attentive to his proceedings, penetrated his intentions; but whilſt he was employed in deviſing means to guard againſt their conſequences, Piſiſtratus appeared in the forum covered with wounds he had artfully procured, inſpiring a deteſtation of the people whom he had ſo ſucceſsfully practiſed. (See Herodotus, Clio.) The aſſembly being immediately convoked, he accuſed the ſenate and the chiefs of the other factions of attempting his life: and diſplaying his ſtill bleeding wounds: "behold!" he exclaimed, "the reward of my love for the democracy, and of the zeal with which I have defended your rights!" At theſe words only menacing exclamations were heard on all ſides: the powerful citizens kept ſilence in aſtoniſhment, or took to flight. Solon, filled with indignation at their cowardice and the infatuation of the people, in vain attempted to reanimate the courage of the former, and to diſpel the frenzy of the latter; his voice, enfeebled by years, was eaſily overpowered by the clamours excited by pity, rage, and apprehenſion. The aſſembly concluded by voting Piſiſtratus a ſtrong guard for the defence of his perſon (B. C. 560). From this moment all his projects were accompliſhed; he preſently employed his force to take poſſeſſion of the citadel, and after diſarming the multitude, ſeized without oppoſition on the ſupreme authority. But though Piſiſtratus by this uſurpation deſtroyed for a time the political liberty of Athens, his power eventually gave ſtability to the laws which Solon had introduced. That extraordinary tyrant, for ſo the Greeks ſtyled him, was not more diſtinguiſhed by the loftineſs of his genius, than the humanity of his diſpoſition; and had not the violence of contending factions, and the fury of his enemies, inflamed his natural love of power, the name of Piſiſtratus would ſtand the foremoſt in the liſt of Grecian patriots and heroes. His valour and conduct were ſignalized in the conqueſt of Niſæa, Salamis, Naxos, Delos, and Sigæum; and if he diſplayed boldneſs and addreſs in acquiring ſovereignty, he diſplayed ſtill more moderation and virtue in adminiſtering it. He aſſumed, indeed, the royal dignities of prieſt and general, and took care that the chief offices of magiſtracy ſhould be filled by his partiſans; but he maintained the regular courſe of law and juſtice, not only by his authority, but by his example; having appeared in per-

ſon to anſwer an accuſation in the areopagus. He not only enforced the laws of Solon againſt idleneſs, but endeavoured to give them more efficacy, by introducing new arts and manufactures into Attica. He was the firſt who brought into that country the complete collection of Homer's poems, which he commanded to be ſung at the Panathenæan feſtival; nor can we ſuppoſe that he would have been zealous to diffuſe the liberal and manly ſentiments of that divine poet, if his government had not reſembled the moderation and equity of the heroic ages, rather than the deſpotiſm of tyrants. (See Gillies's Greece, vol. ii. 117.) His ſon Hipparchus imitated and ſurpaſſed the mild virtues of his father; and, amidſt the turbulence of the later democracy, it was acknowledged with a ſigh by the Athenians, that their anceſtors were indeed happy under Solon and Piſiſtratus, but that the reign of the tyrant Hipparchus brought back on earth the golden days of Saturn. The father had required a tenth part of the produce of Attica, to ſupport his guards, and the other appendages of royalty: his more generous ſon remitted one half of this impoſition. While he alleviated the burdens, yet encouraged the induſtry of his ſubjects, by building the temple of Olympian Jupiter, he was ſolicitous to diſpel their ignorance and barbarity, by erecting pillars in every part of the city, engraved with elegiac verſes, containing leſſons of wiſdom, and precepts of morality. He collected the firſt library in Athens; and his liberal rewards, and ſtill more his agreeable manners and winning affability, attracted to that city the moſt diſtinguiſhed poets of the age. The murder of Hipparchus exaſperated the temper of his brother and ſucceſſor Hippias; but notwithſtanding the calamities which the latter inflicted and ſuffered, it muſt be allowed that the government of Piſiſtratus and his family, which, with various interruptions, laſted ſixty-eight years, increaſed the ſtrength and promoted the refinement of Athens. (See Gillies's Greece, vol. ii. 118.)

Hipparchus, in particular, was fond of letters. Anacreon and Simonides, invited to his court, met with a moſt flattering reception: the firſt being loaded with honours, and the ſecond with preſents. He deſerves alſo to participate with his father in the glory of extending the fame of Homer. He may be reproached, as well as his brother, with too freely abandoning himſelf to pleaſures, and with inſpiring the Athenians with a taſte for luxury. Fortunate, nevertheleſs, if in the midſt of theſe exceſſes he had not committed an act of injuſtice, of which he was the firſt victim! Two young Athenians, Harmodius and Ariſtogiton, united in bonds of the tendereſt friendſhip, having received from this prince an affront it was impoſſible to forget, conſpired his deſtruction, and that of his brother. Some of their friends entered into this conſpiracy, and its execution was fixed for the ſolemnity of the panathenæa: they hoped that the crowd of Athenians, who, during the ceremonies of this feſtival, were permitted to bear arms, would ſecond their efforts, or at leaſt protect them againſt the fury of the guards who attended on the ſons of Piſiſtratus. With this view, after covering their poignards with branches of myrtle, they repaired to the place where the princes were arranging a proceſſion, which they were to precede to the temple of Minerva. When they arrived, they ſaw one of the conſpirators in familiar converſation with Hippias, and concluded themſelves betrayed; but reſolving dearly to ſell their lives, retired for a moment, and finding Hipparchus, plunged a dagger in his heart. Harmodius inſtantly fell beneath the redoubled blows of the prince's guards. Ariſtogiton, ſeized almoſt at the ſame inſtant, was put to the torture; but far from naming his accomplices, he accuſed the moſt faithful partiſans of Hippias, who ordered them to be dragged to inſtant puniſhment. "Haſt thou ſtill other wretches to diſcover?" exclaimed the tyrant, tranſported with fury. "There are none left but thee," replies the Athenian; "I die, and enjoy in death the ſatisfaction of having deprived thee of thy beſt friends." From that moment Hippias abandoned himſelf to the perpetration of every kind of injuſtice (Thucydides b. 6. c. 59.); but the yoke he laid heavy on the Athenians was broken three years after. (B. C. 510.) Cliſthenes, chief of the Alcmæonidæ, a powerful houſe of Athens, at all times inimical to the family of Piſiſtratus, collected all the malecontents about his perſon; and having obtained the aſſiſtance of the Lacedæmonians, by means of the Pythia of Delphi, whom he had gained over to his intereſt, marched againſt Hippias, and forced him to abdicate the tyranny. No ſooner had the Athenians recovered their liberty, than they rendered the higheſt honours to the memory of Harmodius and Ariſtogiton. Statues were erected to them in the forum; it was enacted that their names ſhould be for ever celebrated at the feſtival of the panathenæa, and ſhould, on no pretext whatever, be given to ſlaves. The poets eternized their glory by poems and ſongs, and very extenſive privileges were granted in perpetuity to their deſcendants. Cliſthenes, who had ſo greatly contributed to the expulſion of the Piſiſtratidæ, had ſtill to ſtruggle for many years againſt a powerful faction; but at length obtaining in the ſtate the authority to which he was entitled by his great talents, he confirmed the conſtitution eſtabliſhed by Solon, which the Piſiſtratidæ had never attempted entirely to ſubvert. (Anacharſis's Travels, vol. i. p. 174.) The power of Athens was great in ancient times; but it became incomparably greater after the re-eſtabliſhment of freedom. So advantageous to the powers of the human mind is the enjoyment of liberty, even in its leaſt perfect form, that in a few years after the expulſion of Hippias, the Athenians acquired an aſcendant in Greece, which was fatal to their enemies, painful to their rivals, and even dangerous to themſelves. They chaſtiſed the inſolence of the iſlanders of Eubœa and Ægina, who contended with them in naval power; and humbled the pride of Thebes, which rivalled them in military glory. Favoured, as they fondly believed, by the protection of their tutelary Minerva; and animated, as they ſtrongly felt, by the poſſeſſion of an equal freedom; they adorned their capital with the richeſt ſpoils of their vanquiſhed enemies. Their influence ſoon extended over the northern parts of Greece; and the fame of their power, ſtill greater than their power itſelf, alarmed the fears and jealouſy of the Peloponneſians. The Spartans, in particular, who had aſſiſted them in reſtoring the democracy, now perceived the error of which they had been guilty, in promoting the greatneſs of an ambitious rival. In order to prevent the dangerous conſequences of their folly, they ſummoned to a congreſs all their allies in Peloponneſus, that their united wiſdom might concert proper meaſures for reſiſting, ere it was too late, the encroachments of the Athenians, which threatened the liberties of all Greece. Their allies readily obeyed the welcome ſummons, and the deputies of the ſeveral ſtates, having aſſembled in the Spartan forum, eagerly liſtened to the ſpeakers appointed to explain the intentions of that republic. The Lacedæmonian orators acknowledged the miſtaken policy of their country, in expelling from Athens the family of Piſiſtratus, and delivering the government of that city into the hands of an ungrateful populace, who had ſince treated them with much indignity. But why (they proceeded) ſhould we relate private injuries? Have they not inſulted all their neighbours? Does not their pride daily increaſe with their power? And is there not

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reaſon to dread, that their growing ambition may endanger, and at length deſtroy, the public ſafety? In order to prevent this evil, we have recalled Hippias from baniſhment. And let us, therefore, by our united efforts, reſtore the ſon of Piſiſtratus in that power and authority of which we moſt injudiciouſly deprived him. The ſpeech of the Lacedæmonians produced not the intended effect. The Peloponneſians, however jealous of the Athenian greatneſs, were ſtill more jealous of the power of tyrants; and many of them, who had experienced the haughtineſs of Sparta, were not diſſatisfied with beholding a rival to that republic in the northern diviſion of Greece. The other deputies expreſſed their diſſent by ſilent diſapprobation; but Soſicles, the Corinthian, declared his ſentiments at great length, in a ſpeech which alike marks the manly character of the age, and the youthful vigour of Grecian eloquence. "Then ſurely, Lacedæmonians, will the heavens ſink below the earth, and the earth riſe ſublime in the air; men will inhabit the depths of the ſea, and fiſhes will take poſſeſſion of the land; when you, formerly the bulwarks of liberty, ſhall demoliſh the popular governments of Greece, and eſtabliſh tyrannies in their room, than which nothing can be more unjuſt or more pernicious." After this pompous exordium, the Corinthian proceeded to deſcribe and exaggerate the calamities which his own countrymen had ſuffered from the uſurpation of Cypſelus, and his ſon Periander. Having related, at great length, the proud, cruel, and deſpotic actions of thoſe princes; "Such," added he, "are the genuine fruits of abſolute power; but I adjure you by the Grecian gods! attempt not to re-eſtabliſh it in Athens. The Corinthians were ſeized with aſtoniſhment when they heard that you had ſent for Hippias; I myſelf was amazed at beholding him in this aſſembly; yet we never ſuſpected that you propoſed to reſtore him, in triumph, to his much injured city. If you ſtill perſiſt in this fatal reſolution, know that the Corinthians diſavow all part in a deſign equally unjuſt and impious." The other deputies liſtened with pleaſure to the boldneſs of Soſicles, who expreſſed the ſentiments which they themſelves felt, but which their reſpect for the Lacedæmonians obliged them to conceal. Hippias alone oppoſed the general voice of the aſſembly, atteſting the ſame gods which his opponent had invoked, and propheſying, that at ſome future time the Corinthians would repent of their preſent conduct, and regret their cruel injuſtice to the ſon of Piſiſtratus, when their own citizens, as well as the reſt of Greece, ſhould fatally experience the dangerous ambition of Athens. This remonſtrance, which was ſo fully juſtified in the ſequel, produced no immediate effect in the aſſembly; the Lacedæmonians finally yielded to the general requeſt of their confederates, and abſtained from their intended innovation in the government of a Grecian city.

The dethroned prince, finding his cauſe abandoned by the Greeks, ſought the protection of Artaphernes, the Perſian governor of Sardis: having acquired the confidence of this magiſtrate, he repreſented to him the inſolence, ingratitude, and perfidy of his countrymen, and the ſevereſt reproaches with which he loaded their character gained ready belief with the Perſian. The Athenians, who were informed of theſe intrigues, ſent ambaſſadors to Sardis, in order to counteract Hippias; but the reſolution of Artaphernes was already taken; and he told the ambaſſadors, that if they conſulted their ſafety, and would avoid the reſentment of Perſia, they would reinſtate Hippias on the throne of his father. This anſwer had been reported to the Athenians, and the aſſembly had finally ſettled to oppoſe the powers of the greateſt empire upon earth, rather than admit within their walls the declared enemy of their liberties. (See Herodotus, book v.) Preciſely at this juncture (B. C. 501.) Ariſtagoras arrived at Athens, to implore the revolt of the Aſiatic Greeks from the government of Artaphernes, and ſolicited the aſſiſtance of the Athenians, in defending their own colonies againſt the oppreſſive violence of the common foe. Many arguments were not required to make the people of Athens adopt a meaſure which gratified their own paſſions. The eloquent Miletian, however, deſcribed the wealth and extent of Perſia, the grandeur and populouſneſs of its cities, and above all, the ſlothful effeminacy and puſillanimous weakneſs of their inhabitants, who, unable to ſupport the ponderous ſhield, or to poiſe the manly lance, invited as an eaſy prey, the victorious arms of a more warlike invader. The ſpeech of Ariſtagoras was well fitted to excite the ambition and avarice of Athens. The aſſembly immediately decreed that aſſiſtance ſhould be ſent to Ionia. Twenty ſhips were fitted out with all convenient ſpeed, which reinforced by five more belonging to Eretria, a town of Eubœa, rendezvouſed in the harbour of Miletus. Ariſtagoras ſpent not long time in his embaſſy to the other ſtates of Greece, and ſoon met the Athenian allies at the place appointed. It was here determined, that while the commander in chief regulated the civil affairs of the Ionians, his brother Charopinus ſhould conduct a military expedition againſt the wealthy capital of Lydia. The Athenians, deſirous of teſtifying their reſentment againſt the common enemy, and ſtill more deſirous of plunder, eagerly engaged in this undertaking. The united fleets left the harbour of Miletus, and ſailed to Epheſus, where the troops were diſembarked; and, in three days, accompliſhing a journey of ſeventy miles, appeared before the walls of Sardis. The Perſian governor little expected ſuch a viſit; his ſoldiers were not prepared to take the field; and the extenſive walls of the city could not be defended on all ſides againſt the beſiegers; and the Greeks, without oppoſition, entered Sardis, in order to plunder the accumulated wealth of that ancient capital. But an accident prevented them from reaping the fruits of their ſucceſs. The reſentment of a rapacious ſoldier diſappointed of his prey, ſet fire to the houſe of a Lydian, ſituate on the ſkirts of the town, which conſiſted for the moſt part of very combuſtible materials, the houſes being all roofed, and many of them walled with cane; a mode of building doubly dangerous in that aduſt climate. The flames readily communicated from one houſe to another; and, in a ſhort time, the whole circumference of the place was ſurrounded with a wall of fire. Sardis was built in the Grecian, not in the Eaſtern faſhion, having on the banks of the Pactolus, which interſected the town, a ſpacious ſquare, which commonly ſerved for the market-place. Thither the Perſians, driven from the extremities, betook themſelves to refuge againſt the fury of the flames.

Darius was extremely enraged againſt the Greeks, and eſpecially the Athenians, for having abetted revolt among his ſubjects. The proud monarch of the Eaſt, when informed that the citizens of Athens had co-operated with the Ionians, in the taking and burning of Sardis, diſcovered evident marks of the moſt furious reſentment; ſhooting an arrow into the air, he prayed that heaven might aſſiſt him in puniſhing the audacious inſolence of that republic; and every time he ſat down to table, an attendant reminded him of the Athenians, leſt the delight of Eaſtern luxury ſhould ſeduce him from his fell purpoſe of revenge. The execution of his deſign was entruſted to Mardonius, a Perſian nobleman of the firſt rank, whoſe perſonal as well as hereditary advantages had entitled him to the marriage of Artazoſtra, daughter of Darius; and whoſe youth and inexperience were compenſated, in the opinion of his maſter, by his ſuperior

ſuperior genius for war, and innate love of glory. In the ſecond ſpring after the cruel puniſhment of the Ionians, Mardonius approached the European coaſt with an armament ſufficient to inſpire terror into Greece. The rich iſland of Thaſus, whoſe golden mines yielded a revenue of near three hundred talents, ſubmitted to his fleet; while his land forces added the barbarous province of Macedon to the Perſian empire. But having ſteered ſouthward from Thaſus, the whole armament was overtaken and almoſt deſtroyed by a violent ſtorm, while endeavouring to double the promontory of mount Athos, which is connected with the Macedonian ſhore by a narrow neck of land, but forms a long and lofty ridge in the ſea. Three hundred veſſels were daſhed againſt the rocks; twenty thouſand men periſhed in the waves. This diſaſter totally defeated the deſign of the expedition; and Mardonius having recovered the ſhattered remains of his fleet and army, returned to the court of Perſia, where by flattering the pride, he averted the reſentment of Darius; while he repreſented, that the Perſian forces, invincible by the power of man, had yielded to the fury of the elements. The addreſs of Mardonius reſcued him from puniſhment; but his misfortunes removed him from the command of Lower Aſia. Two generals were appointed in his room, of whom Datis, a Mede, was the more diſtinguiſhed by his age and experience, while Artaphernes, a Perſian, was the more conſpicuous for his rank and nobility, being deſcended of the royal blood. That his lieutenants might appear with a degree of ſplendor ſuitable to the majeſty of Perſia, Darius aſſembled an army of 500,000 men, conſiſting of the flower of the provincial troops of his empire. The preparation of an adequate number of tranſports and ſhips of war occaſioned but a ſhort delay. The maritime provinces of the empire, Egypt, Phœnicia, and the coaſts of the Euxine and Egean ſeas, were commanded to fit out, with all poſſible expedition, their whole naval ſtrength; the old veſſels were repaired, many new ones were built; and in the courſe of the ſame year in which the preparations commenced, a fleet of ſix hundred ſail were ready to put to ſea. This immenſe armament the Perſian generals were ordered to employ in extending their conqueſts on the ſide of Europe, in ſubduing the republics of Greece, and more particularly in chaſtiſing the inſolence of the Eretrians and Athenians, the only nations which had conſpired with the revolt of the Ionians, and aſſiſted that rebellious people in the deſtruction of Sardis. With reſpect to the other nations which might be reduced by his arms, the orders of Darius were general, and the particular treatment of the vanquiſhed was left to the diſcretion of his lieutenants; but concerning the Athenians and Eretrians, he gave the moſt poſitive commands that their territories ſhould be laid waſte, their houſes and temples burnt or demoliſhed, and their perſons carried in captivity to the eaſtern extremities of his empire. Secure of effecting this purpoſe, his generals were furniſhed with a great number of chains for confining the Grecian priſoners; a haughty preſumption (to uſe the language of antiquity), in the ſuperiority of man over the power of fortune, which on this, as on other occaſions, was puniſhed by the juſt vengeance of heaven. (B. C. 490.) The Perſian fleet enjoyed a proſperous voyage to the iſle of Samos, from whence they were ready to proceed to the Athenian coaſt. The late diſaſter which befel the armament commanded by Mardonius, deterred them from purſuing a direct courſe along the ſhores of Thrace and Macedonia; they determined to ſteer in a direct line through the Cyclades, a cluſter of ſeventeen ſmall iſlands lying oppoſite to the territories of Argos and Attica. The approach of ſuch an innumerable hoſt, whoſe tranſports darkened the broad ſurface of the Ægean, ſtruck terror into the unwarlike inhabitants of thoſe delightful iſlands. The Naxians took refuge in their inacceſſible mountains. The natives of Delos, the favourite reſidence of Latona and her divine children, abandoned the awful majeſty of their temple, which was overſhadowed by the rough and lofty mount Cynthus. Paros, famous for its marble; Andros, celebrated for its vines; Ceos, the birth place of the plaintive Simonides; Syros, the native country of the ingenious and philoſophic Pherecydes; Ios, the tomb of Homer; the induſtrious Amorgos; as well as all the other iſlands which ſurrounded the once ſacred ſhores of Delos, either ſpontaneouſly offered the uſual acknowledgment of earth and water as a teſtimony of their friendſhip, or ſubmitted, after a feeble reſiſtance, to the Perſian arms. The invaders next proceeded weſtward to the iſle of Eubœa, where, after almoſt a continued engagement of ſix days, their ſtrength and numbers, aſſiſted by the perfidy of two traitors, finally prevailed over the valour and obſtinacy of the Eretrians. Hitherto every thing was proſperous; but a more difficult taſk remained, in the execution of which the Perſians (happily for Europe) experienced a fatal reverſe of fortune. After the reduction of Eubœa, the Athenian coaſts ſeparated from that iſland only by the narrow ſtrait of Euripus, ſeemed to invite the generals of Darius to an eaſy conqueſt. They readily accepted the invitation, as the puniſhment of Athens was the main object which their maſter had in view when he fitted out his ſeemingly invincible armada. The meaſures which they adopted for accompliſhing this deſign appear abundantly judicious; the greater part of the army was left to guard the iſlands which they had ſubdued; the uſeleſs multitude of attendants were tranſported to the coaſt of Aſia: with a hundred thouſand choſen infantry, and a due proportion of horſe, the Perſian generals ſet ſail from Eubœa, and ſafely arrived on the Marathonian ſhore, a diſtrict of Attica, about thirty miles from the capital, conſiſting chiefly of level ground, and therefore admitting the operations of cavalry, which formed the main ſtrength of the barbarian army, and with which the Greeks were very poorly provided. Here the Perſians pitched their camp, by the advice of Hippias the baniſhed king of Athens, whoſe perfect knowledge of the country, and intimate acquaintance with the affairs of Greece, rendered his opinion on all occaſions reſpectable.

To combat this mighty force, the Athenians could not bring the twelfth part of the number, but their handful breathed the ſpirit of freedom, which was paramount to a countleſs multitude, the tools of deſpotiſm. It was firſt deliberated whether they ought to await the Perſians in the city, or meet their foes in the field. There are emergencies in which the moſt adventurous boldneſs is the ſoundeſt wiſdom; happily for the Athenians they had citizens able both to diſcover and apply this maxim. Three men then flouriſhed in Athens, qualified and deſtined to give new energy to the ſtate. Theſe were Miltiades, Ariſtides, and Themiſtocles. Their characters will beſt diſplay themſelves in the narrative of their actions. Miltiades had long carried on war in Thrace, where he acquired a ſplendid reputation; Ariſtides and Themiſtocles, younger than himſelf, had from their infancy manifeſted a rivalry, which would have been the ruin of the ſtate, had they not ſacrificed it on all emergencies to the public welfare. The example and harangues of theſe three illuſtrious citizens kindled the flames of the nobleſt heroiſm in the minds of the Athenians. Levies were immediately made. Each of the ten tribes furniſhed a thouſand foot ſoldiers, with a commander at their head.

measure; but the reſt, terrified at the exceſſive diſproportion of the armies, were deſirous of waiting for ſuccour from Lacedæmonia. Opinions being divided, they had recourſe to that of the ſholemarch, or chief of the militia, who was conſulted on ſuch occaſions to put an end to the equality of ſuffrages. Miltiades addreſſed himſelf to him in the ardour of a man deeply impreſſed with the importance of preſent circumſtances: "Athens (ſaid he) is on the point of experiencing the greateſt of viciſſitudes; ready to become the firſt power of Greece, or the theatre of the tyranny and fury of Hippias: from you alone, Callimachus, ſhe now awaits her deſtiny. If we ſuffer the ardour of the troops to cool, they will ſhamefully bow beneath the Perſian yoke; but if we lead them on to battle, the gods will favour us. A word from your mouth muſt now precipitate your country into ſlavery, or preſerve her liberty." (See Herodotus, l. vi. c. 109.) Callimachus gave his ſuffrage, and the battle was reſolved. To enſure ſucceſs, Ariſtides, and the other generals after his example, yielded to Miltiades the honour of the command which belonged to them in rotation; but, to ſecure them from every hazard, he preferred waiting for the day which of right placed him at the head of the army. When that day arrived, Miltiades drew up his troops at the foot of a mountain, on a ſpot of ground ſcattered over with trees, to impede the Perſian cavalry. The Platæans were placed on the left wing; Callimachus commanded the right; Ariſtides and Themiſtocles were in the centre of the battle, and Miltiades everywhere. (See Herodotus, l. vi.) At the firſt ſignal, the Greeks advanced over this ſpace running. The Perſians aſtoniſhed at a mode of attack ſo new to both nations, for a moment remained motionleſs; but to the impetuous fury of the enemy, they ſoon oppoſed a more ſedate and not leſs formidable fury. After an obſtinate conflict of ſome hours, victory began to declare herſelf in the two wings of the Grecian army. The right diſperſed the enemy in the plain, while the left drove them back on a moraſs that had the appearance of a meadow, in which they ſtuck faſt and were loſt. Both theſe bodies of troops now flew to the ſuccour of Ariſtides and Themiſtocles, ready to give way to the flower of the Perſian troops, placed by Datis in the centre of his battle. From this moment the rout became general. The Perſians, repulſed on all ſides, found their only aſylum in the fleet, which had approached the ſhore. The conquerors purſued them with fire and ſword, and took, burnt, or ſunk, the greater part of their veſſels; the reſt eſcaped by dint of rowing. The baniſhed tyrant of Athens fell in the engagement; two Athenian generals, and about two hundred citizens, were found among the ſlain: the Perſians left ſix thouſand of their beſt troops in the ſcene of action. The joy excited among the Athenians by a victory, which not only delivered them from the dread of their enemies, but raiſed them to diſtinguiſhed pre-eminence among their rivals and allies, is evident from a remarkable incident which happened immediately after the battle. As ſoon as fortune had viſibly declared in their favour, a ſoldier was diſpatched from the army to convey the welcome news to the capital. He ran with incredible velocity, and appeared, covered with duſt and blood, in the preſence of the ſenators: excеſs of fatigue conſpired with the tranſports of enthuſiaſm to exhauſt the vigour of his frame: he had

tors!" and immediately expired. The Athenians neglected nothing to honour his memory. Honourable funerals were beſtowed on them; their names were enrolled in the public records, and they were diſtinguiſhed by the appellation of the heroes of Marathon. The arms of the Perſians. An artiſt of eminence painted all the circumſtances of the battle in one of the moſt frequented porticoes of the city: Miltiades was there repreſented at the head of the generals, and in the act of exhorting the troops to fight for their country. The higheſt praiſes were beſtowed upon Miltiades, and he was appointed commander of an expedition againſt the Perſian garriſons. The firſt operations of the Athenian armament were crowned with ſucceſs. Several iſlands were ſubdued, and conſiderable ſums of money collected. But the fleet arriving before Paros, every thing proved adverſe to the Athenians. The Parians made a very vigorous defence; their ſtrength, however, began to decline, and they muſt have been overpowered, but for a fortunate accident. An extenſive grove, happening to be ſet on fire by the beſiegers, communicated the flames to the beſiegers to indicate the approach of a Perſian fleet. The ſame opinion gained ground among the Parians, who determined by their utmoſt efforts to preſerve the place until they ſhould be relieved by the aſſiſtance of their protectors. Miltiades had received a dangerous wound during the ſiege; and the weakneſs of his body impairing the faculties of his mind, he gave orders to draw off his victorious troops, and returned with the whole fleet to Athens. The Athenian citizens, and particularly the more eminent and illuſtrious, had univerſally rivals and enemies. The competitions for civil offices, or military command, occaſioned eternal animoſities among thoſe jealous republicans. Xantippus, a perſon of great diſtinction, and father of the celebrated Pericles, who, in the ſucceeding age, obtained the firſt rank in the Athenian government, eagerly ſeized an opportunity of depreſſing the character of a man which had ſo long ſurpaſſed that of every competitor. He was accuſed of ſuffering himſelf to be corrupted by Perſian money, and notwithſtanding the ſolicitations of the moſt virtuous citizens, was condemned to be thrown into the dungeon in which malefactors are left to periſh. The magiſtracy oppoſing the execution of this infamous decree, his puniſhment was commuted into a fine of fifty talents; and as he was unable to pay this ſum, Athens ſaw the vanquiſher of Darius expire in chains of the wounds he had received in the ſervice of the ſtate.

But the glory of Miltiades ſurvived him; and the Athenians, however unjuſt to his perſon, were not unmindful of his fame. At the diſtance of half a century, when the battle of Marathon was painted by order of the ſtate, they directed the figure of Miltiades to be placed in the fore ground, animating the troops to victory; a reward which, Dr. Gillies obſerves, "during the virtuous ſimplicity of the ancient commonwealth, conferred more real honour than all that magnificent profuſion of crowns and ſtatues, which, in the later times of the republic, were rather extorted by general fear, than beſtowed by public admiration." "The ſtruggles, diſappointments, dangers, and calamities, which often attend power and pre-eminence, have never yet proved ſufficient to deter an ambitious mind from the purſuit of greatneſs." The rivals of Miltiades were animated by the glory of his elevation, not depreſſed by the example of his fall. His accuſer, Xantippus, though he had acted the principal part in removing this favourite of the people, was not deemed worthy to ſucceed to his power.

Two candidates appeared for the public confidence and eſteem, who alternately outſtripped each other in the race of ambition, and whoſe characters deſerve attention even in Athenian hiſtory, as they had a powerful influence on the fortune of Athens. (See Dr. Gillies's Hiſtory of Greece, vol. i. p. 407.) The character of Ariſtides has been already ſeen in biographical detail (ſee article ARISTIDES): here it is to be viewed merely in its combination with events and with characters which affect the hiſtory of Athens.

The character of Themiſtocles was of a more doubtful kind. The trophy, which Miltiades had raiſed at Marathon, diſturbed his reſt: he was inflamed with a deſire to emulate the glory of this exploit; and while he enabled Athens to maintain a ſuperiority in Greece, he was ambitious to acquire for himſelf a ſuperiority in Athens. His talents were well adapted to accompliſh both theſe purpoſes; eloquent, active, enterpriſing, he had ſtrengthened his natural endowments by all the force of education and habit. Laws, government, revenue, and arms, every branch of political and military knowledge, were the great objects of his ſtudy. In the courts of juſtice he ſucceſsfully diſplayed his abilities in defence of his private friends, or in accuſing the enemies of the ſtate. He was forward to give his opinion upon every matter of public deliberation; and his advice, founded in wiſdom, and ſupported by eloquence, commonly prevailed in the aſſembly. Yet with all theſe great qualities, his mind was leſs ſmitten with the native charms of virtue, than captivated with her ſplendid ornaments. Glory was the idol which he adored; he could injure, without remorſe, the general cauſe of the confederacy, in order to promote the grandeur of Athens; and hiſtory ſtill leaves it as doubtful, as did his own conduct, whether, had an opportunity offered, he would not have ſacrificed the happineſs of his country to his private intereſt and ambition. The diſcernment of Ariſtides perceived the danger of allowing a man of ſuch equivocal merit to be entruſted with the ſole government of the republic; and on this account, rather than from any motives of perſonal animoſity, he oppoſed every meaſure that might contribute to his elevation. In this patriotic view, he frequently ſolicited the ſame honours which were ambitiouſly courted by Themiſtocles, eſpecially when no other candidate appeared capable of balancing the credit of the latter. A rivalſhip thus began, and long continued between them; and the whole people of Athens could only decide the much conteſted pre-eminence. The intereſt of Themiſtocles ſo far prevailed over the authority of his opponent, that he procured his own nomination to the command of the fleet; with which he effected the conqueſt of the ſmall iſlands in the Ægean, and thus completed the deſign of Miltiades. While he acquired fame and fortune abroad, Ariſtides increaſed his popularity at home. The oppoſition to his power, ariſing from the ſplendid eloquence and popular manners of his rival, was now fortunately removed, and he became the chief leader of the people. His opinion gave law to the courts of juſtice; or rather ſuch was the effect of his equity and diſcernment, he alone became ſovereign umpire in Athens. In all important differences he was choſen arbitrator, and the ordinary judges were deprived of the dignity and advantages formerly reſulting from their office. This conſequence of his authority, offending the pride of the Athenian magiſtrates, was ſufficient to excite their reſentment; which, of itſelf, might have effected the ruin of any individual. But their views on this occaſion were powerfully promoted by the triumphant return of Themiſtocles from his naval expedition. The admiral had acquired conſiderable riches; but wealth he deſpiſed, except as an inſtrument of ambition. The ſpoils of the conquered iſlanders were profuſely laviſhed in ſhows, feſtivals, dances, and theatrical entertainments, exhibited for the public amuſement. His generous manners and flowing affability were contraſted with the ſtern dignity of his rival; and the reſult of the compariſon added great force to his inſinuation, that ſince his own neceſſary abſence in the ſervice of the republic, Ariſtides had acquired a degree of influence inconſiſtent with the conſtitution; and, by arrogating to himſelf an univerſal and unexampled juriſdiction in the ſtate, had eſtabliſhed a ſilent tyranny, without pomp or guards, over the minds of his fellow-citizens. Ariſtides, truſting to the innocence and integrity of his own heart, diſdained to employ any unworthy means, either for gaining the favour, or for averting the reſentment, of the multitude. The conteſt, therefore, ended in his baniſhment for ten years, by a law intitled the Oſtraciſm (from the name of the materials on which votes were marked), by which the majority of the Athenian aſſembly might expel any citizen, however inoffenſive or meritorious had been his paſt conduct, who, by his preſent power and greatneſs, ſeemed capable of diſturbing the equality of republican government. This ſingular inſtitution, which had been eſtabliſhed ſoon after the Athenians had delivered themſelves from the tyranny of Hippias, the ſon of Piſiſtratus, was evidently intended to prevent any perſon in future from attaining the ſame unlawful authority. At Athens, even virtue was proſcribed, when it ſeemed to endanger the public freedom; and only four years after the battle of Marathon, in which he had diſplayed equal valour and wiſdom, Ariſtides, the juſteſt and moſt reſpectable of the Greeks, became the victim of popular jealouſy; an example of cruel rigour, which will for ever brand the ſpirit of democratical policy. The baniſhment of Ariſtides expoſed the Athenians ſtill more than formerly to the danger which they hoped to avoid by this ſevere meaſure. The removal of ſuch a formidable opponent enabled Themiſtocles to govern without control; army, navy, and revenue, all were ſubmitted to his inſpection. It happened, indeed, moſt fortunately for the fame of this great man, as well as for the liberty of Athens, that his active ambition was called to the glorious taſk of ſubduing the enemies of his country. The ſmaller iſlands in the Ægean were already reduced to obedience; but the poſſeſſion of them was uncertain while the fleet of Ægina covered the ſea, and bid defiance to the Athenians. This ſmall iſland, or rather this rock, inhabited time immemorial by merchants and pirates, and ſituate in the Saronic gulph, which divides the territories from the northern ſhores of Peloponneſus, was a formidable enemy to the republic; the jealouſy of commerce and naval power embittered their mutual rivalry; and as the inhabitants of Ægina, who were governed by a few leading men, had entered into an alliance with the Perſians, there was every circumſtance united which could provoke to the utmoſt the hatred and reſentment of the Athenians. A motive leſs powerful than the exceſs of republican antipathy could not probably have prevailed on them to embrace the meaſure which they now adopted by the advice of Themiſtocles. There was a conſiderable revenue ariſing from the ſilver mines of mount Laurium, which had been hitherto employed in relieving the private wants of the citizens, or diſſipated in their public amuſements. This annual income Themiſtocles perſuaded them to deſtine to the uſeful purpoſe of building ſhips of war, by which they might ſeize or deſtroy the fleet of Ægina. The propoſal was approved, an hundred gallies were equipped, the naval ſtrength of Ægina was broken, and ſucceſs animated the Athenians to aſpire at obtaining the unrivalled empire of the ſea. Corcyra formed the only remaining obſtacle to their ambition. This iſland, which,

which, under the name of Phœacia, is celebrated by Homer for its amazing riches and fertility, had been still further improved by a colony of Corinthians. It extends an hundred miles along the western shores of Epirus, and the natural abundance of its productions, the convenience of its harbours, and the adventurous spirit of its new inhabitants, gave them an undisputed advantage over their neighbours in navigation and commerce. They became successively the rivals, the enemies, and the superiors of Corinth, their mother country; and their successful cruises infested the coasts, and disturbed the communication of the islands and continent of Greece. It belonged to Athens, who had so lately punished the perfidy of Ægina, to chastise the insolence of the Corcyreans. The naval depredations of these islanders made them be regarded as common enemies; and Themistocles, when, by seizing part of their fleet, he broke the sinews of their power, not only gratified the ambition of his republic, but performed a signal service to the whole of the Grecian confederacy. Victorious by sea and land, against Greeks and Barbarians, Athens might now seem entitled to enjoy the fruits of a glorious security. It was generally believed in Greece, that the late disaster of the Persians would deter them from invading a second time the coasts of Europe. But Themistocles, who, in the words of Thucydides (lib. i.), was no less sagacious in seeing the future, than in managing the present, regarded the battle of Marathon not as the end of the war, but as the prelude to new and more glorious combats. He continually exhorted his fellow-citizens to keep themselves in readiness for action; above all, to increase, with unremitting assiduity, the strength of their fleet; and, in consequence of this judicious advice, the Athenians were enabled to oppose the immense armaments of Xerxes (of which the most formidable tidings soon arrived from every quarter), with two hundred gallies of a superior size and construction to any hitherto known in Greece. (See Gillies's Greece, vol. i. p. 414.)

Meanwhile the reduction of revolted provinces had given employment and lustre to the Persian arms. Nine years after the battle of Marathon, and in the fourth year of his reign (B. C. 481.), Xerxes found himself uncontrolled master of the East, and in possession of such a fleet and army as flattered him with the hopes of universal empire. The three last years of Darius were spent in preparing for the Grecian expedition. Xerxes, who succeeded to his sceptre and to his revenge, dedicated four years more to the same hostile purpose. Amidst his various wars and pleasures, he took care that the artisans of Egypt and Phœnicia, as well as all the maritime provinces of Lower Asia, should labour with unremitting diligence, in fitting out an armament adequate to the extent of his ambition. Twelve hundred ships of war, and three thousand ships of burthen, were at length ready to receive his commands. The former were of a larger size and firmer construction than any hitherto seen in the ancient world: they carried on board, at a medium, 200 seamen, and thirty Persians who served as marines. The ships of burthen contained, in general, eighty men, fewer being found incapable of rowing them. The whole amounted to 4200 ships, and about 500,000 men, who were ordered to rendezvous in the most secure roads and harbours of Ionia. We are not exactly informed of the number of the land forces, which were assembled at Susa. It is certain, however, that they were extremely numerous, and it is probable that they would continually increase on the march from Susa to Sardis, by the confluence of many tributary nations, to the Imperial standard of Xerxes. The Persian army consisted of 1,700,000 infantry, and 80,000 cavalry, besides 20,000 Arabians, riders of camels, and Libyan charioteers: when to these were added sailors and marines, the number amounted to 2,317,610: this was the number of fighting men whom Xerxes brought from Asia, exclusively of attendants and slaves. Besides, there were immense numbers of women and eunuchs, who, according to eastern luxury and debauchery, followed the camp, in all the ostentatious pageantry and feeble magnificence of despotic pomp: so that, to use the words of the animated Barthelemi, 5,000,000 had been torn from their native homes, and were preparing to destroy whole nations, to gratify the ambition of an individual named Mardonius. In Europe he was joined by 300,000 of Thracians, Macedonians, and northern Greeks, who meanly deserted their brave countrymen of Sparta and Athens; so that the whole exceeded 2,600,000 men. (This account is translated from Herodotus, l. vi.) The number of this army, as recorded by the first Greek historian, has never been equalled by any of ancient or modern times, from Herodotus to his literary descendant Gillies. But little availed the bodies of Asiatic slaves, against the souls of European freemen. Having wintered at Sardis, he sent ambassadors to demand earth and water, as a mark of submission, from all the Grecian states except Athens and Sparta, whom he presumptuously reserved for the severest punishment. (B. C. 480.) The slow march of his immense army, and, still more, its tedious transportation across the seas which separate Europe from Asia, ill suited the rapid violence of his revenge. Xerxes therefore ordered a bridge of boats to be raised on the Hellespont, which, in the narrowest part, is only seven stadia, or seven eighths of a mile in breadth. Here the bridge was formed with great labour; but whether owing to the awkwardness of its construction, or to the violence of a succeeding tempest, it was no sooner built than destroyed. The great king ordered the directors of the work to be beheaded; and, proud of his tyrannic power over feeble men, displayed an impotent rage against the elements. In all the madness of despotism, he commanded the Hellespont to be punished with 300 stripes, and a pair of fetters to be dropped into the sea; adding these frantic and ridiculous expressions:—"It is thus, thou salt and bitter water, that thy master punishes thy unprovoked injury; and he is determined to pass thy treacherous streams, notwithstanding all the insolence of thy malice." After this absurd ceremony, a new bridge was made of a double range of vessels, fixed by strong anchors on both sides, and joined together by cables of hemp and reed, fastened to immense beams driven into the opposite shores. The decks of the vessels, which exceeded 600 in number, were strewed with trunks of trees and earth, and their surface was still farther smoothed by a covering of planks. The sides were then railed with wicker work, to prevent the fear and impatience of the horses; and upon this singular edifice the main strength of the army passed in seven days and nights, from the Asiatic city of Abydos, to that of Sestos in Europe. The army began its march, divided into three bodies, one of which followed the sea shore, and the two others proceeded at stated distances, through the interior part of the country. (See Herodotus, l. vii.) The measures that had been adopted, procured them certain means of subsistence. Three thousand vessels laden with provisions kept along the coast, regulating their motions by those of the army. The Egyptians and Phœnicians had previously stored many of the maritime towns of Thrace and Macedonia, and the Persians at every station were fed and provided with every thing by the inhabitants of the adjacent countries, who, long apprised of their arrival, were prepared for their reception. But before this general transportation, a considerable part of the forces had been already sent to

the coaſt of Macedonia, in order to dig across the iſthmus which joins to that country the high promontory of Athos. The [illegible] mentioned by Herodotus, in doubling the cape of [illegible] preſent to the reader's [illegible] The neck of land, only a mile and a half in breadth, was adorned by the Grecian city of Sana; and the promontory being rich and fertile, was well cultivated both by Greeks and Barbarians. The cutting of this narrow iſthmus, by a canal of ſufficient width to allow two galleys to paſs abreaſt, was a matter not beyond the power of a potentate who commanded the labours of many myriads; but it is obſerved by Herodotus, to have been a work of more oſtentation than utility, as the veſſels, according to the cuſtom of the age, might have been carried over land with [illegible] expedition, and with [illegible] trouble and expence. The Perſian forces were now ſafely conducted into Europe; and the chief obſtacle to the eaſy navigation of their fleet along the coaſts of Thrace, Macedon, and Theſſaly, to the centre of the Grecian ſtates, was removed by the cutting of [illegible] Through the fertile plains of Leſſer Aſia, the whole army had kept in a body; but the difficulty of ſupplies obliged them to ſeparate into three diviſions in their march through the leſs cultivated countries of Europe. Before this ſeparation took place, the whole fleet and army were reviewed by Xerxes, near Doriſcus, a city of Thrace, at the mouth of the river Hebrus. This celebrated muſter we ſhall narrate in the words of Dr. Gillies. "Such an immenſe collection of men aſſembled in arms, and attended with every circumſtance of martial magnificence, gave an opportunity for ſeeing, or at leaſt for ſuppoſing, many affecting ſcenes. The ambition of the great king had torn him from his palace of Suſa, but it could not tear him from the objects of his affection, and the miniſters of his pleaſure. He was followed by his women, and by his flatterers, and all the effeminate pride of a court was blended with the pomp of war. While the great body of the army lay every night in the open air, Xerxes and his attendants were provided with magnificent tents. The ſplendor of his chariots, the mettle of his horſes, which far excelled the ſwifteſt racers of Theſſaly, the unexampled number of his troops, and above all, the bravery of the immortal band (a body of 10,000 Perſian cavalry, ſo named becauſe their number was conſtantly maintained from the flower of the whole army), ſeemed ſufficient, to the admiring crowd, to raiſe the glory of their ſovereign above the condition of humanity; eſpecially ſince, among ſo many thouſands of men as paſſed in review, none could be compared to Xerxes in ſtrength, in beauty, or in ſtature. But amidſt this ſplendor of external greatneſs, Xerxes felt himſelf unhappy. Having aſcended an eminence to view his camp and fleet, his pride was humbled with the reflection, that no one of all the innumerable hoſt could ſurvive an hundred years. The haughty monarch of Aſia was melted into tears. The converſation of his kinſman and counſellor, Artabanus, was ill calculated to conſole his melancholy. That reſpectable old man, whoſe wiſdom had often moderated the youthful ardour of Xerxes, and who had been as aſſiduous to prevent, as Mardonius had been to promote, the Grecian war, took notice that the miſery of human life was an object far more lamentable than its ſhortneſs. In the narrow ſpace allotted, has not every one of theſe in our preſence, and indeed the whole human race, often wiſhed rather to die than to live? The tumult of paſſions diſturbs the beſt of our days; diſeaſes and weakneſs accompany old age; and death, ſo vainly dreaded, is the ſure and hoſpitable refuge of wretched mortals." (See Gillies, vol. i. p. 424.) Xerxes often converſed with Demaratus, an exiled king of Sparta, who had taken refuge with the Perſian monarch, and their dialogues, detailed by Herodotus, admirably illuſtrate the oppoſite circumſtances and characters of the Perſians and Greeks. The following is nearly the ſubſtance. "Do you imagine," ſaid the deſpot, "that the Greeks will dare to reſiſt my forces?" Demaratus, having obtained permiſſion to ſpeak the truth, replied, "The Greeks are to be feared, becauſe they are poor and virtuous. Without pronouncing the eulogium of the other ſtates, I ſhall only ſpeak to you of the Lacedæmonians. They will ſcorn the idea of ſlavery. Should all Greece ſubmit to your arms, they will be but the more ardent in defence of their liberty. Inquire not the number of their troops; were they but a ſingle thouſand, nay, were they ſtill fewer, they would preſent themſelves to the combat." The Perſian king, at hearing this, laughed aloud; and after comparing his forces with thoſe of the Lacedæmonians: "Do you not ſee," ſaid he, "that the greateſt part of my ſoldiers would take to flight, were they not retained by menaces and blows? As a ſimilar dread cannot operate on thoſe Spartans, who are repreſented to us as ſo free and independent, it is evident that they will never unneceſſarily brave certain death: and what is there to conſtrain them to it?" "The law," replied Demaratus; "that law which has more power over them, than you have over your ſubjects; that law which ſaith to them, behold your enemies; the queſtion is not to number them; you muſt conquer or die." Xerxes was rather amuſed than inſtructed by this diſcourſe. His hopes of ſucceſs ſeemed built on too ſolid principles to be ſhaken by the opinion of a prejudiced Greek. Every day meſſengers arrived with the ſubmiſſion of new nations. He proceeded on his march, till he arrived at the paſs of Thermopylæ. This is a defile ſituated at the foot of mount Oeta, between Theſſaly and Phocis; a paſs no more than ninety feet broad, and the only one by which the hoſt of Xerxes could penetrate into Achaia. Thither the Grecian army, not exceeding 11,000, directed its courſe: of theſe 4,000 only were more immediately deſtined to defend the paſſage. But finding himſelf miſtaken, and being informed by Demaratus, that a handful of men might at this place ſtop for a conſiderable time all his forces, he endeavoured to corrupt Leonidas by magnificent preſents, and the moſt tempting promiſes, even that of making him ſupreme lord of Greece. But Leonidas having rejected all his temptations with diſdain, Xerxes thereupon commanded him by a meſſenger to ſend him his arms. "Let your king come and take them," anſwered Leonidas. Then the Medes advanced againſt the Greeks: but being unable to ſuſtain their attack, were obliged to retreat. The troop of Perſians, diſtinguiſhed by the name of [illegible] next charged the Greeks, and fought with great valour, ſo that the paſs was choaked up with the dead. While the beſt troops of Xerxes were thus ſacrificed to the Spartan valour, an inhabitant of the country having diſcovered to the Perſians a ſecret path conducting to an eminence that commanded the paſs, a large detachment was immediately ſent to take poſſeſſion of it. Leonidas receiving intelligence that the tops of the rocks forming the paſs were occupied by 20,000 Perſian troops, whoſe darts muſt ſoon overwhelm him and his ſmall party, intreated the greater part of his men to retire, and reſerve themſelves for a more advantageous opportunity of ſerving their country; while he himſelf with about 300 Spartans and a few Theſpians, would maintain the paſs till the laſt. The reſt having accordingly departed, "Come my friends," ſaid Leonidas, "let us dine cheerfully, in the hope of ſupping together in the other world." His brave companions, encouraged by the example of their chief, thought

thought of nothing now but to fell their lives as dearly as possible; believing it incumbent on them, as the leading people of Greece, to devote themselves to certain death, thereby to convince the Barbarians how much it cost them to reduce a free people to slavery. In the dead of night, this heroic troop advancing directly forwards to the tent of the king, penetrated to the middle of the Persian camp, cut off all that came in their way, and spread the most dreadful consternation among the enemy. But daylight at last discovering them distinctly to the Persians, they were immediately surrounded, and being rather overwhelmed than conquered, breathed their last above heaps of slaughtered enemies; leaving to after ages an example of bravery before unknown, and hardly to be paralleled in history. The Persians are said to have lost upwards of 20,000 men in this engagement, and, among them, both the brothers of Xerxes. To the memory of these brave defenders of Greece, a superb monument was afterwards erected, bearing two inscriptions; the one in honour of all those who had served on that occasion; importing, that an army of four thousand Peloponnesian Greeks had there stopped the progress of the whole Persian force; the other in honour of Leonidas and his 300 Spartans, expressed, in a few simple words, to this effect: "Go, passenger, tell at Sparta, that we died here in obedience to her laws." This famous action at Thermopylæ, in the opinion of Diodorus Siculus, contributed very highly to the subsequent advantages obtained by the Greeks; for the Persians, astonished at so striking an instance of desperate valour, thence concluded, that it was hardly possible to subdue a nation of such undaunted resolution; and the Greeks likewise perceived, from the same example, that valour and discipline are capable of vanquishing the greatest multitude; and that therefore it was possible to overcome the Persians.

But the principal defence of Greece rested with the Athenians. The very day that Leonidas fell at Thermopylæ, the Athenian fleet, commanded by Themistocles, having discovered, while cruizing off Artemisia, a promontory of Eubœa, a detachment of the enemy's fleet amounting to two hundred vessels, attacked them in the night, and sunk more than thirty of them, and the rest were that same night wrecked on the coast of Eubœa by a storm that succeeded the engagement. The Athenians receiving next day a reinforcement of fifty-three ships more, attacked those of the Cilicians, and sunk many of them. A general engagement ensued the same day, in which both parties fought with great bravery; and though neither could boast of the victory, yet the loss was most considerable on the side of the Persians. From the event of these several actions, the Athenians learned, that victory is not always determined by the greater number of ships. Hearing, in the mean time of what had passed at Thermopylæ, the Greeks thought it adviseable to retire nearer home, and therefore set sail for Salamis, a small island not far from Attica. Xerxes having now advanced into Phocis, after marking his march all along with the effects of his resentment, the Peloponnesians resolved to fortify themselves within the isthmus. The Athenians, therefore, seeing themselves on the eve of being crushed under the whole weight of the Persian power, sent, in this extremity, to consult the oracle; who told them, "that the only means of preserving their city were wooden walls." These wooden walls, pointed out by the oracle, were interpreted by Themistocles to be their ships; and he told his countrymen, that the sole means of preservation left was, to abandon the city, and to betake themselves to their fleet. This advice was not at all relished by the people, who shuddered at the thoughts

of deserting their [illegible], and the [illegible] Themistocles, however, [illegible] them, that the [illegible] of Athens [illegible] but not its temples, [illegible] the lives of its citizens; and that the [illegible] had, by the mouth of the oracle, plainly declared it to be their pleasure, that the Athenians ought to leave their city for a while. The people at last, convinced by his eloquence, consented to go on board of their ships. It is difficult to say, whether we are more [illegible] on this occasion by the [illegible] tion of the [illegible], [illegible] prince to desert their native country; or by the heroic resolution of these Athenians, to go in this manner into a sort of voluntary banishment, rather than submit to their oppressors. The Athenians conveyed their women, children, and the greater part of their old men, to Trazene, a small [illegible] received with all the marks of humanity which their situation required. But many of their oldest men were left in the citadel, being unable, by reason of their great age and infirmities, to undergo the fatigue of transportation. Xerxes in the mean time approaching towards Athens, sent a detachment of his army to plunder the temple of Delphos, which contained immense riches. But Herodotus and Diodorus Siculus tell us, that most of the soldiers sent on this errand perished in a violent tempest. The Persian army arriving at Athens, found nothing but silence and solitude within the walls. They attacked the citadel, which, after a brave resistance by its feeble garrison, was taken by storm, and all within it were put to the sword: Xerxes ordered the rest of the city to be set on fire. In the mean time differences were likely to arise in the Grecian fleet commanded by Eurybiades; one half of them being of opinion that they ought to advance towards the isthmus of Corinth, to be at hand to support their army; and the other, that they ought by no means to quit the advantageous post at Salamis. The latter opinion was supported by Themistocles, who, on this occasion, gave another proof of his extraordinary moderation and coolness of temper. For while he was maintaining his opinion with some warmth against Eurybiades, who was a man of a choleric disposition, the latter flew in a passion, and lifted up his cane to strike him: Themistocles called out to him, "strike, but hear me." His eloquence and firmness at last prevailed, and the Greeks saw that, being extremely inferior to the enemy in the number as well as in the size of their ships, it was of the highest importance to avail themselves of their present situation, and to give battle in such a narrow strait as that of Salamis, where the enemy could not bring all their fleet into action. They resolved, therefore, to prepare to fight the Persians in this strait. The Persians determined to give battle, contrary to the opinion of queen Artemisia, who represented to them, that the loss of a sea fight must inevitably be attended with the destruction of their army on land. But her advice, though the most prudent, was rejected, Xerxes having himself declared his sentiments for their coming to action. Themistocles, in the mean time, to put it entirely out of the power of his countrymen to retire from Salamis, contrived to have false intelligence conveyed to Xerxes of their intending to decline the engagement, and to make their escape, and therefore advising him to order his fleet instantly to advance and block them up. This stratagem he communicated to Aristides, who undertook to exhort the rest of the commanding officers with whom he was in great credit, not to be dismayed at seeing themselves hemmed in, but to behave with their usual intrepidity. The [illegible] had the desired effect:

and the Greeks ſeeing no other poſſibilty of eſcaping, except by fighting their way through the midſt of the enemy, prepared for the engagement. Xerxes, who was on ſhore, being deſirous of ſeeing the battle, ordered a ſuperb throne to be erected for him on an eminence. The fleet of the Greeks conſiſted of three hundred and eighty ſail. Themiſtocles, who that day commanded it, waited for the riſing of a wind, which regularly began to blow at a certain hour, in a direction exactly in the face of the enemy. The Perſians began the attack with great bravery; but the ſmall fleet of the Greeks, acting by the ſkill of its commanders under every advantage, ſoon threw the enemy's firſt line into confuſion, and ſunk the Perſian admiral. Thoſe that followed him, intimidated by his fate, partly betook themſelves to flight, and partly were ſunk. On the wings, however, the action continued very warm and obſtinate; but the wind being againſt the Perſians, the unwieldy ſize of their ſhips rendered them very difficult to be managed, and their great number rather embarraſſing than availing them in ſuch a narrow ſtrait, they could not long ſuſtain the impetuoſity of the Athenians, but fell into a general diſorder. The Ionians, mindful of their Grecian extraction, were the firſt that fled; and they were quickly followed by the reſt of the Perſian fleet, which ſoon appeared ſcattered up and down in flight and confuſion. Queen Artemiſia ſignaliſed herſelf by a courage far above her ſex. In the height of the battle, perceiving herſelf to be on the point of falling into the hands of the Greeks, ſhe immediately hung out Grecian colours, and attacking one of the Perſian gallies, ſunk it. The Greek that purſued her, deceived by this ſtratagem, believed her to be one of his own party, and quitted the purſuit. The victory coſt the Greeks forty ſhips; but of the Perſians two hundred were either taken or ſunk. This engagement, one of the moſt memorable recorded in ancient hiſtory, entailed immortal fame on the Grecian wiſdom and courage. The renowned Cimon, though yet but a young man, diſtinguiſhed himſelf highly on that occaſion, and gave evident marks of his future greatneſs. But as the principal glory belonged to Themiſtocles, the eyes of all the Greeks were fixed on him, and the higheſt honours were conferred on the deliverer of Greece. At this time every ſentiment of jealouſy was overlooked, and none exceeded the Lacedæmonians in their encomiums on Themiſtocles, whom they crowned with laurel, the reward of wiſdom and valour. When he appeared at the Olympic games, the whole aſſembly roſe up to give him place; every eye was fixed on him alone; and that day was the moſt glorious of his life.

The Perſians and Greeks were in expectation of a new battle; but Mardonius was by no means ſatisfied with the orders given by Xerxes; he read in the ſoul of that prince nothing but the meaneſt ſentiments combined with projects of revenge, to which he poſſibly might fall a victim. "My lord," ſaid he, approaching him, "deign to recal your courage; your expectations were not founded on your fleet, but on that formidable army with which you have entruſted me. The Greeks are no more able to reſiſt you now than heretofore; nothing can ſhelter them from the puniſhment due to their ancient offences, and the fruitleſs advantage they have lately gained. If we determine on a retreat, we ſhall for ever be the objects of their deriſion; and the opprobrium that has fallen on the Phœnicians, the Egyptians, and other nations who fought on board your veſſels, will recoil on your faithful Perſians. Suffer me to propoſe another method to ſave their glory and your own; I would adviſe you to lead back the greater part of your troops to Perſia, and leave me three hundred thouſand men, with whom I ſhall be able to reduce all Greece." (See Herodotus, l. viii.) Xerxes, who in his own mind was rejoiced at the propoſal, aſſembled his council, admitted to it Artemiſia, and requeſted her opinion on the project of Mardonius. The queen diſcovering the real ſentiments of Xerxes, gave an advice which ſhe knew would be pleaſing. "Leave," ſhe ſaid, "to Mardonius, the care of completing your work. If he ſucceeds, yours will be all the glory; if he periſhes, or is defeated, your empire will not, on that account, be ſhaken, nor Perſia conſider the loſs of a battle as any great misfortune, when you ſhall have ſecured your perſon." When the Greeks had leiſure to examine the extent and completeneſs of their ſucceſs, they determined, in the firſt emotions of triumph and reſentment, to purſue the ſhattered remains of the enemy. That no Barbarian might eſcape, they propoſed immediately to ſail weſtward, to deſtroy the Perſian bridge over the Helleſpont, and thus to intercept their return. This deſign was recommended, and chiefly ſupported by the Athenians, who, having experienced the greateſt ſhare of the danger, felt moſt ſenſibly the joys of deliverance. But upon more mature deliberation, it occurred that the Perſians were ſtill ſufficiently numerous to afford juſt grounds of terror. To their cowardice and inexperience, not to their want of ſtrength, the Greeks owed all their advantages over them; but ſhould the impoſſibility of retreat be added to their other calamities, they might derive courage from deſpair, and, by efforts hitherto unexerted, repair the conſequences of their paſt errors and misfortunes. Theſe conſiderations, firſt ſuggeſted, it is ſaid, by Eurybiades the Spartan, were adopted by Themiſtocles, who convinced his countrymen that the jealouſy of the Grecian gods, unwilling that one man ſhould be lord of Europe and Aſia, rather than their own proweſs, had given them the victory over Xerxes; a prince of ſuch folly and madneſs, that he had treated with equal irreverence things human and divine, deſtroyed the ſacred temples, overthrown the venerable altars and images, and impiouſly inſulted the gods of the Helleſpont with ſtripes and fetters. That it was the duty of the Athenians, after having glorioufly repelled the common enemy, to provide for the ſubſiſtence of their wives and families, to ſow their lands, rebuild their houſes, and thus to repair, by the moſt induſtrious activity, the dreadful ravages committed on their territories. (See Gillies, vol. i. p. 482.) Themiſtocles had no ſooner perſuaded the Athenians to embrace his opinion, than he ſecretly diſpatched his confidant Sicinus to acquaint the great king with the danger which he had ſo nearly eſcaped, and to adviſe him to purſue his journey with all poſſible expedition. Xerxes readily believed a piece of information, which agreed with the ſuggeſtions of his own timidity. The rapidity of his march, conſpired with other circumſtances above mentioned, in proving fatal to the lives of his followers; and the crafty Athenian, who knowing the inſtable affections of the multitude, wiſhed to deſerve the gratitude of a king, gained the double advantage of diſpelling ſooner than could otherwiſe have happened, that deſtructive cloud of Barbarians which hovered over his country, and of convincing their leader that he was in part indebted for his ſafety to that very man whoſe counſels, rather than the arms of Greece, had occaſioned his affliction and diſgrace.

Mardonius (B. C. 479), after wintering in Theſſaly, took the field, and began his operations by making very advantageous offers to the Athenians, to detach them from their confederacy with the other ſtates; promiſing not only to rebuild their city, and to give them a vaſt ſum of money, but to ſet them at the head of all Greece. Ariſtides, then archon,

archon, anſwered the meſſengers of Mardonius, that all the gold in the world was inſufficient to corrupt the Athenians, or to induce them to deſert the defence of the common liberty of their country; that while the ſun continued to light the world, the Athenians would remain the mortal enemies of the Perſians, and would revenge, to the utmoſt of their power, the miſchief they had brought upon their country, and the burning of their houſes and temples. As ſoon as Mardonius received the anſwer of the Athenians, and thence ſaw that no motive could induce them to break their engagements, he ordered his army to march towards Attica. The Athenians, on the approach of the Perſian army, left their city a ſecond time, and retired to Salamis. Mardonius thereupon ſent new deputies to them, with terms ſtill more advantageous than the former: but the Athenians were ſo far from accepting them, that they ſtoned to death one Lycidas, only for ſaying that they ought to give an audience to the deputies. The Perſian general, provoked at the contempt with which the Athenians treated all his propoſals, entered Athens, and burnt every thing that had formerly eſcaped the fury of Xerxes. In this ſituation, the Athenians complained to the Lacedæmonians of their not having ſent them the ſtipulated ſuccours: the latter were then ſolely intent on maintaining their ground within the Peloponneſe, and defending the entry of the iſthmus; but in compliance with the requiſition of the Athenians, who made a great outcry againſt the ſlowneſs of their proceedings, they ſent to their aſſiſtance five thouſand Spartans, each of whom was attended by ſeven helots. Theſe forces, joined with thoſe of the Athenians and Peloponneſians, formed altogether an army of about 70,000 men; which, after aſſembling at Eleuſis, followed Mardonius into Bœotia, and encamped at the foot of mount Citheron. Pauſanias, ſon of Cleombrotus, and viceroy of Sparta, commanded the Lacedæmonian troops, and Ariſtides thoſe of the Athenians; the Perſian army then amounted to 300,000 men. Pauſanias, in the mean time, advanced towards Platæa, with his forces drawn up in battle array; the Athenians being on the right wing, and oppoſed to the Perſian troops, and the Lacedæmonians on the left, oppoſed to the Greek troops in the ſervice of the Perſians. The Megareans, who were encamped on the plain, having been attacked by the Perſian cavalry, were, after a very brave and long reſiſtance, on the point of giving way, when three hundred Athenians ran to their relief. The battle then became more obſtinate than before; but Magiſtius, who commanded the Perſian cavalry, being ſlain, his men betook themſelves to flight. The death of this officer, who was reckoned the ableſt in the Perſian army, ſpread univerſal conſternation through all their troops. Ten days intervened between this action and the general engagement. Artabazus was of opinion, that the Perſians ought to avoid a general battle; but Mardonius, a man of a violent fiery diſpoſition, thought otherwiſe. Pauſanias and Ariſtides, informed of the deſign of the Perſians to attack them, drew up their army in order of battle near to the city of Platæa, which Mardonius perceiving, changed the intended order of his attack. But the Greeks, finding themſelves ſtraitened for water in their preſent ſituation, reſolved to decamp. Mardonius believing this movement to be a flight, immediately advanced with his men, uttering loud ſhouts, and charged the rear of the Greek army, compoſed of the Lacedæmonians, who, forming themſelves into a column, oppoſed the enemy with their uſual valour, and falling on the Perſians with the greateſt fury, made a dreadful ſlaughter. Mardonius fell in the beginning of the action. The main body of the Greek army advancing in the mean time to the charge, in ſeparate detachments, completed the overthrow of the Perſians. In another quarter of the field, the 40,000 Greeks in the Perſian ſervice, who were engaged with the troops commanded by Artabazus, hearing of the flight of the Barbarians, followed their example, and retreated likewiſe, but rallied in their camp, and there entrenched themſelves. The Lacedæmonians, however, ſupported by the Athenians, attacked and forced their entrenchments; after which, nothing was to be ſeen but a general maſſacre, for the Perſians being too much enraged to be made priſoners, received no quarter, and were all put to the ſword. Artabazus, after diſtinguiſhing himſelf both as a ſkilful and as a brave ſoldier, collected the ſcattered remains of the Perſian army, amounting now to no more than 44,000 men, and returned with all poſſible expedition towards Perſia. The loſs of the Greeks in this engagement was about 10,000 men. The Greeks, as a monument of this memorable victory, erected a ſtatue to Jupiter in the temple of Olympia, inſcribed with the names of all the ſtates of Greece who had fought at Platæa. It came next under conſideration, whether the prize of valour ought to be adjudged to the Athenians or to the Lacedæmonians. But to avoid all controverſy on this head, whereby the general joy ariſing from the victory might be diſturbed, the queſtion was, by the influence of Ariſtides, referred to the determination of the other Greeks, who, to prevent any jealouſy between thoſe rival ſtates, adjudged it to belong to the Platæans. Then, after ſending a tripod of ſolid gold to the temple at Delphos, and ſetting apart a tenth of the ſpoil, as an offering to the gods, to be applied to religious purpoſes, they divided with great juſtice the reſt of the ſpoil, which was ſo immenſe, that Juſtin is of opinion it was the firſt great cauſe of the corruption of the Grecian manners. By the perſuaſion of Ariſtides, the Greeks paſſed a ſolemn decree, obliging all the ſtates to ſend deputies to Platæa, to offer ſacrifices to *Jupiter the deliverer*, inſtituting public games at that place every fifth year; and ordering a fleet of a hundred ſhips, and an army of 10,000 foot, and as many horſe, to be kept always on foot, for making continual war on the Barbarians. The Platæans were appointed to celebrate the anniverſary of all thoſe who had fallen in this battle, which they regularly performed with much pomp and ceremony. The Perſian fleet, having, in the mean time, ſailed towards Samos, that of the Greeks, under the command of Leotychides the Lacedæmonian, and Xantippus the Athenian, advanced as far as Delos, upon the earneſt entreaty of the inhabitants of Chios, who begged to be delivered from their ſubjection to the barbarians; and likewiſe in conſequence of ſecret intelligence received by them of the intention of the Ionians to revolt. The Perſians, hearing of the approach of the Greeks, retired to Mycale in Aſia Minor, where they drew their veſſels on ſhore, and ſurrounded them with a deep ditch. The Greeks, however, purſued them thither, and with the aſſiſtance of the Ionians, attacked them. The battle was at firſt bravely fought on both ſides; but the Mileſians and Samians, followed by the reſt of the Aſiatic Greeks, having deſerted from the Perſians, the latter were vanquiſhed, and 40,000 of them cut in pieces. The Athenians took poſſeſſion of the enemy's camp, burnt the Perſian fleet, and returned to Samos with a vaſt deal of plunder. This engagement happened on the ſame day with that of Platæa. Thus did that memorable day for ever free the Greeks from any future Perſian invaſions, and deliver them from thoſe innumerable armies of Barbarians, which like clouds of locuſts had conſumed their country for two whole years. Theſe grievous defeats were never forgotten by the Perſian monarchs; and they

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they entirely cured Xerxes of all desire of [illegible] any other enterprises of the same kind. He then [illegible] of executing vengeance on the Greeks; and to [illegible] remembrance of his past defeats, he gave himself wholly up to every sort of voluptuousness and debauchery. His court became one general scene of the most shameful excesses, murder and incest succeeding each other in a perpetual round. This weak licentious prince was at length put to death by his own subjects. The severe effects of tyranny, formerly experienced by the Athenians, had excited in them such a strong desire of liberty, that to preserve it, they boldly hazarded the greatest dangers. Their success, however, was principally supported and conducted by the wisdom and skill of their generals, who were particularly attentive to choose such a situation for giving battle, that the enemy could not much avail themselves of their vast superiority in point of number.

Thus by their vigorous efforts, and the wisdom of their leaders, delivered from the Persian invasion, the Athenians brought back their wives and children to Athens, of which they rebuilt the walls, and considerably increased the extent. The Lacedæmonians taking umbrage at this, from an apprehension lest Athens should become too powerful, represented to the Athenians, that it was the general interest of Greece to have no fortified place without the Peloponnese, because in case of a fresh invasion, it might serve for a retreat and warlike magazine to the enemy. Themistocles having procured himself to be named ambassador to Lacedæmon, there to justify the conduct of his countrymen, maintained in open senate that it was as much for the common advantage of the allies, as for that of the Athenians, that the latter had fortified their city with good walls; that besides, it was but equitable that they, as well as the rest, should take proper measures for their own safety; and in fine, that they were able to defend themselves either against foreign or domestic enemies. In the next place, Themistocles, solely intent on increasing the power of the republic, fortified Piræus (B.C. 477), the famous harbour of Athens, in the same manner as he had done the city, and persuaded the Athenians to augment their fleet yearly with twenty ships. The object of this skilful politician was to deprive the Lacedæmonians of the superiority hitherto possessed by them over the other states of Greece. But it must be confessed that he was not very scrupulous with regard to the means employed by him for that purpose. An instance of this was his project of burning the Grecian fleet in the harbour of Pegazus, whither it had retired to winter after the defeat of Mardonius; or, according to some authors, that part of it only which belonged to the Lacedæmonians. But not daring openly to propose this scheme, he was desired by the people to communicate the matter privately to Aristides, who having been accordingly informed of it, declared to the people, that though the project of Themistocles was indeed highly useful, yet at the same time, it was most unjust! Themistocles was therefore prohibited from putting it in execution.—How becoming, thus to see a whole [illegible] adapted to what was useful! and what a high idea of the justice of Aristides must we not conceive, when we see him chosen singly by a whole people, to determine whether a project of the utmost general importance was just or unjust! At the same time, the allies prepared to restore to their freedom the Grecian cities in which the Persians had left garrisons. A numerous fleet, under the command of Pausanias and Aristides, obliged the enemy to abandon the isle of Cyprus; and the city Byzantium, situated on the Hellespont. The conduct of Pausanias in this expedition was so insolent, as to disgust the allies, who [illegible] to obey the Spartans, and thenceforward to fight under the orders of the Athenians. (B. C. 476.) The farther proceedings of the Lacedæmonian general, and his fate, will be found under the articles PAUSANIAS, and SPARTA. The Spartans, with a praise-worthy moderation, yielded to the Athenians the command of the sea. About this time, Themistocles experienced the vicissitude of fortune, and the transitory nature of popular favour. The civil administration of this illustrious Athenian was no less eminent and successful than his political and military efforts. By yielding more protection to strangers than they enjoyed in neighbouring cities, he augmented not only the populousness, but the wealth of Athens; as [illegible] paid an annual contribution in return for their security. This, together with other branches of the revenue, he employed in building annually about sixty gallies, the addition of which to the Athenian navy abundantly compensated such losses as were sustained by the accidents of the sea in foreign parts. Notwithstanding the envy and malice of worthless demagogues, who infested the Athenian assembly and courts of justice, Themistocles was fast advancing to the attainment of the same authority at home which Aristides enjoyed abroad, when complaints arrived from Sparta, that he had conspired with Pausanias to betray the public liberty. The known resentment of the Spartans against this extraordinary man sufficiently explains the reason why they, who were so dilatory in their proceedings against Pausanias himself, should be so eager to bring to punishment his supposed accomplice. But it is not easy to conceive how the Athenians could admit such an accusation against a citizen, whose singular valour and conduct had gained the decisive victory at Salamis; whose counsels and address had fortified their city with impregnable strength; whose foresight and activity had procured them a fleet which no nation in the world could resist; and whose abilities and patriotism had not only saved his country from the most formidable invasion recorded in history, and which was principally directed against Athens, but amidst the terrors of this invasion, the treachery of false friends, and the violence of open enemies, had so eminently contributed to raise his republic to the first rank in the Grecian confederacy. Yet such, on the one hand, was the effect of that envy which in republics always accompanies excellence; and such, on the other, the influence of Spartan bribery and intrigues, that Themistocles was banished by the ostracism, a punishment inflicted on men whose aspiring ambition seemed dangerous to freedom, which required not the proof of any particular delinquency, and which had effect only during a term of years. (Gillies, vol. ii. p. 65.) This illustrious man retired into Persia, where his treatment and death will be seen under the article THEMISTOCLES.

Aristides also died about the same time (B.C. 467 or 471.); and the conduct of the Persian war was devolved on his colleague Cimon, who united the integrity of that great man to the valour of Miltiades his father, and the decisive boldness of Themistocles. But as he felt an ambition for eminence which disdains bare imitation, he not only reflected the most distinguished excellencies of his predecessors, but improved and adorned them by an elegant liberality of manners, an indulgent humanity, and candid condescension; virtues which long secured him the affections of his fellow citizens; while his military talents and authority, always directed by moderation and justice, maintained an absolute sway over the allies of the republic. His first operations were employed against the coast of Thrace, which the taking of Byzantium seemed to render an easy conquest. The only places in that country fitted to make an obstinate resistance, were

the towns of Eion and Amphipolis, both fituated on the river Strymon; the former near its junction with the Strymonic gulph, the latter more remote from the fhore, but nearly furrounded by an arm of the gulph, and the principal branches of that copious river. Amphipolis, however, was taken, and planted by a numerous colony of Athenians. But Eion ſtill oppoſed a vigorous reſiſtance; Boges, the Perſian governor, having determined rather to perifh than ſurrender. After long baffling the efforts of the beſiegers, by ſuch perſevering courage and activity as none of his countrymen had diſplayed in the courſe of the war; this fierce barbarian was at length not tamed but exaſperated by hunger. His companions and attendants, equally deſperate with their leader, followed his intrepid example; and mounting the ramparts with one accord, threw into the middle ſtream of the Strymon their gold, ſilver, and other precious effects. After thus atteſting their implacable hatred to the aſſailants, they calmly deſcended, lighted a funeral pile, butchered their wives and children, and again mounting the walls, precipitated themſelves with fury into the thickeſt of the flames. After this, Cimon ſubdued the other ſtates in that country, drove from Syrops the pirates that infeſted the Ægean ſea, eſtabliſhed an Athenian colony in their place, and made himſelf maſter of Naxos. Cruiſing along the coaſts of Aſia, he reduced all the maritime cities of Caria and Lycia, and left not the Perſians in poſſeſſion of a ſingle inch of ground between Ionia and Pamphylia. Hearing that the Perſian fleet lay at anchor at the mouth of the river Eurymedon, waiting for a reinforcement of Phenician ſhips, that they might attack him with their united forces; he immediately ſailed againſt the former to prevent their junction; charged them with ſuch vigour, that they were obliged, in ſpite of their great ſuperiority, to run their ſhips a-ground; and took more than a hundred of them. Without giving his men time to breathe after their victory, he inſtantly landed them, and attacked the army of the enemy, which was drawn up on the banks of the Eurymedon. The Perſians ſuſtained the firſt charge of the Greeks with great firmneſs. But the troops of Cimon, animated by their late ſucceſs, broke them at laſt, put them fairly to flight, made a great number of them priſoners, and got a vaſt booty. Cimon crowned his victories with the capture of the Phenician fleet which was coming to the aſſiſtance of the Perſians, and by that means gave a fatal blow to the Perſian naval power. The rich ſpoil of the Barbarian camp rewarded the enterprize and celerity of the Greeks, who, loaded with wealth and glory, returned home during winter, and piouſly dedicated to Apollo a tenth of the plunder acquired by theſe ever memorable atchievements. A conſiderable portion of the remainder was employed in ſtrengthening the fortifications of Athens. Agreeably to the Grecian cuſtom, the general was entitled to a valuable ſhare. Cimon received it as a teſtimony of the public eſteem, and expended it for the public uſe, embelliſhing his beloved native city with ſhady walks, gardens, porticoes, ſchools of exerciſe, and other works of general pleaſure and utility. (See Gillies, vol. ii. p. 74.)

While Cimon was extending the power, glory, and influence of the Athenians abroad, a man of very great talents acquired the direction of affairs at home. This was Pericles, one of the moſt extraordinary men that even Athens herſelf produced. His mind naturally of the firſt capacity and vigour, was enriched by extenſive and uſeful knowledge, adorned by elegant literature, and fortified by the ſoundeſt philoſophy. Damon, profeſſedly a teacher of rhetoric, but really maſter of hiſtory, politics, and all the learning of the times, was his tutor. Anaxagoras inſtructed him in philoſophy. That wiſe man had made it [illegible] duty to confirm the moſt ſupine and pleaſing doctrines, that a Being of ſupreme intelligence and benevolence governs the world, rewards the virtuous, and puniſhes the vicious. "From him (ſays Dr. Gillies) Pericles early learned to control the tempeſtuous paſſions, which ſo often blaſt the promiſing hopes of youthful manhood; to preſerve an unſhaken conſtancy in all the viciſſitudes of fortune, ſince all are the varied diſpenſations of the ſame wiſe Providence." Fertile in means for the attainment of his objects; faithful in the varied application of them, according to the variation of circumſtances; having the ready and complete command of his own great intellect and extenſive information, both in forming and executing plans; courageous, temperate, verſatile, yet ſteady; deciſive, yet cautious; bold, yet prudent; enterprizing, yet circumſpect; he excelled in politics, in war, and in every purſuit which required combined genius and conduct. His eloquence united plenitude of information, force of genius, and nervouſneſs of ſtyle: it was either convincing or perſuaſive, according to the objects he had in view; at one time, its majeſty commanded the hearers; at another, its ſoftneſs and delicacy inſinuated themſelves into their hearts. The ſuperior talents of this celebrated ſtateſman greatly increaſed the proſperity of the country, and his policy was peculiarly beneficial in improving the advantages that had been acquired in war by his predeceſſors, or his cotemporary Cimon. He promoted agriculture and manufactures, and greatly extended the commerce and maritime power of his country. Riches flowed in from all quarters to Athens, and were in a conſiderable degree employed in ſtrengthening and adorning the city. He encouraged the fine arts, literature, and philoſophy. Under him flouriſhed Polygnotus, Parrhaſius, and Phidias, thoſe ingenious artiſts, who ſo happily made painting, ſculpture, and ſtatuary, the vehicles of ſentiment and character, as well as of external feature and figure. Reſpected by him, lived Anaxagoras, the father of moral philoſophy; and Euripides, who, in the garb of fiction, exhibits the juſt and elevated reaſoning, the pious and virtuous ſentiments of both. Taſte, genius, and philoſophy, were never more prevalent than at Athens in the age of Pericles. But with the many advantages which were conferred upon the Athenians by Pericles, there were mixed ſeveral diſadvantages, but rather in ultimate effect than in immediate appearance. There were two parties at Athens, the ariſtocratical and democratical. Cimon, by blood and affinity was connected with the former, and by his diſpoſitions and character was fitter for gaining an aſcendancy over the chief people in the ſtate, than for courting the multitude. With all the powers and accompliſhments which could form a patriotic and beneficial ſtateſman and ſoldier, he wanted the dexterous verſatility which conciliates the favour of the multitude. Pericles, with genius and ſtrength of mind that muſt have rendered him a leader in any claſs of men, in any age or country, choſe popularity as the road to the gratification of ambition, and indulged the inclinations of the populace, as well as purſued the intereſt of the ſtate. With this view he promoted luxury, licentiouſneſs, and profuſion. The firm and rigid virtue of Cimon was adverſe to ſuch a pernicious waſte of the treaſures which his exertions had acquired. Between two ſuch great men, embracing oppoſite principles and parties, rivalry naturally aroſe. Foreign politics, as well as domeſtic, enflamed their differences. Cimon, ariſtocratical in his own principles, was attached to the Spartans, and wiſhed unity to ſubſiſt between Sparta and Athens. The Athenian multitude, elated with their ſignal ſucceſſes, and wiſhing to domineer over all Greece, was hoſtile to Sparta, which would be the

moſt powerful obſtacle to the accompliſhment of their deſigns. The Spartans, on the other hand, were extremely jealous of the progreſs of the Athenians, and of the formidable power they had acquired. Cimon endeavoured to appeaſe, Pericles to promote, this hoſtile ſpirit between the two chief nations of Greece; and his ſchemes appeared to be the more ſucceſsful. But their animoſity, before it broke out into action, was diverted by a calamity equally ſudden and unforeſeen. In the year four hundred and ſixty-nine before Chriſt, Sparta was overwhelmed by an earthquake. Taygetus and the neighbouring mountains were ſhaken to the foundation, and twenty thouſand Lacedæmonian citizens or ſubjects periſhed in this dreadful diſaſter. Amidſt the ruins of Sparta, one deſcription of men beheld the public misfortunes not only without horror, but with a ſecret ſatisfaction. The oppreſſed Spartan ſlaves, known by the appellations of Helots and Meſſenians, aſſembled in crowds from the villages in which they were cantoned, and took meaſures for delivering themſelves, during the cruelty of the elements, from the not leſs inexorable cruelty of their unfeeling tyrants. The prudent arrangements of king Archidamus, who, foreſeeing the revolt, had ſummoned the citizens to arms, prevented them from getting immediate poſſeſſion of the capital; but they rendered themſelves maſters of the ancient and ſtrong fortreſs of Ithomé, from which they continued many years to infeſt the Lacedæmonian territories. Cimon earneſtly ſeconded the application of the Spartans, and the Athenians were prevailed on to ſend them the required aſſiſtance, and the combined forces proceeded to the ſiege of the fortreſs. The beſiegers, however, met with ſo little ſucceſs, that the Spartans diſmiſſed their Athenian auxiliaries, on pretence indeed that their help was no longer neceſſary, but in reality, from a ſuſpicion that they favoured the intereſt of the rebels. The Athenians were greatly offended by this caprice, and Pericles inſtructed his partiſan Ephialtes to remind the people that Cimon was the chief promoter of ſending aſſiſtance to the Spartans. The illuſtrious captain was accuſed, and a farther charge laid againſt him that by preſents from the Macedonians he was prevailed upon to let ſlip a manifeſt opportunity of enlarging his conqueſts, after taking from the Perſians the gold mines of Thrace. To this accuſation Cimon replied, that to the utmoſt of his power he had proſecuted the war againſt the Thracians and other enemies of the ſtate of Athens; but that it was true he had not made any inroads in Macedonia, becauſe he did not imagine that he was to act as a public enemy to mankind, and becauſe he was ſtruck with reſpect for a nation modeſt in their carriage, juſt in their dealings, and ſtrictly honourable in their behaviour towards him and the Athenians; that if his countrymen looked upon this as a crime, he muſt abide their judgment; but, for his part, he could never be brought to think ſuch conduct amiſs. His defence however was unavailing, and he was baniſhed for ten years. (B. C. 460.)

Pericles, thus free from the control of Cimon, confirmed his own credit with the people, and made innovations on the eſtabliſhed form of government. He deprived the Areopagus of the power of judging in the moſt important queſtions that had formerly belonged to their juriſdiction; he rendered the other courts of juſtice ſubſervient to his pleaſure; and he became ſo abſolute in Athens, that under this republican government he poſſeſſed a power almoſt deſpotic. To ſecure the permanency of his power, while he promoted induſtry and beneficial action, he gratified their love of pleaſure. The city now (to uſe the language of Dr. Gillies) afforded a perpetual ſcene of triumph and feſtivity. Dramatic entertainments, to which they were paſſionately addicted, were no longer performed in ſlight unadorned edifices, but in ſtone or marble theatres, erected at great expence; and embelliſhed with the moſt precious productions of nature and of art. The treaſury was opened not only to ſupply the decorations of this favourite amuſement, but to enable the poorer citizens to enjoy it without incurring any private expence; and thus at the coſt of the ſtate, or rather of its tributary allies and colonies, to feaſt and delight their ears and fancy with the combined charms of muſic and poetry. The pleaſure of the eye was peculiarly conſulted and gratified in the architecture of the theatres and other ornamental buildings; for as Themiſtocles had ſtrengthened, Pericles adorned his native city; and unleſs we had the concurring teſtimony of antiquity, as well as the immortal remains of the Parthenon or temple of Minerva, which ſtill excite the admiration of travellers, it would be difficult to believe that in the ſpace of a few years there could have been created thoſe ineſtimable wonders of art, thoſe innumerable temples, theatres, ſtatues, altars, baths, gymnaſia, and porticoes, which, in the language of ancient panegyric, rendered Athens the eye and light of Greece. Sums earned in honourable conteſts with the Perſians, or extorted from dependant allies, were expended in multiplying theatres, in giving gratuitous admiſſion to the poorer citizens to theſe, and alſo to feaſts and revellings, in procuring paraſites, dancers, and buffoons, to flatter and gratify the coarſe taſte of the carouſing populace, in importing the delicacies of diſtant countries, in preparing them with all the refinements of cookery to gratify their palates, in encouraging the reception of beautiful courtezans, in coſtly perfumes and ſplendid dreſſes, in delighting the ears and fancy with the charms of muſic; in ſhort, in gratifying the ſenſes and the vanity of the multitude, without the exertion of their own labour. Meanwhile Pericles anxiouſly and ably promoted the ſupremacy of Athens over the reſt of Greece. Stimulated and aſſiſted by the Spartans, the Thebans made war upon the Athenians; but the active vigilance of Pericles ſent an army to Bœotia; the valour and conduct of Myronides the Athenian general obtained a deciſive victory near the walls of Tanagra. Pericles placed Athenian garriſons in ſeveral Bœotian fortreſſes; he made the neighbouring republics of Corinth and Megara feel and acknowledge the ſuperiority of Athens, and after ſending Tolmidas, a commander endued rather with an impetuous than well-regulated courage, to ravage the coaſt of the Peloponneſus, he failed thither next year in perſon, and made the Lacedæmonians and their allies deeply regret, that they had too ſoon diſcovered their animoſity againſt a republic alike capable to protect its friends, and take vengeance upon its enemies. While the Athenians were thus triumphing over the ſtates of Greece, they found an inducement to undertake an expedition againſt the territories of the Perſian king. Egypt taking advantage of the ſucceſſive defeats of the Perſian monarch, revolted, and headed by Inarus a Libyan chief, expelled the Perſians. Inarus in order to ſtrengthen his intereſt by foreign alliance, diſpatched an embaſſy to Athens, craving the aſſiſtance of that victorious republic againſt its moſt odious and inveterate enemy. The application was ſucceſsful, and the Athenians ſent an army to Egypt. On their junction with the king of Libya, they gave battle to the Perſians, put them to flight, and got poſſeſſion of a part of Memphis. Next year however the ſcene was greatly altered; for after ſeveral fruitleſs aſſaults, they were at laſt obliged to raiſe the ſiege of that city on the approach of the enemy, and to retire to Biblis, an iſland in the Nile. In this place they withſtood an eight months ſiege. But their fleet happening to lie at anchor in the Nile, the Perſians by changing the

the courſe of the river, rendered the ground round the ſhips dry, took every one of them, and put the greateſt part of their crews to the ſword. The army being thus diſabled from oppoſing the enemy any longer, partly periſhed and partly diſperſed. During theſe misfortunes the Athenians became ſenſible of the injuſtice of their treatment of Cimon, and recalled him after five years baniſhment. Soon after his return, that great man ſucceeded in bringing about a peace between his countrymen and the Lacedæmonians (B.C. 455); and with a view of diverting the Athenians, grown preſumptuous by their late good fortune, from making war on their neighbours, he reſolved to find occupation for their arms abroad. Departing, therefore, for Cyprus with a fleet of a hundred and forty veſſels under his command, and being there joined by ſixty more from Egypt, he attacked Artabazus, the admiral of Artaxerxes, and took a hundred of his ſhips: he next made a deſcent upon Cilicia, and totally defeated Megabazus, another officer of that prince: he then returned to Cyprus to form the ſiege of Citium. In the courſe of the ſiege, Cimon fell ſick: perceiving his end approaching, he beſeeched his men to keep his death a ſecret. They followed his advice, and, proceeding with their operations, obtained a ſignal victory, in which they took a hundred of the enemy's ſhips, and then ſailed back in triumph to Attica. Artaxerxes, finding his inability to contend with the Athenians, ſent deputies to Athens to ſolicit peace. His ambaſſadors were favourably heard in the Athenian aſſembly by thoſe who were more ſolicitous about confirming their uſurpations over their allies and colonies, than ambitious of extending their Aſiatic conqueſts. Cimon, who invariably maintained the contrary ſyſtem, was now no more. A peace, therefore, was concluded on the following conditions: that all the Greek colonies in Lower Aſia ſhould be declared independent of the Perſian empire; that the armies of the great king ſhould not approach within three days journey of the weſtern coaſt; and that no Perſian veſſel ſhould appear between the Cyanean rocks and the Chelidonian iſles; that is, in the wide extent of the Ægean and Mediterranean ſeas, between the northern extremity of the Thracian Boſphorus and the ſouthern promontory of Lycia. On ſuch terms the Athenians and their allies ſtipulated to withdraw their armament from Cyprus, and to abſtain thenceforward from moleſting the territories of the king of Perſia. Such was the concluſion of this memorable war, which, ſince the burning of Sardis, the firſt deciſive act of hoſtility, had been carried on with little intermiſſion, during fifty-one years. The ſame magnanimous republic which firſt ventured to oppoſe the pretenſions of Perſia, dictated to that haughty empire the moſt humiliating conditions of peace; an important and illuſtrious æra in Grecian hiſtory, which was often celebrated with pompous panegyric during the declining ages of Athenian glory.

Having terminated the war againſt the Aſiatic foe with ſuch honour and advantage, the Athenians directed more conſtant and undivided efforts to render themſelves paramount in Greece; and, during twenty years, various conteſts aroſe between the Athenians and neighbouring ſtates. Without purſuing the detail of theſe contentions, and the various truces by which they received a temporary ſuſpenſion, we ſhall merely mention the reſult, which was extremely favourable to Athens, ſo that the republic roſe to unprecedented power. With her proſperity the pride of Athens roſe in proportion, until her neighbours, both apprehenſive and envious of her power, and farther inflamed to reſentment by her inſolence, formed for her humiliation a confederacy which brought on the Peloponneſian war. Jealouſy of an overgrown potentate, and what in modern language is called the balance of power, was the chief and ultimate political cauſe of that celebrated war; rivalry, reſentment, and pride, inflamed the differences on both ſides; but the proximate and accidental cauſe was a diſpute between the Corinthians and the Corcyreans, a colony from Corinth; the conteſt was inflamed into a war. (The details of the diſpute belong to the articles Corcyra, and Corinth). The Corcyreans were firſt ſucceſsful, and gained a great naval victory, the Corinthians formed a confederacy with neighbouring ſtates of the Peloponneſus (B.C. 434), to combat the power to which they were themſelves unequal. Alarmed at this combination, the Corcyreans applied (B.C. 433) for aſſiſtance to the Athenians; and urged that an alliance between Athens and Corcyra would be advantageous to both parties; that of its benefits the Athenians would become immediately ſenſible, if they reflected that the people of the Peloponneſus being equally hoſtile to both (the open enemies of Corcyra, the ſecret and more dangerous enemies of Athens); their country muſt derive a vaſt acceſſion of ſtrength by receiving, without trouble or expence, a rich and warlike iſland, which, unaſſiſted and alone, had defeated a numerous confederacy, and whoſe naval force, augmenting the fleet of Athens, would for ever render that republic ſovereign of the ſeas. If the Corinthians complained of the injuſtice of receiving their colony, let them remember that colonies are preſerved by moderation, and alienated by oppreſſion; that men ſettle in foreign parts to better their ſituation, not to ſurrender their liberties; to continue the equals, not to become the ſlaves of their leſs adventurous fellow-citizens. Ambaſſadors from the Corinthians endeavoured to counteract the eloquence of the Corcyreans, conteſted their propoſitions concerning the independence of colonies, affirmed that the mother-country always retained a ſupremacy over its emigrated deſcendants, and appealed to the intereſts of the Athenians, as powerfully inducing them practically to ſupport their doctrines concerning the relative duties of colonies. Theſe iſlanders (they ſaid) acknowledged themſelves a colony of Corinth, but pretended that ſettlements abroad owe nothing to thoſe who eſtabliſhed them, to thoſe whoſe foſtering care reared their infancy, from whoſe blood they ſprung, by whoſe arms they have been defended. We affirm, on the contrary (and appeal to you, Athenians! who have planted ſo many colonies), that the mother-country is entitled to that authority which the Corcyreans have long ſpurned, to that reſpect which their inſolence now refuſes and diſdains; that it belongs to us, their metropolis, to be their leaders in war, their magiſtrates in peace; nor can you, Athenians! oppoſe our juſt pretenſions, and protect our rebellious colony, without ſetting an example moſt dangerous to yourſelves. The Athenians did not implicitly liſten to the arguments of either ſide, but were more favourable to the Corcyreans, and entered into a defenſive alliance with that ſtate. Before the Athenians diſpatched a fleet to ſupport the objects of their new engagement, the Corinthians attacked the ſquadron of their enemies, and gained a ſignal victory; but the arrival of the Athenian armament (B.C. 432) prevented them from reaping any deciſive advantage from their late ſucceſs. To divert the force of the Athenians, the Corinthians ſtirred up revolt among colonies which the Athenians had planted along the coaſts of Theſſaly, Macedon, and Thrace. But theſe were not their only meaſures; aware of the jealouſy and alarm with which Sparta and her allies regarded the Athenians, they tried to kindle the combuſtible particles into a conflagration, which they truſted would overwhelm Athens. They eaſily ſucceeded

in an application ſo very agreeable to the diſpoſitions of thoſe whoſe co-operation they deſired, and a general confederacy was formed, conſiſting of all the ſeven republics of the Peloponneſus (B.C. 431), except Argos and Achaia; the firſt of which from ambition, and the ſecond perhaps from moderation, preſerved, in the beginning of the war, a ſuſpicious neutrality. Of the nine northern republics, Acarnania alone declined joining the allies, its coaſt being particularly expoſed to the ravages of the Corcyrean fleets. The cities of Naupactus and Platæa, for reaſons that will ſoon appear, were totally devoted to their Athenian protectors; while thoſe of Theſſaly embraced by ſeveral petty princes of Theſſaly. But all the other ſtates beyond the iſthmus longed to follow the ſtandard of Sparta, and to humble the aſpiring ambition of their too powerful neighbour. While they were preparing for this concert, the Peloponneſians ſent hoſtile embaſſies and manifeſtoes to the Athenians, requiring them to grant independence to the colonies, and announcing the force by which the requiſition would be ſupported. Alarmed by this menacing combination, the Athenian populace were filled with rage againſt Pericles, whom they accuſed of having cauſed this confederacy by his general conduct, and eſpecially by a decree which he procured againſt the inhabitants of Megara, which had revolted from the authority of Athens, and imputed his enmity to that city to the private pique of his favourite miſtreſs Aſpaſia; and with the petty ſuſpicion of a vulgar mob, conceived him to have appropriated to his own uſe great portions of the national treaſure. Though the tranſcendant virtues of Pericles were not unalloyed, yet his were not the vices of common minds; avarice made no part of his compoſition: he proved that his private expences were juſtly proportioned to the meaſure of his patrimony; many inſtances were brought of his generous contempt of wealth in the ſervice of his country; and it appeared, after the ſtricteſt examination, that his fortune had not increaſed ſince he was entruſted with the exchequer. He contended that the ſituation of the republic did not juſtify deſpondence or ſubmiſſion to the dictates of an imperious rival. Their financial reſources, military and political ſtrength, and above all the ſpirit of the people, enabled them to reſiſt with effect the efforts of their banded enemies, and by a detail of the various conſtituents of Athenian greatneſs contraſted with thoſe of their rivals, illuſtrated his propoſition. He therefore propoſed that the anſwer to their demands ſhould diſclaim their right to interfere, diſavow every intention of commencing hoſtilities, but declare the readineſs and ability of the Athenian republic to repel force by force. Such an anſwer, in the relative diſpoſition of the parties, was deemed tantamount to a declaration of war.

The war which now enſued, is celebrated in Grecian hiſtory by the name of the Peloponneſian war. It laſted for twenty-ſeven years; twenty-one of which are the ſubject of the hiſtory of Thucydides; but death having prevented that illuſtrious author from purſuing it to its termination, its continuation and concluſion was reſerved for Xenophon.

Hoſtilities were begun by the Thebans, who attacked Platæa, a city of Bœotia, in alliance, as we have juſt mentioned, with Athens. All Greece was immediately in motion. The Lacedæmonians march towards the iſthmus of Corinth, a narrow neck of land about ſix miles broad, which joins the Peloponneſe to the country properly called Greece. Archidamus, one of the Spartan kings, before advancing farther, diſpatches an ambaſſador to the Athenians, to require of them to relinquiſh their pretenſions. But the Athenians command the meſſenger to retire, without deigning even to give him an audience. The Lacedæmonians thereupon advanced with an army of 60,000 men, while that of the Athenians amounted to no more than 18,000; but, to make up the odds, the latter had a fleet of 300 galleys. On the approach of the Lacedæmonian army, the inhabitants of the country abandoned their habitations, and carrying away every thing they could, took refuge in Athens. The plan of operations purſued by the Athenians, on the ſuggeſtion of Pericles, was to weary out the enemy by protracting the war. The Lacedæmonians entering Attica, laid ſiege to Enoe, but being obliged after a few fruitleſs aſſaults, to relinquiſh that attempt, they advanced ſtill nearer to Athens, and encamped within half a league of the city. Unwilling while ſo much inferior in point of numbers, to hazard the fate of the republic in a general battle, Pericles found it difficult to prevent the Athenians, exaſperated at the ſight of the ravages committed on their country, from ſallying forth upon the enemy. But by means of his admirable art in managing the multitude, he kept both the ſenate and the people from aſſembling to deliberate, though at the expence of numberleſs inſults from his enemies; in ſpite of which he perſiſted in his plan, unmoved either by threats or entreaties. In the mean time he diſpatched a fleet of one hundred ſhips to ravage the coaſts of the Peloponneſe; which being joined by that of the allies, made a deſcent upon Laconia, and laid waſte the territories of Sparta. The Lacedæmonians finding all their endeavours to draw the Athenians out of their city ineffectual, and receiving intelligence of the ravages committed in Laconia by the Athenian fleet, found themſelves under the neceſſity of withdrawing from Attica. On the ſetting out of the expedition againſt the coaſt of Laconia, an extraordinary eclipſe of the ſun happened juſt as Pericles was going on board of his galley. Pericles perceiving the Athenians to be terrified at this phenomenon, which they conſidered as an unlucky preſage, threw his cloak over the face of the pilot, and aſked him if he ſaw? the pilot having anſwered in the negative, Pericles explained to the by-ſtanders, that the body of the moon, being in like manner interpoſed at that inſtant between their ſight and the ſun, prevented them from ſeeing his light. When the Lacedæmonians retired out of Attica, the Athenians appropriated a hundred talents of money, and a hundred of their beſt ſhips, for the more immediate defence of their country, in caſe of a freſh invaſion, prohibiting any perſon, under pain of death, from propoſing a different application of thoſe reſources. They then expelled from the iſland of Egina its preſent inhabitants, whom they regarded as the principal cauſe of the war; and they divided that iſland by lot among the citizens of Athens. They made an alliance with the kings of Macedon and Thrace; ſubdued the iſland of Cephalonia; laid waſte the territory of Megara; and took the harbour of Niſeum; this concluded the firſt campaign. The Athenians next celebrated funeral rites to the memory of thoſe who had fallen ſince the beginning of the war. For this purpoſe, a large tent was conſtructed, wherein they expoſed the bones of the ſlain, which were covered with flowers and perfumes. Then the bones were carried with much pomp and ſolemnity to a ſuburb of the city called Ceramicus, where they were depoſited in a monument deſtined to be the tomb of thoſe who fell in war, and laſtly, one of the citizens pronounced a funeral oration in their praiſe; a charge which on this occaſion was undertaken by Pericles himſelf. Though always ſuperlatively eloquent, he at this time ſeemed to outdo himſelf; and in pronouncing the eulogium on thoſe who were no more, he omitted no argument that might inflame the courage of the ſurvivors. Thucydides has preſerved this

this famous oration, of which the beautiful expreſſions and lofty ſentiments are equally admired. The army of the Lacedæmonians and their allies returned into Attica, and laid every thing waſte with fire and ſword. But the plague, which then raged among the Athenians, was full more pernicious to them, depriving them of their beſt citizens and braveſt ſoldiers; and Athens exhibited nothing but a melancholy ſcene of ſickneſs and death. Of this dreadful ſcourge, an awfully ſtriking account is exhibited in the energetic deſcription of Thucydides. Without dwelling on the corporeal ſymptoms which the hiſtorian preſents in his affecting narrative of this ſcourge, we ſhall merely give the ſubſtance of its moral effects. At the beginning of this dreadful calamity, ſublime examples of filial piety and generous friendſhip were diſplayed; but as the conſequences were almoſt always fatal to the children and friends, they were but rarely repeated afterwards. Then the moſt reſpectable ties were broken; the eyes about to cloſe for ever, beheld on all ſides only the moſt profound ſolitude, and death no longer produced a tear. This callous inſenſibility gave birth to an unbridled licentiouſneſs. The death of ſo many worthy men, mingled without diſtinction in the ſame tomb with villains; the deſtruction of ſo many fortunes, become ſuddenly the inheritance or prey of the loweſt citizens, made a lively impreſſion on thoſe who have no other principle but fear. Perſuaded that the gods no longer protected or regarded virtue, and that the vengeance of the laws would not be ſo prompt as the death impending over them, they imagined that the inſtability of human poſſeſſions pointed out the uſe that they ſhould make of them, and that having but a few moments to live, they were juſtified at leaſt in paſſing them in the midſt of pleaſures.

Notwithſtanding the diſtreſſes in which Athens was involved, the elevated ſoul of Pericles, with unbroken fortitude, planned the extrication of his country, as far as it was practicable by human means. A numerous family fell ſucceſſive victims to the rapacious peſtilence. Though a tenderly affectionate father, he bore the diſaſter with magnanimous ſerenity. At the funeral of the laſt of his ſons, he dropped, indeed, a few reluctant tears of paternal tenderneſs; but aſhamed of this momentary weakneſs, he bent his undejected mind to the defence of the republic. Having collected an hundred Athenian, together with fifty Chian and Leſbian veſſels, he ſailed through the Saronic gulph, and ravaged the unprotected coaſts of Elis, Argos, and Laconia. The plague breaking out in the fleet, defeated the ſucceſs of the expedition, and reviſiting Athens with redoubled fury, almoſt deſolated the city. Maddened by their accumulated ſufferings, the Athenians imputed their miſerable ſituation to Pericles: they deprived him of his authority, and condemned him to a fine: but they ſoon acknowledged their folly and injuſtice. He was again prevailed on to reſume the reins of adminiſtration, and his laſt efforts were employed to ſtimulate his country to that vigour of counſels and of conduct which only could preſerve her power, honour, and independence: temporary diſaſter might aſſail, but in the nature of things its duration could not be long; Athens would ultimately triumph, if ſhe was true to herſelf. "Of the two elements," he ſaid, "deſtined for the uſe of men, the ſea and the land, we abſolutely command the one, nor is there any kingdom, or republic, or confederacy, that pretends to diſpute our dominion. Let this conſideration elevate our hopes, and perſonal afflictions will diſappear at the view of public proſperity. Let us bear, with reſignation, the ſtrokes of Providence, and we ſhall repel with vigour the aſſaults of our enemies. It is the hereditary and glorious diſtinction of our republic, never to yield to adverſity. We have defied danger, expended treaſure and blood, and amidſt obſtinate and formidable wars, augmented the power, and extended the fame of a city, unrivalled in wealth, populouſneſs, and ſplendor, and governed by laws and inſtitutions worthy of its magnificence and renown. If Athens muſt periſh, (for even human grandeur is not ſubject to decay!) let her never fall at leaſt through our puſillanimity; a fall that would cancel the merit of our former virtue, and deſtroy at once that edifice of glory which it has been the work of ages to rear. When our walls and bulwarks are no more, when the terror of our navy ſhall have ceaſed, and our external magnificence have fallen to decay, the glory of Athens ſhall remain. This is the prize which I have held out, exhorted, and ſtill exhort you to defend, regardleſs of the clamours of ſloth, the ſuſpicions of cowardice, or the perſecution of envy." Theſe were the laſt efforts of this illuſtrious man; he was ſoon after ſeized with the plague which proved fatal. On his death bed, retaining his underſtanding, his chief comfort was, not the ſplendor of his genius and atchievements, but the recollection of his well-ſpent life. When he was about to yield his laſt breath, the leading men of Athens aſſembled around his bed, were ſoothing their affliction by recounting his victories, and the number of his trophies. "Theſe actions," ſaid he to them, raiſing himſelf up with difficulty, "are the works of fortune, and common to myſelf with other generals; the only eulogium I merit is, that I have never been the cauſe that any citizen ſhould wear mourning." (Gillies.)

After the death of Pericles, two perſons contended for the direction of affairs; Cleon, a turbulent and impudent demagogue, devoid of talents, or of any moral quality which carried him to pre-eminence, but a great favourite with the lower populace; and Nicias, a man of ſolid ability, prudence, and integrity: and for ſeveral years the war was ſucceſsful or unſucceſsful accordingly as the one or the other predominated.

About this time the Peloponneſians inveſted Platæa, a city in alliance with Athens. This ſiege is not only remarkable for the obſtinate reſiſtance of the beſieged, but for being the firſt recorded in hiſtory which was conducted with any ſort of regularity. Both parties here made uſe of mounds of earth, the one to attack, the other to defend. The Peloponneſians burnt a part of the town by means of bundles of ſticks, to which they ſet fire. On the other hand, the beſieged neglected no expedient to fruſtrate the various attempts of the enemy. But the moſt ſurpriſing circumſtance of all is, that ſo ſmall a place as Platæa, which contained no more than four hundred inhabitants, and eighty Athenians, was capable of making ſo vigorous a reſiſtance againſt a powerful army. The enemy at laſt changed the ſiege into a blockade, and ſurrounded the town with two ditches. The Bœotians were left to guard theſe intrenchments, and the bulk of the army marched away. The beſieged having loſt all hope of ſuccour, reſolved to attempt to make their eſcape out of the town; which about one half of them effected by a very daring ſtratagem, ſuggeſted and executed by deſpair. The remaining half diſmayed at the dangers attending the attempt, continued in the town. But finding themſelves unable to defend it any longer, they were at laſt obliged to ſurrender at diſcretion: eight Spartans went to decide their fate; the miſerable Platæans pleaded in vain that they had been forced, through neceſſity, to ſide with the Athenians, in order to obtain their protection againſt the Thebans, by whom they were grievouſly oppreſſed. They were all murdered in cold blood; their wives were carried into ſlavery; and their town was razed to the ground. Such was the melancholy

melancholy fate of the Plataeans, who, during the Perſian war, had rendered the moſt ſignal ſervices to Greece. (B. C. 428.) In the fourth year of the war, the Peloponnefians, as ufually to their general plan, invaded Attica by land, whilſt the Athenians as before ſent a naval force to devaſtate the coaſts of their enemies. Between two parties, of which the one was evidently ſuperior by land, and the other by ſea, if both ſkilfully employed their reſources, there muſt be an alternation of victory and defeat, which by reciprocal diminution of reſources through the evils of war, demonſtrated peace to be mutually beneficial. This year, however, threatened a blow to the naval power of Athens that might materially effect the equiponderancy. The maritime ſtrength of Athens depended in a conſiderable degree upon her foreign ſettlements and dominions. As her treatment of theſe was frequently imperious, and even oppreſſive, her dependencies did not bear her ſupremacy without repining. Availing themſelves of the preſent difficulties, all the inhabitants of Leſbos, except thoſe of Methymne, reſolved to ſeparate from Athens. The Athenians, ſenſible how great a loſs the defection of this iſland muſt be, ſent out a fleet of forty gallies to attack that of the Mitylenians, who finding themſelves repulſed, propoſed terms of accommodation; which were liſtened to by the Athenians. A ſuſpenſion of hoſtilities being agreed on, the Mitylenians diſpatched ambaſſadors both to Athens and to Lacedæmon at the ſame time. The ambaſſadors were told by the Lacedæmonians, that they ſhould be fully heard at the approaching Olympic games, where the other allies would have an opportunity of aſſiſting at the conference. Thucydides has tranſmitted to us the import of what was urged by theſe ambaſſadors; from which we ſee, that they admitted the treaty anciently concluded between the Leſbians and Athenians, and aſſigned the ambition of the latter, not their preſent misfortunes, as the reaſon that induced them now to relinquiſh that treaty. The allies were ſatisfied with their reaſons, and admitted them into their confederacy. Informed of theſe preparations, the Athenians fitted out a fleet of a hundred ſail, appeared unexpectedly off the promontory of the iſthmus of Corinth, and made a deſcent upon the Peloponneſe, while another fleet protected the coaſts of Attica. Never had they raiſed ſo formidable an armament before; and it ſo overawed the Lacedæmonians, that they hurried back to the defence of their own country. The Athenians, in the mean time, puſhed on the ſiege of Mitylene, whither they ſent a detachment of a thouſand ſoldiers, and the town was blocked up both by ſea and land. The inhabitants receiving no aſſiſtance from the Lacedæmonians, and being preſſed by famine, were obliged to ſurrender at diſcretion. The authors of the revolt, to the number of more than a thouſand, were conveyed to Athens, and there put to death. Orders were at the ſame time iſſued to maſſacre the reſt of the inhabitants, by way of example. But the people ſhocked at ſuch horrible cruelty, cauſed the decree to be revoked, and diſpatched counter orders; which luckily arrived at the inſtant they were proceeding to put the firſt in execution. (Thucydides.) Then the town was diſmantled, and the whole territory of the iſland, except Methymne alone, was divided by lot among the inhabitants of Athens. The fifth (B. C. 427) year of the war was principally diſtinguiſhed by the ſedition of Corcyra. In the courſe of hoſtilities, the Corinthians had captured a conſiderable number of thoſe iſlanders, and wiſely treated them with a gentleneſs and kindneſs which gained their affections. Having brought them to this diſpoſition, they earneſtly perſuaded them, when they ſhould return to their country, to employ their efforts for reconciling the children with the parent country, and detaching their fellow citizens from Athens, the tyrant over her allies. The Corcyreans were diſmiſſed, and arriving at home, endeavoured to reconcile their countrymen to the Peloponneſians. The ariſtocratical party very readily agreed, and formed a conſpiracy for maſſacring the leaders of the democratic party. The commons applied to the Athenians, who ſent a fleet to aſſiſt their partiſans. The Peloponneſians alſo ſent a ſquadron to ſupport the nobles: but the Athenians preſerving their maritime ſuperiority, their enemies retired, and the democrats were paramount. Their cruelty was ſo ſignal, as from that time to give the name of Corcyrean to every ſedition of uncommon atrocity. The following account, in the elegant language of Dr. Gillies, contains an awful monument of the dreadful effects of inteſtine diſſenſion.

"The unhappy priſoners were firſt confined in a dungeon. Dragged ſucceſſively from thence, in parties of twenty at a time, they were compelled to paſs in pairs, their hands tied behind their backs, between two ranks of their enemies, armed with whips, prongs, and every inſtrument of licentious and diſgraceful torture. The wretches left in priſon were long ignorant of the ignominious cruelty inflicted on their companions: but, as ſoon as they learned the abominable ſcenes tranſacted, they refuſed to quit their confinement, guarded the entrance, and invited, with one conſent, the Athenians to murder them. But the Athenians wanted either humanity or firmneſs to commit this kind cruelty. The Corcyrean populace ventured not to force a paſſage from deſpair. They mounted the priſon walls, uncovered the roof, and overwhelmed thoſe below with ſtones, darts, and arrows. Theſe weapons were deſtructive to many, and furniſhed others with the means of deſtroying themſelves, or each other. They laid down their heads, opened their breaſts, expoſed their necks, mutually ſoliciting, in plaintive or frantic accents, the fatal ſtroke. The whole night (for night intervened) was ſpent in this horrid ſcene; and the morning preſented a ſpectacle too ſhocking for deſcription. The obdurate hearts of the Corcyreans were incapable of pity or remorſe; but their relenting eyes could not bear the ſight; and they commanded the bodies of their fellow citizens, now breathleſs or expiring, to be thrown on carts, and conveyed without the walls." Thus ended the ſedition of Corcyra; but its conſequences were not ſoon to end. The contagion of that unhappy iſland, engendered a political malady, which ſpread its baneful influence over Greece. The ariſtocratical, and ſtill more, the popular governments of that country, had ever been liable to faction, which occaſionally blazed into ſedition. But this morbid tendency, congenial to the conſtitution of republics, thenceforth aſſumed a more dangerous appearance, and betrayed more alarming ſymptoms. In every republic, and almoſt in every city, the intriguing and ambitious found the ready protection of Athens, or of Sparta, according as their ſelfiſh and guilty deſigns were ſcreened under the pretence of maintaining the prerogatives of the nobles, or aſſerting the privileges of the people. A virtuous and moderate ariſtocracy, an equal impartial freedom, theſe are the colourings which ſerved to juſtify violence, and varniſh guilt. Sheltered by the ſpecious coverings of fair names, the prodigal aſſaſſin delivered himſelf from the importunity of his creditor. The father, with unnatural cruelty, puniſhed the licentious extravagance of his ſon; the ſon avenged, by parricide, the ſtern ſeverity of his father. The debates of the public aſſembly were decided by the ſword. Not ſatisfied with victory, men thirſted for blood. This general diſorder overwhelmed laws human and divine. The ordinary courſe

of

of events was reverſed: ſentiments loſt their natural force, and words their uſual meaning. Dullneſs and ſtupidity triumphed over abilities and refinement; for while the crafty and ingenious were laying fine ſpun ſnares for enemies, men of blunter minds had immediate recourſe to the ſword and poignard. Hitherto the war had been carried on without any material advantage to either party. The following year, (B. C. 426.) more critical events took place: Demoſthenes, a general of merit and enterpriſe, commanded the Athenian forces at Naupactus, which had been beſtowed on the unfortunate Meſſenians; by whoſe aſſiſtance, together with that of the Athenian allies in Acarnania, Demoſthenes undertook to ſubdue Ætolia. The Meſſenians being continually haraſſed by the Ætolians, perſuaded Demoſthenes that it would be be eaſy to overrun their country, before the inhabitants, who lived in ſcattered villages, widely ſeparated from each other, could collect their force, or attempt reſiſtance. In purſuance of this advice, Demoſthenes entered Ætolia, took and plundered the towns, and drove the inhabitants before him. During ſeveral days he marched unreſiſted; but having proceeded to Ægitium, the principal, or rather only city in the province, he found that his deſign had by no means eſcaped the notice of the enemy. Living in a country abounding in defiles, and involved in woods, the Ætolians, though irregular and deſultory in their warfare, yet employing a ſpecies of buſh fighting not unlike to that which, two and twenty centuries afterwards, has been uſed by the American Indians, defeated the regularly diſciplined heroes of Athens, and Demoſthenes was obliged to take refuge in Naupactus. The Athenian general, however, ſoon found means to irritate thoſe Barbarians to venture a conteſt in the plains, and, with great eaſe, obtained a ſignal victory. Elevated with this ſucceſs, Demoſthenes undertook an expedition to the weſtern ſhore of Peloponneſus, and ſeized Pylus. The Spartans eager to recover this important poſt, attempted to diſlodge the enemy, but were defeated, and obliged to take refuge in Sphacteria, a ſmall iſland upon the coaſt; and the Athenians, being maſters of the ſea, ſurrounded their retreat, and cut off all ſupplies of proviſions. Anxious to ſave thoſe troops, the Spartans ſent ambaſſadors to Athens with propoſals of peace. The ambaſſadors frankly owned the extreme neceſſity that had obliged the Lacedæmonians to ſubmit to ſo humiliating a ſtep, put the Athenians in mind of the uncertain fate of arms, and exhorted them to embrace this opportunity of reſtoring tranquillity to Greece. But the Athenians grown preſumptuous by their good fortune, as well as by the flattering oration of their favourite demagogue Cleon, required, as a preliminary condition, that the troops confined in the iſland ſhould lay down their arms, and be conducted to Athens, upon the promiſe of the Athenians to ſet them at liberty as ſoon as the Lacedæmonians had delivered up the places conquered by them, from the Athenians. The Lacedæmonians refuſed to comply with this condition, and both parties prepared themſelves for war. The Athenians, in the mean time, were very vigilant to prevent any proviſions from paſſing into the iſland of Sphacteria. The Lacedæmonians, on the other hand, engaged the whole country round to contribute their utmoſt efforts to relieve the beſieged troops, and promiſed to ſet free all the ſlaves who ſhould ſucceed in carrying them proviſions; which many did, at the extreme hazard of their lives. In the mean time, the Athenians in Pylus began, on their part, to be ſtraitened for proviſions. Cleon perſuaded the people, that the ſlowneſs of the ſiege was owing to the inactivity of their commanders; and maintained, that a little vigour muſt very ſoon reduce the iſland, which he offered to accompliſh himſelf. Having been accordingly ſent thither, and having joined Demoſthenes, they landed together in Sphacteria, and beat the enemy to the extremity of the iſland. The Lacedæmonians, however, took poſſeſſion of a fortification, and defended, with the moſt deſperate courage, the only paſſage by which they could be attacked. But the general of the Meſſenians, having diſcovered a difficult paſs that led to the fortification, marched that way, and appearing unexpectedly on the rear of the Lacedemonians, called aloud to them to lay down their arms. The Lacedæmonians exhauſted with heat and fatigue, obeyed the ſummons, by laying their ſhields on the ground; and, after a ſhort conference, they ſurrendered at diſcretion. The Athenians, after erecting a trophy, reimbarked on board of their fleet. This ſiege continued ſixty-two days. Cleon is ſaid to have cauſed 128 of thoſe unhappy Spartans, to be murdered. The reſt were conveyed to Athens, and thrown into priſon, till peace ſhould take place; the Athenians threatening, at the ſame time, to put them all to death, if the Lacedæmonians made any more incurſions into their country. Soon after happened the ſedition of Megara. The inhabitants of that town, after expelling their magiſtrates, quarrelled among themſelves, one party being for recalling their magiſtrates, the other, for delive ing their town into the hands of the Athenians. Braſidas, in the mean time, the beſt officer the Lacedæmonians then had, having come before Megara, its gates are immediately thrown open to him. The exiled magiſtates returning ſoon after, and reſuming their authority, condemn to death one hundred inhabitants of the oppoſite faction. Braſidas advances into Thrace, ſubdues ſeveral cities, and lays ſiege to Amphipolis, a place of much importance to the Athenians, who thence got the greateſt part of their wood. They therefore diſpatched Thucydides, the famous hiſtorian, to its relief; but the place was taken before his arrival. His countrymen, however, imputed to him the loſs of the place, and baniſhed him at the inſtigation of Cleon. The Athenians having about the ſame time advanced into Bœotia, under the command of Demoſthenes and Hippocrates, were defeated near Delium by the Thebans, who, after their victory, beſieged and took that town. No deciſive advantage had been hitherto obtained by either party. The Athenians and Lacedæmonians therefore agreed on a truce for a year; which Braſidas, who had been ſucceſsful in all his enterpriſes, bore with great impatience. Cleon, on the other hand, who had acquired much authority in Athens by means of his bold and vehement eloquence, incited his countrymen to reſume the war. Being more preſumptuous than ſkilful in military operations, he reſolved to attempt the retaking of Amphipolis, hoping to be aſſiſted by a body of troops from Perdiccas king of Macedon. But Braſidas got the ſtart of him, and threw himſelf into the town. To increaſe the preſumption of Cleon, the Spartan general, who was well acquainted with his character, affected to be afraid of an encounter; but after making the proper diſpoſitions, Braſidas ſallied forth unexpectedly, and attacked the left wing of the Athenians, which, being the flower of their army, made a vigorous reſiſtance. Braſidas, however, at laſt broke them, and killed ſix hundred, with very little loſs on his own ſide. This attack diſconcerted and terrified Cleon, who was killed by a Spartan ſoldier as he was flying from the battle. Braſidas was of the number of the ſlain on the ſide of the Lacedæmonians. He was an excellent officer, equally brave and prudent, and deſerves to be ranked among the Lacedæmonian heroes. It was the mother of this general, who, on hearing the exploits of her ſon commended,

mended, anſwered, "It is true, my ſon was a brave man; but I doubt not that Sparta has many citizens as brave as he."

The battle of Amphipolis removed the principal obſtacles to peace. There was not any Spartan general qualified to accomplish the deſigns of Braſidas; and the Athenians, dejected by defeat, and humbled by diſgrace, wanted the bold impoſing eloquence of Cleon, to diſguiſe their weakneſs, and varniſh their misfortunes. (Gillies.) With the diſheartened remains of an enfeebled armament, they deſpaired of recovering their Macedonian poſſeſſions; and the greater part returned home, well diſpoſed for an accommodation with the enemy. Theſe diſpoſitions were confirmed by the pacific temper of Nicias, who had ſucceeded to the influence of Cleon, and who fortunately diſcovered in the moderation of Pleiſtoanax, king of Sparta, a coadjutor extremely ſolicitous to promote his views. During winter, ſeveral friendly conferences were held between the commiſſioners of the two republics; and towards the commencement of the enſuing ſpring, a treaty of peace, and ſoon afterwards a defenſive alliance, for fifty years, was ratified by the kings and ephori of Sparta on the one ſide, and by the archons and generals of Athens on the other. In conſequence of this negotiation, which was intended to comprehend the reſpective allies of the contracting powers, all places and priſoners taken in the courſe of the war, were to be mutually reſtored; the revolted cities in Macedon were ſpecified by name; but it was regulated that the Athenians ſhould not require from them any higher revenue than that apportioned by the juſtice of Ariſtides. (See Thucydides.)

While the Athenians were thus engaged in wars, and often employed in injuſtice, their city produced a perſonage who taught his countrymen and mankind the pureſt ethics that ever flowed from a human ſource. Socrates was now in the full vigour of his genius, which he employed in ſimplifying practical philoſophy to the comprehenſion of common minds, and to inculcate the neceſſary connection between piety and virtue and happineſs. (See Xenophon's Memorabilia.) From the perfections of the ſupreme intelligence he deduced his juſt government of the univerſe, which implied the immortality of the human ſoul. But the great object of his reſearch was to diſcover the general laws by which, even in this life, the ſuperintending providence had variouſly diſpenſed to men good and evil, happineſs and miſery. Theſe laws he regarded as the promulgated will of the gods, with which, when clearly aſcertained, it became our duty invariably to comply; ſince nothing but the moſt ſhort-ſighted folly could riſk incurring the divine diſpleaſure, in order to avoid pain or poverty, ſickneſs or death, far leſs to enjoy periſhing gratifications, which leave a ſting behind them. Reaſoning on ſuch principles, and taking experience only for his guide, he deduced with admirable perſpicuity the intereſts and duties of nations and individuals in all the complicated relations of ſociety. The actions of men furniſhed the materials, their inſtruction formed the object, their happineſs was the end of his diſcourſe. Wherever his leſſons might be moſt generally uſeful, there he was always to be found, frequenting at an early hour the Academy, Lyceum, and other public gymnaſia; punctually attending the forum at mid-day, the hour of full aſſembly; and in the evening, joining, without the affectation of auſterity, in the convivial entertainments of his friends, or accompanying them in the delightful walks which adorned the banks of the Ilyſſus. As a huſband, a father, a citizen, and a ſoldier, the ſteady practice of his duty continually illuſtrated his doctrines. The converſation and example of this truly practical philoſopher (and this is his higheſt praiſe) perſuaded many of his fellow citizens ſincerely to embrace a virtuous courſe of life; and even thoſe who allowed the current of their paſſions to prevail over the conviction of their ſober hours, were ſtill charmed with the wonderful extent, as well as the ſingular accuracy, of his various knowledge, with the acuteneſs and penetration of his various arguments; the beauty, vivacity, and perſuaſiveneſs of his ſtyle, with which he aſſumed the tone of reaſon or of ridicule, ſurpaſſed whatever had been deemed moſt eloquent. Among the Athenian youth whom this ſage attempted to form to virtue, was the celebrated Alcibiades, but a previouſly corrupted education rendered his taſk extremely difficult. The tender years of Alcibiades were committed to the illiberal diſcipline of mercenary preceptors; his youth and inexperience were beſet by the deſtructive adulation of ſervile flatterers (Plutarch's Alcibiades), until the young Athenian, having begun to reliſh the poems of Homer, the admiration of which is congenial to every great mind (Ibid.), learned from thence to deſpiſe the pedantry of the one, and to deteſt the meanneſs of the other. From Homer, Alcibiades early imbibed that ambition for excellence which is the great leſſon of the immortal bard. Having attained the verge of manhood, he readily diſtinguiſhed, among the crowd of rhetoricians and ſophiſts, the ſuperior merit of Socrates. The ſage, whoſe company was courted by his other diſciples, himſelf courted the company of Alcibiades; and when the ungrateful youth ſometimes eſcaped to his licentious companions, the philoſopher purſued him with the eagerneſs of a father or maſter, anxious to recover a fugitive ſon or ſlave. See ALCIBIADES. But this favourite laboured under a defect which could not be compenſated by the higheſt birth, the moſt ſplendid fortune, the nobleſt endowments of mind and body, and even the ineſtimable friendſhip of Socrates. He wanted an honeſt heart. This we are warranted to affirm on the authority of contemporary writers, Lyſias and Xenophon, who acknowledge that firſt admiration, and then intereſt, was the foundation of his attachment to the illuſtrious ſage, by whoſe inſtruction he expected to become not a good but an able man. Some inclination to virtue he might, in ſuch company, perhaps feel, but more probably feign; and the niceſt diſcernment might miſtake the real character of a man who could adopt at pleaſure the moſt oppoſite manners; and who, as will appear from the ſubſequent events of his various life, could ſurpaſs the ſplendid magnificence of Athens, or the rigid frugality of Sparta; could conform, as intereſt required, to the laborious exerciſes of the Thebans, or to the voluptuous indolence of Ionia; aſſume the ſoft effeminacy of an Eaſtern prince, or rival the ſturdy vices of the drunken Thracians. (Nepos's Alcibiades.)

The firſt ſpecimen of his political conduct diſcovered the extraordinary reſources of his verſatile mind. He oppoſed the peace of Nicias, as the work of a rival whom he wiſhed to diſgrace. His ambition longed for war, and the Spartans deſerved his reſentment, having in all their tranſactions with Athens, teſtified the utmoſt reſpect for Nicias, while they were at no pains to conceal their want of regard for himſelf, though his family had been long connected with their republic by an intercourſe of hoſpitality, and he had endeavoured to ſtrengthen that connection by his perſonal good offices to the Lacedæmonians taken in Sphacteria. To gratify at once his reſentment, his ambition, and his jealouſy, he determined to renew the war with Sparta; a deſign by no means difficult at the preſent juncture. In compliance with the peace of Nicias,

Nicias, the Spartan withdrew their troops from Amphipolis; but they would reſtore neither that city nor the neighbouring places in Macedon, to the dominion of Athens. The Athenians, agreeably to the treaty, allowed the captives taken in Sphacteria to exact the longer confinement of their kinſmen and friends; but good policy forbade them ſurrendering Pylus, until the other had performed ſome of the conditions ſtipulated in return. Hatred unwillingneſs or inability to comply with the articles of peace, ſowed the ſeeds of animoſity, which found a favourable ſoil in both republics. The majority of thoſe magiſtrates who ſupported the pacific meaſures of Nicias and Pleiſtoanax had expired. The Spartan youth wiſhed, by new hoſtilities, to cancel the memory of a war, which had been carried on without profit, and terminated with diſhonour; but the wiſer part perceived that better ſucceſs could not be expected while the Athenians poſſeſſed Pylus. In their eagerneſs to recover that fortreſs, they renewed their alliance with the Thebans, from whom they received Panactum, which they hoped to exchange for Pylus; forgetting in this tranſaction an important clauſe in their treaty with Athens, "that neither of the contracting powers ſhould, without mutual communication and conſent, conclude any new alliance." The Thebans rejoiced in the proſpect of embroiling the affairs of Athens and Sparta; and the Corinthians, guided by the ſame hoſtile views, readily concurred with the Thebans, and openly re-entered into the Lacedæmonian confederacy. The Peloponneſian war was renewed with various ſucceſs. The addreſs of Alcibiades prevailed on the Argives to join the Athenians; and though the Spartans gained a conſiderable victory at Mantinæa, the Athenians were on the whole pre-eminent. Elated with ſucceſs, the Athenians undertook the conqueſt of the iſland of Melos, a ſtate that never had been dependent on Athens, nor ever interfered in the Peloponneſian war. The Athenians ſent ambaſſadors to require the iſlanders to ſurrender. The conference between their deputies and the Melian ſtateſmen is detailed by Thucydides, and is one of the moſt curious and intereſting pieces recorded in ancient political hiſtory. It may indeed well be ſtyled the moral creed of conquering adventurers, more openly promulgated than in modern manifeſtoes, but containing the ſame ſentiments which dictated in our own times the partitioning ſcheme for the ſpoliation of Poland, with this difference, that modern robbers on a great ſcale, by ſome ſpecious plea of right, do homage to the juſtice which they tranſgreſs; whereas the Athenian deputy did not ſhock common ſenſe by ſuch an unfounded pretext. He ſtated the real title to the ſeizure of other people's property, ſuperior power; that the ſtrong may uſe what freedom they pleaſe with the weak. There is not a ſingle word ſaid tending to prove either juſt right in the Athenians, or aggreſſion in the Melians. The Athenian ſtates the power of his country, and the miſeries the Melians would ſuffer if they attempted reſiſtance. The peroration to this celebrated diſcuſſion fully illuſtrates the principles on which the Athenians proceeded, and ſums up the diplomatic reaſoning: "You are determined," ſaid the Athenian ambaſſador, "it ſeems, to learn by fatal experience, that fear never compelled the Athenians to deſiſt from their deſigns, eſpecially never to raiſe the ſiege of any place which they had once inveſted. For during the whole of this long conference, you have not mentioned a ſingle particular capable of affording any juſt ground of confidence. Deceived by the ſplendor of words, you talk of honour and independence, rejecting the offers of a powerful ſtate, whoſe arms you are unable to reſiſt, and whoſe protection you might obtain at the expence of a moderate tribute. Let ſhame ſhould have any ſhare in this danger or behaviour, we find [illegible] conſult privately, [illegible] preſent [illegible] Athenians [illegible] Melians recalled them, and declared their unanimous reſolution not to betray [illegible] their [illegible] two [illegible] treaty, especially in that [illegible] therto preſerved them amidſt the general convulſions of Greece. But they entreated the Athenians to accept their offer of neutrality, and [illegible] lence. The ambaſſadors prepared for returning to the camp, leaving the commiſſioners [illegible] all men, in ſuch a delicate ſituation, the Melians alone thought the future more certain than the paſt, and would grievouſly ſuffer for their folly, in preferring to the propoſals of certain and immediate ſafety, the deceitfulneſs of hope, the inſtability of fortune, and the vain [illegible] of Lacedæmonian aid." The Athenians, irritated by oppoſition, inveſted without delay the capital of Melos, which was blocked up for ſeveral months by ſea and land. The beſieged, after ſuffering cruelly by famine, made ſeveral deſperate ſallies, [illegible] the Athenian [illegible] ſtroyed part of their works. But towards the end of winter, their reſiſtance was defeated by the vigorous efforts of the enemy, combined with domeſtic treaſon. The males above the age of fourteen were put to the ſword; the women and children were ſubjected to perpetual ſervitude; and five hundred new inhabitants, drawn from the neighbouring colonies of Athens, were ſent to occupy the vacant lands which had been cultivated and adorned for ſeven centuries by the labour of the exterminated Melians.

Succeſsful injuſtice encouraged the Athenians to more arduous ſchemes of aggreſſion and conqueſt, and they hoped to ſubjugate the whole courſe of the Mediterranean. Under theſe viſionary fancies, they projected an expedition to Sicily, which proved ſo fatal to Athenian greatneſs. With the uſual policy of conquerors, they maintained a cloſe intercourſe with the weaker ſtates of a country which they projected to ſubdue. Since the death of Pericles, they had concluded a treaty with the Leontines, who being hard preſſed by the Syracuſans, applied for aſſiſtance to their new confederates; for this purpoſe they ſent an embaſſy to Athens, at the head of which was the celebrated orator Gorgias, who pleaded the cauſe of the Leontines in an oration ſo elegant and pathetic, that the requeſt of the ambaſſadors was granted; and the Athenians ſent a fleet to Rhegium, to aſſiſt the Leontines. Next year (B. C. 415), they ſent thither a more numerous fleet ſtill, under pretence of aſſiſting the towns oppreſſed by the Syracuſans, but in fact to open to themſelves a way to the conqueſt of Sicily. Alcibiades, by his harangues, inſtigated the Athenians ſtill more and more to this undertaking, and talked of nothing leſs than extending the conqueſts of Athens over Africa and Italy. While the minds of the Athenians were full of theſe mighty projects, ambaſſadors arrived from the Egeſtians, to implore their aſſiſtance againſt the Selinontines, who were ſupported by the Syracuſans; offering at the ſame time to pay the troops that ſhould be ſent to their aſſiſtance. The Athenians, tempted by theſe promiſes, named Alcibiades, Nicias, and Lamachus, to command a fleet deſtined to ſuccour the Egeſtians. Nicias remonſtrated againſt this expedition in the ſtrongeſt terms, and painted out in the moſt lively colours what ruinous conſequences might thence reſult to the republic. He repreſented to the Athenians, that they had but too many enemies on their hands already, with-

out going abroad to ſeek for more; and that though they were hardly beginning to recover from the miſeries occaſioned by the late war and plague, they were wantonly expoſing themſelves to a greater danger ſtill. Nicias, in this harangue, likewiſe reflected indirectly on the luxury of Alcibiades, who had now carried his extravagance to an incredible pitch. The expence of the furniture of his houſe, and of his retinue, was prodigious. His table was as ſumptuous as that of any prince; and he contended at the Olympic games with ſeven different ſets of horſes. To ſupport ſo expenſive a life, it was abſolutely neceſſary for him to poſſeſs vaſt funds; and Nicias no doubt meant to inſinuate, that Alcibiades expected to have an opportunity by this expedition to repair his private fortune, which muſt have been greatly diſſipated by ſuch enormous expences. Alcibiades anſwered the harangue of Nicias, by telling the audience, that his magnificence was intended to reflect honour on his country; he put them in mind of his ſervices to the commonwealth; he aſſured them that the cities of Sicily were ſo weary of the oppreſſion of their petty ſovereigns, that they would inſtantly open their gates to the firſt power which ſhould appear to deliver them from their preſent ſlavery; and he concluded with telling them, that to carry their arms abroad was the ſureſt way to damp the courage of their enemies, and that the Athenians muſt always continue maſters at ſea, in ſpite of the Lacedæmonians. The Athenians, delighted with this flattering ſpeech of Alcibiades, entirely diſregarded that of Nicias, who was a man of a ſoft puſillanimous diſpoſition, and of an irreſolute temper. They therefore perſiſted in their reſolution to undertake this expedition, and began to make the neceſſary preparations for it with the utmoſt diſpatch. (Thucydides.) Juſt as the Athenian fleet was on the point of ſetting ſail, ſeveral evil preſages fell out that extremely perplexed the minds of the people. 1ſt. The feaſt of Adonis happened at this time, which was celebrated by the women uttering piteous groans and lamentations; and it was cuſtomary for all the inhabitants on that occaſion to wear mourning. 2dly. The ſtatues of Mercury, one of which ſtood before the entry of every houſe, were all maimed in the ſame night, and the author of this piece of ſacrilege could not be diſcovered. The wild libertine character of Alcibiades expoſed him to ſuſpicions of having been concerned in this miſchief. But the affection entertained for him by the ſoldiers and ſailors, who declared that they would not proceed on the expedition, if the ſmalleſt violence was offered to his perſon, preſerved him at preſent from any trouble on that account. Alcibiades demanded to be tried, that he might have an opportunity of juſtifying himſelf before his departure. But the people, impatient for the expedition proceeding, obliged him to ſet ſail. The view of the fleet under ſail attracted the admiration both of the citizens and of ſtrangers; for never had a ſingle city in the weſtern world diſplayed ſo grand and magnificent an armament. It conſiſted of a hundred and thirty-ſix veſſels, carrying ſix thouſand two hundred and eighty ſoldiers, of whom the greater part were heavy armed. Beſides theſe, there were thirty veſſels loaded with proviſions, and the whole was attended by one hundred barks, without including merchant ſhips, or the after augmentations of the fleet. Beſides the ſea forces, there was a body of troops for the land ſervice, and among theſe a few cavalry. All the forces were equipped in the moſt complete manner; and upon the whole, there could hardly be a grander or more beautiful exhibition. (B. C. 414.) When the troops were embarked, the whole fleet on a ſignal given by a trumpet, weighed anchor, attended with a general ſhout of the ſpectators, pouring out their moſt earneſt vows for the ſucceſs of their fellow-citizens. The fleet directed its courſe towards Rhegium, whither they diſpatched ſome ſhips before the reſt, to ſee that the money promiſed by the Egeſtians was ready; of which, however, they found no more than thirty talents provided. Nicias availed himſelf of this circumſtance to enforce the reaſons he had inſiſted on againſt the expedition, and adviſed to terminate the diſpute between the Egeſtians and Selinontines in an amicable manner; to oblige the former to fulfil their engagements; and then to return to Athens. Alcibiades, on the contrary, ſaid it would be diſgraceful to return without performing ſome ſignal exploit with ſo powerful an armament; that they ought to endeavour to detach the Greeks in Sicily from their connection with Syracuſe, to bring them over to their own party, and after obtaining from them reinforcements both of troops and proviſions, to attack Syracuſe. Lamachus adviſed to march immediately againſt Syracuſe; but the opinion of Alcibiades prevailed. They therefore continued their courſe for Sicily, where Alcibiades reduced Catana. At Athens, the enemies of Alcibiades intent alone on gratifying their reſentment, without regarding the public intereſt, took advantage of his abſence to renew againſt him an accuſation of having in a debauch profaned the myſteries of Proſerpine and Ceres; and they proſecuted the accuſation with the moſt inveterate malice and animoſity. Many perſons were accuſed, and thrown into priſon, without being even permitted to be heard; and a veſſel was diſpatched to bring Alcibiades to ſtand trial before the people. To this he apparently conſented, and went on board of the galley; but on arriving at Thurium, he diſappeared. Not having therefore obeyed the ſummons within the limited time, he was condemned to death for contumacy, and his effects were confiſcated. (Thucydides, l. vi.) The departure of Alcibiades ſpread apprehenſion through the army. Nicias, now chief commander, by his irreſolute conduct, ſuffered the ardour of the Athenians to cool, and he ſpent the greateſt part of the ſummer inactive at Catana. The Athenian ſoldiers, impatient of ſuch dilatory proceedings, reproached their general, who, to pleaſe the army, reſolved to beſiege Syracuſe. Though ſlow in counſel, yet vigorous in conduct, he conducted his attacks with ſo much ability, that the inhabitants were inclined to ſurrender. Already ſeveral ſtates of Sicily and Italy had declared in his favour, when a Lacedæmonian general named Gylippus entered the beſieged city, with a few troops which he had brought from Peloponneſus, or collected in Sicily. Nicias might have prevented him from landing in the iſland, but loſt the opportunity; an irreparable fault, which proved the ſource of all his misfortunes. Gylippus revived the courage of the Syracuſans, defeated the Athenians, and held them blocked up in their intrenchments. Athens ſent to Sicily another fleet conſiſting of about ſeventy-three gallies, under the command of Demoſthenes and Eurymedon, and a ſecond army of five thouſand men heavily armed, and ſome light troops. Demoſthenes having loſt two thouſand men at the attack of an important poſt, and conſidering that the ſea would ſoon be no longer navigable, and that the troops were waſting away by diſorders, propoſed to abandon the enterpriſe, or tranſport the army to ſome healthier ſituation. When they were on the point of ſetting ſail, Nicias, terrified at an eclipſe of the moon, which ſpread conſternation through the camp, conſulted the augurs, who directed him to wait twenty-ſeven days longer. Before the expiration of this time, the Athenians, vanquiſhed by ſea and land, no longer able to remain under the walls of Syracuſe for want of proviſions, nor to eſcape out of the harbour, the

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mouth of which was ſhut up by the Syracuſans, took the [illegible] their camp, their ſick, and their [illegible] and carried into the town of Italy. They [illegible] to the number of forty thouſand men; in [illegible] not even the troops furniſhed them by the [illegible] but the crews of the galleys, the [illegible] and ſlaves. The Syracuſans, by ſtrong [illegible] and breaking down bridges, and other obſtructions, [illegible] the retreat of the Athenians, while at every ſtep they [illegible] their flank and rear. The retiring forces [illegible] whole days had to ſtruggle againſt new obſtacles continually increaſing. But Demoſthenes, who commanded the rear-guard, compoſed of ſix thouſand men, being wearied in his march, was puſhed into a confined place, and after prodigies of valour, obliged to ſurrender on condition that his ſoldiers ſhould have their lives granted them, and be ſpared the horrors of a dungeon. Nicias, having failed in a negotiation he had entered into, conducted the remainder of the army as far as the river Aſinarus. On his arrival there, the greater part of the ſoldiers tormented by a burning thirſt, rushed in confuſion into the river, while others were driven into it by the enemy. Such as attempted to ſave themſelves by ſwimming found on the oppoſite ſhore ſteep banks lined with dartmen, who made a terrible ſlaughter of them. Eight thouſand men periſhed in the attack; till at length Nicias thus addreſſed Gylippus: "Diſpoſe of me as you ſhall think proper; but ſhew mercy at leaſt to theſe unhappy ſoldiers." Gylippus immediately put an end to the carnage. The Syracuſans returned to their city, bringing back with them ſeven thouſand priſoners, who were thrown into the quarries, where for many months they experienced inconceivable miſeries. Numbers of them periſhed there, and others were ſold as ſlaves. Nicias and Demoſthenes were among the maſſacred. A few eſcaped both death and bondage through the charms of dramatic poetry, by reciting paſſages from the beautiful and pathetic tragedies of Euripides.

The diſcomfiture of the expedition to Sicily filled Athens with conſternation and diſmay, and ſhe had reaſon to dread ſtill greater calamities. Her allies were ready to ſhake off the yoke; the other ſtates of Greece were conſpiring her ruin; the Peloponneſians already thought themſelves juſtified by her example in breaking the truce. Already ſhe diſcovered in their operations, more ſkilfully planned and conducted, the ſpirit of vengeance, and the ſuperior genius by which they were directed. Alcibiades enjoyed at Lacedæmon that reſpect and influence he every where obtained. It was by his advice that the Lacedæmonians adopted the reſolution of ſending ſuccours to the Syracuſans, renewing their inroads into Attica, and fortifying, at the diſtance of one hundred and twenty ſtadia from Athens, the port of Decelia, which held that city blocked on the land ſide. To annihilate the power of Athens, it was neceſſary to favour the revolt of her allies, and deſtroy her navy. Alcibiades repaired to the coaſts of Aſia Minor; and Chios, Miletus, and other flouriſhing cities, declared for the Lacedæmonians. By his accompliſhments he captivated Tiſſaphernes, the governor of Sardis; and the king of Perſia engaged to pay the fleet of Peloponneſus. This ſecond war, conducted with more regularity than the former, would quickly have been terminated, had not Alcibiades, purſued by Agis, king of Lacedæmon, whoſe wife he had ſeduced, and by the other chiefs of the league, who took umbrage at his glory, at length conſidered that, after avenging himſelf on his country, it now only remained for him to protect it from inevitable ruin. With this view, he contrived to ſuſpend the operations of Tiſſaphernes, and the departure of the Perſian ſuccours, [illegible] that it was the intereſt of the great king to [illegible] the republics of Greece mutually to exhauſt each other. The Athenians having [illegible] recalled the general for his barbarities, he put himſelf at their head, routed the thirty tyrants of the Hellespont, forced one of the Perſian governors to [illegible] treaty with the Athenians, and the [illegible] to the ſame. This double victory [illegible] his paſſable [illegible] and under Alcibiades the Athenians made a rapid tranſition from the moſt proſtrate conſternation to the moſt audacious confidence. The [illegible] with which they were animated [illegible] quickly ſucceeded by the moſt extravagant [illegible] and the moſt unbounded affection. When he returned to his own country, his arrival, and the pains he took to [illegible] his countrymen, were a ſcene of triumphs for [illegible] and public rejoicings for the multitude. When, amidſt the [illegible] of the whole city, they ſaw him [illegible] from the Piræus with a fleet of a hundred ſhips, no doubt was entertained but that his rapid victories would ſoon force the inhabitants of the Peloponneſus to ſubmit to the law of the conqueror; the arrival of a courier was every moment expected with the news of the deſtruction of the enemy, and the conqueſt of Ionia. In the midſt of theſe flattering expectations, they learnt that fifteen of the Athenian galleys had fallen into the hands of the Lacedæmonians. The engagement took place during the abſence, and in contempt of the preciſe orders, of Alcibiades, who had been obliged to paſs into Ionia to levy contributions for the ſubſiſtence of his troops. On the firſt intelligence of this check, he inſtantly returned, and offered battle to the victor, who did not venture to accept it. He had retrieved the honour of Athens; the loſs was trifling, but it ſufficed for the jealouſy of his enemies. They exaſperated the people, who ſtripped him of the general command of the armies with as much precipitation as they had manifeſted in inveſting him with that dignity. After the ſecond exile of Alcibiades, the war continued for ſeveral years, the Spartans being now commanded by Lyſander, after Alcibiades, the firſt general of Greece. Till the twenty-ſeventh year of the war, the ſucceſs was various, and operations were principally maritime. The great object of the Peloponneſians was the reduction of the Athenian colonies; and the northern parts of the Ægean ſea were the chief ſcenes of warfare. In the twenty-ſeventh campaign, a large Athenian fleet was ſtationed at the mouth of the river Ægos. Conſidering themſelves as incontrovertibly ſuperior to the enemy, many of the Athenian ſoldiers left the ſhips, and were carelleſsly diſperſed on ſhore. Alcibiades, being in that neighbourhood, and, though in baniſhment, anxious for the welfare of his country, warned the Athenian generals of their hazardous poſition, and the want of diſcipline among their ſoldiers and ſeamen; after repreſenting to them the danger of their ſituation, on an inhoſpitable coaſt, without either harbours or cities to which they might retire in caſe of neceſſity, he offered to co-operate with them, by falling upon the enemy at land, with ſome Thracian troops under his command. But the generals deſpiſed his advice, and refuſed, out of jealouſy, to accept of his ſervice. Lyſander, in the mean time, prepared to attack the Athenians when totally off their guard. Having learned from his ſcouts, that the enemy were ſtraggling with even more than their uſual careleſſneſs, Lyſander embraced the opportunity, and bore down upon the ſhips thus deſerted by the chief portion of the fighting men. The victory was complete, if that can be called a victory where there was ſcarcely any reſiſtance. The vigilant activity of Conon endeavoured ſeaſonably to aſſemble the ſtrength of

the Athenians; but his advice was disdained by officers incapable and unworthy of command, and his orders were despised by seamen unaccustomed and unwilling to obey. At length they became sensible of the danger, when it was too late to avoid it. Their ships were taken, either altogether empty, or manned with such feeble crews as were unable to work, much less to defend them. The troops and sailors who flocked to the shore from different quarters, and with disordered precipitation, were attacked by the regular onset and disciplined valour of the Peloponnesians. Those who fought were slain; the remainder fled into the inland recesses of the Chersonese, or took refuge in the Athenian fortresses, which were scattered over that peninsula. Out of a fleet of an hundred and eighty sail, only nine vessels had escaped, eight of which were conducted by Conon to the friendly island of Cyprus, while the ninth carried to Athens the melancholy news of a disaster equally unexpected and fatal. Lysander proposed to pursue his blow to the destruction of the Athenians, reduced all the colonies of Athens under the dominion of Sparta, and proceeded to the siege of Athens. While he invested this city by sea, a powerful army co-operated with him by land. The Athenians, having defended themselves for three months, were reduced to the extremity of distress, and at length this celebrated city was captured, dismantled, and rendered a dependency of Sparta. Such was the ruinous termination of the Peloponnesian war. (B. C. 404.) The conquerors placed the government in the hands of thirty persons, who, from their rapacity and cruelty, earned and acquired the name of the thirty tyrants. During their sway Athens had scarcely any political existence, and its history is only marked by domestic injustice and misery. The unhappy Athenians cast their eyes on Alcibiades, in the confidence that he could, and the hopes that he would, effect their deliverance. But Lysander, entertaining a similar idea of the powers and disposition of that illustrious exile, prevailed on Pharnabazus, the Persian satrap, to perpetrate his murder. The thirty tyrants, freed from the fear of such an avenger, proceeded to greater enormity than ever; until Thrasybulus, inheriting the magnanimous spirit of a free Athenian, put himself at the head of his injured countrymen, expelled the tyrants (B. C. 401), and favoured by the dissensions of the Spartan leaders, re-established a free government in Athens. Deprived, however, of her colonial, naval, and many of her commercial resources, Athens continued of little importance in the public transactions of Greece. The chief domestic event which distinguishes this part of Athenian history, is the fate of Socrates; but of the life as well as of the death of this extraordinary sage, a full account will be given under the appropriate article.

While the Athenians had thus lost not only pre-eminence but independence and political importance, they were still distinguished for good and bad qualities, which had shone conspicuously in the days of their prosperity. Genius was still transcendent, though directed to different objects from those which had employed a Themistocles and a Cimon. Instead of active efforts for aggrandizing their country, Athenian talents were now chiefly employed in pursuits destined to delight and instruct all the enlightened world. Poetry, history, and philosophy by different means pursued the same end, the promotion of wisdom, virtue, and happiness. But as epic and dramatic excellence had been already carried to the highest conceivable perfection; the poetry of Athens at this period was less supereminent than her history and philosophy. Thucydides and Socrates being dead, Xenophon and Plato occupied the highest rank.

The overbearing insolence with which the Spartans exercised their supremacy over the Grecian states, proved ultimately the means of their degradation, and enabled the Athenians to recover a certain portion of their political power, and their consequence among their neighbours. The confederacy which was formed against Sparta enabled the Athenians to defeat the Lacedæmonians at sea, to regain their naval superiority, and to rebuild their harbour and walls. (B. C. 394.) This revolution from dependency to maritime supremacy they owed to the courage and policy of the celebrated Conon. (See Conon). Thrasybulus seconded the exploits of Conon, and the Athenians resumed the command of maritime settlements, which had been wrested from them ten years before by the victorious Spartans. The reviving fortune of the Athenians recalled their military energies, and various commanders started up, not unworthy of the native country of Pericles and Alcibiades. Iphicrates, Chabrias, and Timotheus, gave glorious specimens of valour and conduct; but the peace of Antalcidas (B. C. 387.) suspended their exertions. For several years after this treaty, the Spartans endeavoured by stratagem and surprise to re-establish their predominancy; they seized the citadel of Thebes, and attempted to make themselves masters of the harbour of Athens, though nominally at peace with both countries. The Athenians joined with the Thebans in revenging this outrage: Chabrias repulsed the army of Sparta, while Iphicrates and Timotheus destroyed her fleets, and Athens rose to an equality with her rival. Peace being again concluded between the Spartans and Athenians, the latter were spectators of the contest between Sparta and Thebes, where the renowned Epaminondas gave at Leuctra (B. C. 371) such a blow to Spartan power; the Athenians were invited by the victors to join in an alliance for crushing their antient enemies; but they regarded sound policy more than resentment, and would not throw their weight into the Theban scale, already preponderant. The Theban hero having still farther reduced the Spartans, and invaded Laconia, the Athenians took active steps for rendering assistance to the now weaker party, and sent an army to defend Peloponnesus; but the battle of Mantinæa (B. C. 363) arrested Epaminondas in the career of victory. After him no Theban arose fit for imitating his example, or executing his designs. The Thebans became languid; the Spartans on the other hand were exhausted. Athens did not fail to take advantage of the contests which had weakened her two successors in the dominion of Greece. Taught by experience, they did not attempt to subdue the territories of her warlike neighbours; but the numerous islands of the Ægean and Ionian seas, the remote coasts of Thrace and Asia, invited the activity of their fleet, which they might now employ in foreign conquests, fearless of domestic envy. It appears, that soon after the death of Epaminondas, Eubœa again acknowledged the authority of Athens, an event facilitated by the destruction of the Theban partisans belonging to that place, in the battle of Mantinæa. From the Thracian Bosphorus to Rhodes, several places along both shores submitted (B. C. 360.) to the arms of Timotheus, Chabrias, and Iphicrates; men, who, having survived Agesilaus and Epaminondas, were far superior in abilities and in virtue, to the contemporary generals of other republics. The Cyclades and Corcyra courted the friendship of a people able to interrupt their navigation, and to destroy their commerce: Byzantium had become their ally; and there was reason to hope that Amphipolis would soon be reduced to subjection. Such multiplied advantages revived the ancient grandeur of Athens, which once more commanded the sea, with a fleet of near three hundred sail, and employed the best half of her citizens and subjects in ships of war or commerce. This tide

of

of prosperity, flowing so grateful after adversity and oppression, proved eventually the cause of their ruin. The populace abandoned themselves to idleness, dissipation, and sensuality; and to supply their extravagance, sought projects of injustice and rapacity. To direct the formation, and head the execution of such schemes, a daring and profligate leader presented himself in Chares, whose soldier-like appearance, blunt address, and bold impetuous valour, masked his selfish ambition, and rendered him the idol of the populace. His person was gigantic and robust, his voice commanding, his manners haughty; he asserted positively, and promised boldly; and his presumption was so excessive, that it concealed his incapacity, not only from others, but from himself. Though an enterprising and successful partizan, he was unacquainted with the great duties of a general; and his defects appear the more striking and palpable, when compared with the abilities of Iphicrates and Timotheus, his contemporaries, who prevailed as often by address as by force, and whose conquests were secured to the republic by the moderation, justice, and humanity with which they had been obtained, and with which they continued to be governed. Chares proposed a very different mode of administration; he exhorted his countrymen to supply the defects of their treasury, and to acquire the materials of those pleasures which they regarded as essential to their happiness, by plundering the wealth of their allies and colonies. This counsel was too faithfully obeyed; the vexations anciently exercised against the tributary and dependent states, were renewed and exceeded. The weaker communities complained and remonstrated against this intolerable rapacity and oppression; while the islands of Chios, Coos, Rhodes, as well as the city of Byzantium, prepared openly to revolt, and engaged with each other to repel force by force, until they should obtain peace and independence (B. C. 358). Chares, probably the chief instrument as well as the adviser of the arbitrary measures which had occasioned the revolt, was sent out with a powerful fleet and army to quash at once the hopes of the insurgents. He sailed towards Chios, with an intention to seize the capital of that island, which was supposed to be the centre and prime mover of rebellion. The confederates, informed of his motions, had already drawn thither the greatest part of their force; the city of Chios was besieged by sea and land; the islanders defended themselves with vigour; Chares found it difficult to repulse their sallies: his fleet attempted to enter their harbour without success; the ship of Chabrias alone penetrated thus far; and that able commander, whose valour and integrity merited a better fortune, though deserted by the fleet, yet forsook not the ship entrusted to him by the republic. His companions threw away their shields, and saved themselves by swimming to the Athenian squadron, which was still within their reach; but Chabrias, fighting bravely, fell by the darts of the Chians, preferring an honourable death to a disgraceful life. Encouraged by advantages over their enemy, who had at first affected to despise them, the insurgents augment their fleet, and ravaged the isles of Lemnos and Samos. The Athenians, indignant that the territories of their faithful allies should fall a prey to the depredations of rebels, fitted out, early in the next year, a new armament under the command of Mnestheus, the son of Iphicrates, and son-in-law to Timotheus, expecting that the new commander would respectfully listen to the advice of those great men, who perhaps declined acting as principals in an expedition where Chares possessed any share of authority. That general had raised the siege of Chios, and now cruised in the Hellespont; where, being joined by Mnestheus, the united squadrons amounted to an hundred and twenty sail. It was immediately determined to cause a diversion of the enemy's force from Samos and Lemnos, by laying siege to Byzantium. The design succeeded; the allies withdrew from those islands, collected their whole naval strength, and prepared vigorously for defending the principal city in their confederacy. The hostile armaments approached each other with a resolution to join battle, when a sudden and violent storm arose, which rendered it impossible for the Athenians to bear up to the enemy, or even to keep the sea, without being exposed to shipwreck. Chares alone confidently insisted on commencing the attack, while the other commanders, more cautious and experienced, perceived the disadvantage, and declined the unequal danger. His impetuosity, thus overruled by the prudence of his colleagues, was converted into resentment and fury; he called the sailors and soldiers to witness their opposition, which he branded with every odious epithet of reproach; and, with the first opportunity, dispatched proper messengers to Athens, to accuse them of incapacity, cowardice, and total neglect of duty. The accusation was supported by venal orators in the pay of Chares; Timotheus and Iphicrates were tried capitally. The former trusted to his innocence and eloquence; the latter used a very extraordinary expedient to sway the judges, conformable, however, to the spirit of that age, when courts of justice were frequently instruments of oppression, governed by every species of undue influence, easily corrupted and easily intimidated. The targeteers, or light infantry, who had been armed, disciplined, and long commanded by Iphicrates, enjoyed the same reputation in Greece, which the "Fabian" soldiers afterwards did in Italy. They were called "Iphicratensian" troops, from the name of this commander, to whom they owed their merit and their fame, and to whose person (notwithstanding the strictness of his discipline) they were strongly attached by the ties of gratitude and esteem. The youngest and bravest of this celebrated band readily obeyed the injunctions of their admired general; surrounded, on the day of trial, the benches of the magistrates, and took care seasonably to display the points of their daggers. It was the law of Athens, that after preliminaries had been adjusted, and the judges assembled, the parties should be heard, and the trial begun and ended on the same day; nor could any person be tried twice for the same offence. The rapidity of this mode of procedure favoured the views of Iphicrates; the magistrates were overawed by the imminence of a danger which they had neither strength to resist nor time to elude; they were compelled to an immediate decision; but instead of the sentence of death, which was expected, they imposed a fine on the delinquents, which no Athenian citizen in that age was in condition to pay. This severity drove into banishment those able and illustrious commanders. Timotheus sailed to Chalcis, in Eubœa, and afterwards to the isle of Lesbos, both which places his valour and abilities had recovered for the republic, and which, being chosen as his residence in disgrace, sufficiently evince the mildness of his government, and his moderation in prosperity. Iphicrates travelled into Thrace, where he long resided; he had formerly married the daughter of Cotys, the most considerable of the Thracian princes, yet he lived and died in obscurity; nor did either he or Timotheus thenceforth take any share in the affairs of their ungrateful country. Thus did the social war destroy or remove Iphicrates, Chabrias, and Timotheus, the best generals whom Greece could boast; and, honest Phocion excepted, the last venerable remains of Athenian virtue. (See Gillies, vol. iii. p. 484.)

Sunk in idleness, amusement, and vice, the Athenians wanted nothing to complete their destruction but an ambitious and enterprising foreign enemy. This they found in

Philip

Philip king of Macedon, who firſt extended his power in countries not immediately connected with Greece, and at the ſame time increaſed the means of farther extenſion. Meanwhile a war broke out in Greece; firſt between the Thebans and Phocians, concerning lands annexed to the temple of Delphi, which afterwards involved the greater part of Greece, and among others the Athenians. Philip, taking advantage of theſe diſſenſions, marched towards the interior of Greece, knowing that the Athenians were the moſt immediately intereſted to oppoſe his progreſs, and the ablеſt, if they exerted themſelves, to do it effectually; he directed a great part of his policy to the prevention of thoſe exertions. He was aware that in a democracy the governors are the tools of the demagogues; by flattery, by careſſes, and by bribery, he effectually procured the favour of thoſe leaders of the populace. One patriot, however, he could never corrupt; Demoſthenes exerted the whole force of his energetic eloquence (from B.C. 356 to 336) to rouſe the Athenians to a ſenſe of their danger, from the encroachments of Philip. (For the nature and character of Demoſthenes's eloquence, ſee article DEMOSTHENES.) This powerful orator occaſionally roufed his countrymen from their lethargy, but never to ſuch great exertions as he declared neceſſary, and as the circumſtances required: on gaining ſome partial advantages, they returned to their indolence and licentiouſneſs. Philip amuſed them by embaſſies, ſeduced them by their demagogues, and continued his encroachments: when they ſhould have been ſending powerful armaments, they ſent ambaſſadors: theſe, Demoſthenes excepted, Philip corrupted; and the intereſts of the Athenians were betrayed. In vain Demoſthenes demonſtrated the views of Philip, and treachery of the demagogues: he could not ſtimulate them to vigorous and perſevering efforts, until Philip's power became too formidable for reſiſtance. A combination of the ſtates of Greece was as length formed againſt Philip; but too late to be ſucceſsful. The allies were totally defeated at Chæronea (B.C. 338), and the Athenians became a dependency of Macedon. A popular writer (ſee Travels of Anacharſis, vol. i. p. 112.) obſerves, that the hiſtory of the Athenians, properly ſpeaking, commences about 150 years after the firſt olympiad; and concluded at the battle of Chæronea, it contains ſcarcely more than 300 years. In this ſeries of years it is eaſy to diſcover certain important intervals, which mark the riſe, progreſs, and decline of their empire; and if theſe æras be diſtinguiſhed by characteriſtic names, the firſt may be called the age of Solon, or of the laws; the ſecond, the age of Themiſtocles and Ariſtides, or the age of glory; and the third, that of Pericles, or the age of luxury and the arts.

The Athenians after the battle of Chæronea never recovered their importance. During the conteſts of Alexander's ſucceſſors, they followed the fortunes of different chieftains, but chiefly adhered to the ſide of Demetrius and his deſcendants, who eſtabliſhed themſelves on the throne of Macedon. When the intrigues of the ſecond Philip with the renowned Hannibal provoked the Romans to invade Greece, the Athenians joined the invaders, and Athens became the dependent ally of the conquerors. In the Mithridatic war, Athens having been conquered by the Aſiatic monarch, was beſieged by Sylla (B.C. 87), who took and plundered their city, demoliſhed its walls and fortifications, butchered its inhabitants, and reduced it to a ſtate of deſolation. When this ſtorm ſubſided, Athens enjoyed profound tranquillity till the civil war broke out between Cæſar and Pompey, when it took part with the latter, and was reduced to great ſtraits by Calenus, the lieutenant of Cæſar. Diſappointed in their hopes of being relieved by Pompey, the Athenians ſurrendered at diſcretion, and were more kindly treated than they expected; for Cæſar not only pardoned them, but took them under his protection, alleging, "that he ſpared the living for the ſake of the dead." But ſcarcely from fear itſelf, they no ſooner heard of Cæſar's death than they openly declared for his murderers; receiving Brutus and Caſſius into their city, and even erecting ſtatues to them, which were placed next to thoſe of Harmodius and Ariſtogiton. After the defeat of Brutus and Caſſius, they attached themſelves to Antony, who reſtored them to their former privileges, and enlarged their dominions, by ſubjecting to Athens the iſlands of Cea, Sciathus, Paparathus, and Ægina. Of this iſland, however, they were deprived by Auguſtus, and forbidden to ſell the freedom of their city, as a puniſhment which he inflicted upon them for their ingratitude to Julius Cæſar. Towards the latter end of the reign of Auguſtus, they revolted, but were ſoon reduced to their former obedience. Germanicus, the adopted ſon of Tiberius, honoured them with the privilege of having a lictor, which was conſidered as a mark of ſovereign power. This grant was confirmed to them by Tiberius and his ſucceſſors, under whoſe protection they maintained their ancient form of government till the reign of Veſpaſian, who reduced Attica, with the reſt of Greece, to a Roman province, ſaying, "that the Greeks knew not how to enjoy their liberty." But the emperor Adrian, who had been prætor of Athens before his acceſſion to the imperial dignity, reſtored them to the full enjoyment of their former privileges. He repaired the two ports of the Piræus and Munychia, and added a whole diſtrict of new buildings to the old city. This quarter was called Adrianopolis, from Adrian, whom the Athenians ſtyled the ſecond founder of their city. The privileges granted by Adrian were confirmed and extended by his ſucceſſors M. Antoninus Pius and M. Antoninus the philoſopher. Severus abridged them of many privileges in revenge for an affront which he received at Athens, while he ſtudied in that city. They were favoured by Valerian; but the city was taken and plundered by the Goths in the reign of Gallienus, or of Claudius (A. D. 267 or 268); but the invaders were ſoon obliged, by a precipitate flight, to abandon their new conqueſt. Conſtantine the Great was a peculiar patron and benefactor of the Athenians. He honoured their chief magiſtrate with the title of grand duke, an office at firſt annual, but afterwards hereditary; and granted them many privileges, which were confirmed and enlarged by Conſtantius, who alſo put them in poſſeſſion of ſeveral iſlands in the Archipelago. In the time of Theodoſius I. 380 years after Chriſt, the Goths laid waſte Theſſaly and Epirus; but Theodore, general of the Achæans, preſerved the cities of Greece from pillage; and a ſtatue of marble was erected to him at Athens by order of the city. During the reigns of Arcadius and Honorius, the Athenians were cruelly haraſſed and pillaged by the Goths under Alaric (A. D. 396), who reduced all their ſtately and magnificent ſtructures into heaps of ruins, and removed the invaluable treaſures of antiquity. Syneſius, a writer of that age, ſays, that Athens reſembled the bleeding and empty ſkin of a ſlaughtered victim. After Athens became only part of a Roman province, it ſtill remained the central point in the republic of letters, and continued to be frequented by all who deſired to acquire that atticiſm ſo highly valued by the ancients, and that ſtandard taſte which enabled them to eſtimate, with peculiar accuracy, the real beauties of every work of genius and art. Here too, and here only, were to be learned the true principles of eloquence. All therefore, who applied themſelves to public ſpeaking, and

Cicero

Cicero in particular, repaired to Athens, to ſtudy under the ableſt maſters of oratory. Thither did the fame Cicero ſend his ſon to hear the lectures of Cratippus; hither Horace was ſent by his father; every Roman of any rank or conſideration followed the fame courſe; and Greek learning, according to the teſtimony of Plutarch, was accounted ſo requiſite a branch of education among that judicious people, that a Roman, who did not underſtand the Greek language, never arrived at any high degree of eſtimation. When St. Paul viſited Athens, it was the ſeat of philoſophy; and we cannot enough admire the ſuperior eloquence of that apoſtle, in his manner of addreſſing ſo intelligent an audience. He adapted his diſcourſe to the character of his hearers, by the fubtlety of its exordium; and he very properly mentioned the altar which he found there (ſee ALTAR); and his quotation from Aratus, one of their well-known poets, was particularly pertinent. Nor was Athens only celebrated for the reſidence of philoſophers, and the inſtitution of youth; men of rank and fortune found pleaſure in a retreat which contributed ſo much to their liberal enjoyment. The progreſſive ſtate of literature and philoſophy at Athens, is thus deſcribed by a popular hiſtorian:

"Athens, after her Perſian triumphs, adopted the philoſophy of Ionia and the rhetoric of Sicily; and theſe ſtudies became the patrimony of a city, whoſe inhabitants, about thirty thouſand males, condenſed, within the period of a ſingle life, the genius of ages and millions. Our leſſe of the dignity of human nature, is exalted by the ſimple recollection, that Iſocrates was the companion of Plato and Xenophon; that he aſſiſted, perhaps with the hiſtorian Thucydides, at the firſt repreſentations of the Oedipus of Sophocles and the Iphigenia of Euripides; and that his pupils Æſchines and Demoſthenes contended for the crown of patriotiſm in the preſence of Ariſtotle, the maſter of Theophraſtus, who taught at Athens with the founders of the Stoic and Epicurean ſects. The ingenuous youth of Attica enjoyed the benefits of their domeſtic education, which was communicated without envy to the rival cities. Two thouſand diſciples heard the leſſons of Theophraſtus; the ſchools of rhetoric muſt have been ſtill more populous than thoſe of philoſophy; and a rapid ſucceſſion of ſtudents diffuſed the fame of their teachers, as far as the utmoſt limits of the Grecian language and name. Thoſe limits were enlarged by the victories of Alexander; the arts of Athens ſurvived her freedom and dominion; and the Greek colonies which the Macedonians planted in Egypt, and ſcattered over Aſia, undertook long and frequent pilgrimages to worſhip the muſes in their favourite temple on the banks of the Iliſſus. The Latin conquerors reſpectfully liſtened to the inſtructions of their ſubjects and captives; the names of Cicero and Horace were enrolled in the ſchools of Athens; and after the perfect ſettlement of the Roman empire, the natives of Italy, of Africa, and of Britain, converſed in the groves of the academy with their fellow-ſtudents of the Eaſt. The ſtudies of philoſophy and eloquence are congenial to a popular ſtate, which encourages the freedom of inquiry, and ſubmits only to the force of perſuaſion. In the republics of Greece and Rome, the art of ſpeaking was the powerful engine of patriotiſm or ambition; and the ſchools of rhetoric poured forth a colony of ſtateſmen and legiſlators. When the liberty of public debate was ſuppreſſed, the orator, in the honourable profeſſion of an advocate, might plead the cauſe of innocence and juſtice; he might abuſe his talents in the more profitable trade of panegyric; and the ſame precepts continued to dictate the fanciful declamations of the ſophiſt, and the

[illegible] chief beauties of hiſtorical compoſition. The ſchools [illegible] of the univerſe, [illegible] doubt with the ſceptics, or decide with the ſtoics, ſublimely ſpeculate with Plato, or ſeverely argue with Ariſtotle. The [illegible] moral happineſs and perfection: but the race was glorious [illegible] to humble a tyrant by the diſcovery of his impotence. The light of ſcience could not indeed be confined within the walls of Athens. Her incomparable writers addreſs themſelves to the human race; the living maſters emigrated to Italy and Aſia; Berytus, in later times, was devoted to the ſtudy of the law; [illegible] muſæum of Alexandria; but the Attic ſchools of rhetoric and philoſophy maintained their ſuperior reputation from the Peloponneſian war to the reign of Juſtinian. Athens, though ſituate in a barren ſoil, poſſeſſed a pure air, a free navigation, and the monuments of ancient art. That ſacred retirement was ſeldom diſturbed by the buſineſs of trade or government; and the laſt of the Athenians were diſtinguiſhed by their lively wit, the purity of their taſte and language, their ſocial manners, and ſome traces, at leaſt in diſcourſe, of the magnanimity of their fathers. In the ſuburbs of the city, the academy of the Platoniſts, the lycæum of the Peripatetics, the portico of the Stoics, and the garden of the Epicureans, were planted with trees and decorated with ſtatues; and the philoſophers, inſtead of being immured in a cloyſter, delivered their inſtructions in ſpacious and pleaſant walks, which, at different hours, were conſecrated to the exerciſes of the mind and body. The genius of the founders ſtill lived in thoſe venerable ſeats; the ambition of ſucceeding to the maſters of human reaſon, excited a generous emulation; and the merit of the candidates was determined, on each vacancy, by the free voices of an enlightened people. The Athenian profeſſors were paid by their diſciples, according to their mutual wants and abilities; the price appears to have varied from a mina to a talent; and Iſocrates himſelf, who derides the avarice of the ſophiſts, required in his ſchool of rhetoric, about thirty pounds from each of his hundred pupils. The wages of induſtry are juſt and honourable, yet the ſame Iſocrates ſhed tears at the firſt receit of a ſtipend; the Stoic might bluſh when he was hired to preach the contempt of money; and I ſhould be ſorry to diſcover, that Ariſtotle or Plato ſo far degenerated from the example of Socrates, as to exchange knowledge for gold. But ſome property of lands and houſes was ſettled by the permiſſion of the laws, and the legacies of deceaſed friends, on the philoſophic chairs of Athens. Epicurus bequeathed to his diſciples the garden which he had purchaſed for eighty minæ or two hundred and fifty pounds, with a fund ſufficient for their frugal ſubſiſtence and monthly feſtivals; and the patrimony of Plato afforded an annual rent, which, in eight centuries, was gradually increaſed from three to one thouſand pieces of gold. The ſchools of Athens were protected by the wiſeſt and moſt virtuous of the Roman princes. The library which Hadrian founded, was placed in a portico adorned with pictures, ſtatues, and a roof of alabaſter, and ſupported by one hundred columns of Phrygian marble. The public ſalaries were aſſigned by the generous ſpirit of the Antonines; and each profeſſor, of politics, of rhetoric, of the Platonic, the Peripatetic, the Stoic, and the Epicurean philoſophy, received an annual ſtipend of ten thouſand drachmæ, or more than three hun-

dred

dred pounds ſterling. After the death of Marcus, theſe liberal donations, and the privileges attached to the thrones of ſcience, were aboliſhed and revived, diminiſhed and enlarged: but ſome veſtige of royal bounty may be found under the ſucceſſors of Conſtantine; and their arbitrary choice of an unworthy candidate might tempt the philoſophers of Athens to regret the days of independence and poverty. It is remarkable, that the impartial favour of the Antonines was beſtowed on the four adverſe ſects of philoſophy, which they conſidered as equally uſeful, or at leaſt as equally innocent. Socrates had formerly been the glory and the reproach of his country; and the firſt leſſons of Epicurus ſo ſtrangely ſcandalized the pious ears of the Athenians, that by his exile, and that of his antagoniſts, they ſilenced all vain diſputes concerning the nature of the gods. But in the enſuing year they recalled the haſty decree, reſtored the liberty of the ſchools, and were convinced by the experience of ages, that the moral character of philoſophers is not affected by the diverſity of their theological ſpeculations."

But the ſchools of Athens were ſuppreſſed by an edict of Juſtinian; an edict, which excited the grief and indignation of the few remaining votaries of Grecian ſcience and ſuperſtition. Seven friends and philoſophers, Diogenes and Hermias, Eulalius and Priſcian, Damaſcius, Iſidore, and Simplicius, who diſſented from the religion of their ſovereign, reſolved to ſeek in a foreign land the freedom of which they were deprived in their native country. Accordingly the ſeven ſages fought an aſylum in Perſia, under the protection of Choſroes; but diſguſted and diſappointed, they haſtily returned, and declared that they had rather die on the borders of the empire, than enjoy the wealth and favour of the barbarian. Theſe aſſociates ended their lives in peace and obſcurity; and as they left no diſciples, they terminate the long liſt of Grecian philoſophers, who may be juſtly praiſed, notwithſtanding their defects, as the wiſeſt and moſt virtuous of their contemporaries.

From the time of Arcadius and Honorius, nothing memorable concerning the Athenian ſtate has been recorded in hiſtory till the thirteenth century, when it was in the poſſeſſion of Baldwin, as Nicetas informs us, and unſucceſsfully beſieged by Theodorus Laſcaris, one of the generals of the Greek emperor. In the 252 years, from A. D. 1204. to A. D. 1456., that elapſed between the firſt and laſt conqueſt of Conſtantinople; the poſſeſſion of Greece was diſputed by a multitude of petty tyrants. However, in the partition of the empire, the principality of Athens and Thebes was aſſigned to Otho de la Roche, a noble warrior of Burgundy, with the title of great duke. Otho followed the ſtandard of Boniface, the marquis of Montferrat; and the ample ſtate which he acquired, was peaceably inherited by his ſon and two grandſons, till the family was changed by the marriage of an heireſs into the elder branch of the houſe of Brienne. The ſon of that marriage, Walter de Brienne, ſucceeded to the duchy of Athens: but his family and nation were expelled by the Catalans, who ſeized poſſeſſion of Attica and Bœotia. During fourteen years they were the terror of the Grecian ſtates. Their factions drove them to acknowledge the ſovereignty of the houſe of Arragon; and, during the remainder of the fourteenth century, Athens, as a government or an appendage, was ſucceſſively beſtowed by the kings of Sicily. After the French and Catalans, the third dynaſty was that of the Acciaioli, a family, plebian at Florence, potent at Naples, and ſovereign in Greece. Athens, which they embelliſhed with new buildings, became the capital of a ſtate, that extended over Thebes, Argos, Corinth, Delphi, and a part of Theſſaly; and their reign was finally determined by Mahomet the ſecond, about the year 1455., who ſtrangled the laſt duke, and educated his ſons in the diſcipline and religion of the ſeraglio. This fatal cataſtrophe, which happened near 2000 years after the time of Piſiſtratus, brought Athens, together with the whole of Greece, under the deſpotic dominion of the Turks. In 1464, the Venetians landed at the Piræus, ſurpriſed the city, and carried off their plunder and captives to Eubœa. In 1687, it was taken, after a ſhort ſiege, by the Venetians; and not many years after, retaken by the Turks, under whoſe yoke it has ever ſince continued.

"As to the preſent ſtate of Athens, though no more than the ſhadow of its former ſelf, it ſtill contains about 8 or 10,000 inhabitants: of theſe, three fourths are Greeks in religion and language; and the Turks, who compoſe the remainder, have relaxed, in their intercourſe with the citizens, ſomewhat of the pride and gravity of their national character. The olive-tree, the gift of Minerva, flouriſhes in Attica; nor has the honey of mount Hymettus loſt any part of its exquiſite flavour: but the languid trade is monopoliſed by ſtrangers; and the agriculture of a barren land is abandoned to the vagrant Walachians. The Athenians are ſtill diſtinguiſhed by the ſubtlety and acuteneſs of their underſtandings: but theſe qualities, unleſs ennobled by freedom and enlightened by ſtudy, will degenerate into a low and ſelfiſh cunning: and it is a proverbial ſaying of the country, "From the Jews of Theſſalonica, the Turks of Negropont, and the Greeks of Athens, good Lord deliver us!" This artful people has eluded the tyranny of the Turkiſh baſhaws, by an expedient which alleviates their ſervitude and aggravates their ſhame. About the middle of the laſt century (the 17th), the Athenians choſe for their protector the Kiſlar Aga, or chief black eunuch of the ſeraglio. This Æthiopian ſlave, who poſſeſſes the ſultan's ear, condeſcends to accept the tribute of 30,000 crowns: his lieutenant, the Waywode, whom he annually confirms, may reſerve for his own about five or ſix thouſand more; and ſuch is the policy of the citizens, that they ſeldom fail to remove and puniſh an oppreſſive governor. Their private differences are decided by the archbiſhop, one of the richeſt prelates of the Greek church, ſince he poſſeſſes a revenue of 1000l. ſterling; and by a tribunal of the eight geronti or elders, choſen in the eight quarters of the city: the noble families cannot trace their pedigree above 300 years; but their principal members are diſtinguiſhed by a grave demeanour, a fur-cap, and the lofty appellation of archon. By ſome, who delight in the contraſt, the modern language of Athens is repreſented as the moſt corrupt and barbarous of the ſeventy dialects of the vulgar Greek: this picture is too darkly coloured; but it would not be eaſy, in the country of Plato and Demoſthenes, to find a reader, or a copy of their works. The Athenians walk with ſupine indifference among the glorious ruins of antiquity; and ſuch is the debaſement of their character, that they are incapable of admiring the genius of their predeceſſors." Gibbon's Hiſt. vol. xi. p. 355, &c. For the modern account of Athens and the Athenians, ſee Spon, Voyage en Grece, t. ii. p. 79—199.; Wheeler's Travels into Greece, p. 337—414.; Stuart and Revett's Antiquities of Athens, vols. i. ii. and iii. paſſim; and Chandler's Travels into Greece, p. 23—172. It is now called Athini, and Setines; which ſee.

ATHENIANS, *Character and Manners of the.* Theſe people were highly ſuſceptible of lively and tranſient ſenſations, and, accordingly, they ſtand diſtinguiſhed beyond all other nations for uniting the moſt diſcordant qualities, and ſuch as were often perverted and made occaſions of miſleading them. Hiſtory repreſents them to us (ſee the authori-

ties cited in the "Travels of Anacharsis," vol. ii. p. 260.), ſometimes as an old dotard, who may be deceived with impunity; or as an infant, who requires continual amuſement; and ſometimes as diſplaying the diſcernment and ſentiments of elevated minds; as paſſionately fond of pleaſure and of liberty, of indolence and of glory; or intoxicated with flattery, and yet receiving merited reproach with applauſe; as poſſeſſing penetration to apprehend at a word the plans propoſed to them, but too impatient to liſten to the particulars, or to foreſee their conſequences; as making their magiſtrates tremble before them, and at the ſame moment pardoning their moſt bitter enemies; as paſſing with the rapidity of lightning from rage to compaſſion, from deſpondence to inſolence, from injuſtice to repentance; as beyond conception fickle; and ſo frivolous, that in the moſt furious, and even the moſt deſperate ſituation of their affairs, a ſingle word ſpoken at random, a happy ſally of pleaſantry, the ſmalleſt object, the moſt trivial incident, provided it were unexpected, ſufficed to diſpel their fears, or to divert them from attention to their moſt important intereſts. As nothing was more eaſy than to excite and inflame the paſſions of ſuch a people, it was equally eaſy to acquire, and alſo to loſe, their confidence. A popular leader, whilſt in favour with them, might without difficulty perſuade them to adopt good or evil meaſures with an equal degree of ardour. When guided by firm and virtuous men, they beſtowed public offices of truſt or power on thoſe, who united great abilities with eminent virtue: at other times, they made a choice at which they ought to have bluſhed; and they were thus frequently the ſport of flattering orators and ambitious tyrants. Such, however, was their inherent deteſtation of tyranny, that they were extremely jealous, on many memorable occaſions, of their privileges, and both zealous and active in defence of their liberty, whenever they thought it attacked and violated by men in power. Indeed, an ardent love of liberty was their predominant quality, and the main ſpring of their government. They left, without heſitation, their cities and their houſes, to fight at ſea or by land the common enemy, who threatened them with the danger of ſervitude. It was a glorious day for Athens, when all her allies yielding to the advantageous offers of the king of Perſia, ſhe replied by Ariſtides to the ambaſſadors of that monarch; "that it was impoſſible for all the gold in the world to tempt the republic of Athens, and to prevail with her to ſell her liberty, and that of Greece." By ſuch ſentiments, and a conduct actuated by them, the Athenians not only became the bulwark of Greece, but likewiſe guarded the reſt of Europe from a Perſian invaſion. The Athenians, however, notwithſtanding their attachment to the rights of their country, and the jealouſy with which they watched over them, were volatile, capricious, and inconſtant; and this diſpoſition betrayed them into errors, incompatible with true patriotiſm. Whilſt the Athenians indulged views of conqueſt that were extenſive and aſtoniſhing, they were, in private life, and in their domeſtic arrangements and expenditure, frugal, ſimple, and unoſtentatious; but when the honour of the ſtate required it, ſumptuous and magnificent. Their conqueſts, their riches, and their connections with the inhabitants of Aſia Minor, never betrayed them into luxury, pomp, and profuſion. Xenophon obſerves, that a citizen was not diſtinguiſhed from a ſlave by his dreſs: and it is remarked with approbation by Demoſthenes, that in the beſt times of the republic, the houſes of Themiſtocles and Ariſtides could not be diſtinguiſhed from thoſe of their neighbours. The wealthieſt citizen, and the moſt renowned general, were not aſhamed to go themſelves to market. In the form and diſpoſition of the ſeveral articles of dreſs, the men were expected to ſtudy decency, and the women to unite elegance with taſte. The latter, whenever they went out, wore a veil over their heads: and they painted their eye-brows with black, and applied to their faces a layer of ceruſe or white lead, with deep tints of rouge. Their hair, which they crowned with flowers, was ſprinkled over with a yellow-coloured powder. Shut up in their apartments, they never participated in the pleaſures of the companies aſſembled by their huſbands. In the day, the law permitted them to go out only on certain occaſions, and never in the night time, but in a carriage, and with a flambeau to light them; but notwithſtanding the reſtraint of this law, the women of the lower claſſes indulged themſelves with greater liberty. In public feſtivals they were preſent at the ſpectacles as well as the ceremonies of the temple; but they were generally attended by eunuchs, or female ſlaves. At an early period the Athenians were ſo jealous, that they would not permit their women to ſhew themſelves at the window; but this reſtraint was gradually relaxed, and ſevere laws were introduced to [illegible] ſeduction and infidelity. (See Adultery.) M. de Paw, in his "Recherches Philoſophiques ſur les Grecs," on the authority of Athenæus and Plutarch, repreſents the Athenian matrons as addicted to drunkenneſs, and the moſt diſſolute ſenſuality: he ſays that they were turbulent and quarrelſome, and that, notwithſtanding all the conceſſions of their huſbands, domeſtic peace was very ſeldom found in their habitations. It is certain, that the feaſts of Bacchus, and ſome other religious inſtitutions which the women claimed a right to celebrate, could not tend to inſpire either gentleneſs of manners or purity of morals. Courtezans were protected at Athens by the laws, but the public manners were contaminated by this licence. Females of this deſcription, however, were not allowed to appear in the ſtreets with rich trinkets or jewels, nor were men in office permitted to appear with them in public. The Athenians were naturally abſtemious; their chief food conſiſted of ſalt meat and vegetables. The neceſſities of the poor were ſupplied either from the public treaſury, or other means. In Athens there were ſeveral ſocieties, the members of which entered into a ſolemn engagement to aſſiſt each other in caſes of judicial proſecution; and there was one ſociety, whoſe only object was to obſerve and collect every ſpecies of ridiculous abſurdity, and to divert itſelf with pleaſantries and bon-mots. At Athens, a ſmall number of citizens enriched themſelves by commerce, and by ſilver mines which they poſſeſſed at Laurium. Others deemed themſelves maſters of a decent fortune when they poſſeſſed eſtates to the value of fifteen or twenty talents (the talent being equal to about 225 l. ſterling), and when they were able to give their daughters a marriage portion of 100 mine, or about 375 l. ſterling.

The taſte of the Athenians for literature and ſcience is well known. The inhabitants of Athens, ſays Cicero (De Orat. and Orat. pro Flacco), were the inventors of all learning, the men who invented and perfected eloquence, and from whom humanity, learning, religion, and laws were diſperſed through the whole world; nevertheleſs, he adds, "they only knew what was right, but would not do it." When the Athenians, ſays the ingenious Mr. Harris (Philoſophical Inquiries, part iii. c. 3.), had delivered themſelves from the tyranny of Piſiſtratus, and gallantly had defeated the vaſt efforts of the Perſians under Darius and Xerxes, they may be conſidered as at the full noon of their national glory: and ſo more than half a century afterwards, they maintained, without control, the ſovereignty of Greece. As their taſte was naturally good, arts of every kind ſoon roſe among them, and [illegible]

Valour had given them reputation; reputation gave them an aſcendant; and that aſcendant produced a ſecurity, which left their minds at eaſe, and gave them leiſure to cultivate every thing liberal or elegant. It was then that Pericles adorned the city with temples, theatres, and other beautiful public buildings. Phidias, the great ſculptor, was employed as his architect, who, when he had erected edifices, adorned them himſelf, and added ſtatues and baſſo-relievos, the admiration of every beholder. It was then that Polygnotus and Myro painted; that Sophocles and Euripides wrote; and not long after that they ſaw the "divine" Socrates. And though their military ſtrength and political ſovereignty were impaired by the Lacedæmonians, humiliated by the Thebans under Epaminondas, and wholly crushed by Philip the Macedonian; yet, happily for mankind, their love of literature and arts did not ſink along with it. Juſt at the cloſe of their golden days of empire, flouriſhed Xenophon and Plato, the diſciples of Socrates, and from Plato deſcended that race of philoſophers called the "Old Academy," which was ſucceeded by the "New Academy." (See ACADEMY.) With the ſtudy of philoſophy was united that of rhetoric, upon which treatiſes were written by the ableſt Greek philoſophers. To this object they were incited by the intrinſic beauty of their language, as it was then ſpoken among the learned and polite. The ſame love of elegance which made them attend to their ſtyle, made them attend even to the places where their philoſophy was taught. Such was the academy of Plato; the Lycæum of Ariſtotle; the portico or colonnade of Zeno, the walls of which were decorated by various paintings of Polygnotus and Myro; and the gardens of Epicurus. Theſe public inſtitutions were called among the Greeks by the name of Gymnaſia, in which were taught all thoſe exerciſes, and all thoſe arts, which tended to cultivate not only the body but the mind. Dr. Gillies, in his "Hiſtory of Greece," has dwelt with a degree of enthuſiaſm on the advantages, both natural and moral, reſulting from the gymnaſtic exerciſes and public games; but M. de Pauw (ubi ſupra), differs in opinion, aſſerting that nothing could be more pernicious, or tend more to enervate the human race, than theſe exerciſes. As to the moral advantages of theſe public games, it is not very eaſy to decide; but their phyſiological effect is much leſs queſtionable, and cannot be juſtly diſputed.

ATHENS, *Population of.* From comparing the ſeveral accounts of the population of Attica in the time of Pericles, of Demoſthenes, and of Demetrius Phalereus, M. de Pauw (ubi ſupra) conjectures, that the number of citizens was preſerved nearly at the ſame level, in conſequence of the adoption of ſtrangers, to repair the extraordinary devaſtations of war and diſeaſe, and of emigrations, when the number exceeded that which the rules of policy had eſtabliſhed; this was 20,000 men; and he ſuppoſes that there was an equal number of women. In the time of Demetrius Phalereus, the ſtrangers ſettled in Attica amounted to 10,000, and the ſlaves to 400,000; ſo that the whole number may be eſtimated at 450,000 to about eighty-ſix ſquare leagues of territory, or above 5000 on an average to each ſquare league. This, he obſerves, is a much greater population than that of France, which, according to M. Necker's calculations, contains not more than 900 inhabitants to a ſquare league.

The people of Athens were comprehended under the claſſes of freemen or citizens, πολῖται; ſojourners, or Μέτοικοι; and ſlaves, or Δοῦλοι. Cecrops diſtributed them into four φυλαι, or tribes, each tribe being ſubdivided into three parts, and each of theſe into thirty families. The names of the tribes were different at different æras; and their number was increaſed by Cliſthenes to ten; and they were afterwards augmented to twelve. Theſe tribes had public feaſts, at which they met to promote friendſhip and good neighbourhood. To each tribe belonged ſeveral little boroughs in Attica, called Δημοι; of theſe there were 174, beſides other boroughs that belonged to no particular tribes. It was enacted, that all ſtrangers who intended to live at Athens, ſhould be compelled, after a ſhort reſidence, to enroll their names among the free citizens, and that none but perſons of eminent meritorious character ſhould be citizens. This privilege was conferred by the popular aſſembly. It was alſo enacted, that none ſhould reſide as free citizens at Athens, except thoſe who were baniſhed from their own country, or who voluntarily ſettled there with their whole families. They were admitted to their rights by certain ceremonies, and enrolled in a certain tribe. Solon decreed, that none ſhould be accounted free but ſuch as were Athenians both by father and mother: this regulation was revived, after diſuſe, by Pericles, and at his motion repealed; and after the expulſion of the thirty tyrants, Solon's law was reſtored. In the Cynoſarges there was a court of judicature, to which cauſes of illegitimacy belonged; and great care was taken that none ſhould be enrolled as citizens, whoſe title was not examined and approved.

The Μετοικοι, or ſojourners, were thoſe who came from a foreign country and ſettled in Attica, being admitted by the council of Areopagus, and publicly regiſtered. Of theſe, ſeveral ſervices were required; and both men and women paid an annual tax. Thoſe who failed to pay it were ſeized and expoſed to ſale by the officers of the public revenue: ſuch, according to Diogenes, was the fate of Xenocrates the philoſopher; but thoſe who rendered any ſervice to the public, were exempted from the payment of all impoſts, except ſuch as were demanded of free citizens. Such perſons as did not conſtantly reſide at Athens, were called ξενοι, or ſtrangers.

The ſlaves were of two ſorts; ſuch as became ſo from poverty, the chance of war, or the perfidy of thoſe who trafficked in them, and who were at liberty to change their maſters, and to releaſe themſelves from ſervitude; and ſuch as were at the abſolute diſpoſal of their maſters. Slaves were not allowed to imitate freemen in their dreſs and manners. They were forbidden to wear long hair, and what is more aſtoniſhing, Solon prohibited them to love boys, as if this practice were honourable: they were not permitted to plead for themſelves, or to be witneſſes in any cauſe; confeſſion was extorted from them by torture; nor were they allowed to worſhip certain deities, to be called by honourable names, and to bear arms. They were reduced to obedience, and puniſhed by corporal ſeverities; they were ſometimes marked on the forehead, or ſtigmatized in any other part of the body. Nevertheleſs they were allowed at Athens to take refuge in the temple of Theſeus, when they were oppreſſed, and it was ſacrilege to force them from it. They were allowed to bring an action againſt their maſters for ill treatment, and againſt thoſe who injured them; and in various reſpects their condition was preferable to that of ſlaves in other places, as they might purchaſe their freedom, and were ſometimes advanced to the dignity of citizens. In the firſt day of every month, the merchants, called ανδραποδοκαπηλοι, expoſed them for ſale in the ſlave market. In the time of Adrian, maſters were prohibited from putting their ſlaves to death.

ATHENS, *Magiſtrates and Government of.* By the law of Solon, no man who had not a good eſtate, could bear the office of a magiſtrate; but by the law of Ariſtides, every

man was admitted to a ſhare in the commonwealth; but before he was admitted, he was obliged to give an account of his paſt life before judges in that part of the forum called Δοκιμασια. It was a capital crime for a perſon to enter on his office in debt. The magiſtrates of Athens were of three ſorts, viz. χειροτονητοι, who were elected by the people, and ſo called becauſe choſen by holding up of hands; Κληρωτοι, who were promoted by lots drawn by the Theſmothetæ, in the temple of Theſeus; and Αιρετοι, who were extraordinary officers appointed by particular tribes, to ſuperintend public affairs. The magiſtrates entered on their office on the firſt day of the month Hecatombæon. The firſt and moſt important of theſe magiſtracies was that of the archons. (See Archon.) Among the inferior magiſtrates may be reckoned the Nomophylacis, Phylarchi, Phylobasilis, Phratriarchi, Demarchi, Lexiarchi, Toxotæ, and Nomothetæ, to whom were added the Rhetores; which ſee reſpectively. There were other magiſtrates who had the ſuperintendance and regulation of the general aſſembly of the people called Ecclesia; ſuch as the Epistates, Prytanes, and Proedri. (See alſo Senate, and Prytaneum.) The courts of juſtice, excluſive of the Areopagus, were ten in number, of which four had cognizance of criminal, and ſix of civil cauſes. Theſe courts were painted with various colours, and on each was engraven one of the ten firſt letters of the Greek alphabet; and hence they were denominated Alpha, Beta, &c. The names of thoſe who were to hear and determine cauſes, and the names alſo of their father and borough, inſcribed upon a tablet, were delivered to the Theſmothetæ, who returned it with another tablet on which was inſcribed the letter of one of the courts according to the lots. Theſe tablets were carried to the crier of the ſeveral courts directed by the letters, who gave to every man a tablet inſcribed with his own name and the name of the court in which he was to ſit; and having received a ſceptre, the uſual enſign of judicial power, they were ſeverally admitted into the court. When their reſpective cauſes were determined, they returned the ſceptre to the Prytanes, from whom they received their due reward, ſometimes one obolus, and ſometimes three oboli. No man was allowed to ſit in more than one court in a day; and if they were convicted of bribery, they were fined. The firſt criminal court after the Areopagus was that of the Ephetæ; the ſecond was called Delphinium; the third Prytaneum; and the laſt Parabustum; for the reſpective articles. Of the judicatory courts for civil cauſes, the firſt was the Parabuston; the ſecond, the Cainon; the third, Trigonon; the fourth, the court of Ilissus; the fifth, that of Metioche; and the ſixth, Heliæa. All the Athenians who were free citizens were allowed to ſit in theſe courts as judges; but they were previouſly obliged to take a ſolemn oath, by Apollo Patrius, Ceres, and Jupiter the king, that they would paſs a juſt ſentence, according to law, and to the beſt of their judgment. This oath was adminiſtered near the river Ilyſſus, in a place called "Ardettus" from a perſon of that name, who in a time of ſedition united the contending parties, and engaged them to confirm their treaties of peace by mutual oaths in this place; whence common ſwearers were called Ardettæ. There were other courts of leſs conſequence, called Ἐφεσεις, or παραβασεις, or other names, to take cognizance of cauſes belonging to their ſeveral offices. Such were the courts at Cynoſarges, Odeum, the temple of Theſeus, Ptoeum, &c. In the judicial proceſs, the plaintiff delivered to the magiſtrate the name of the perſon againſt whom he brought his action, with an account of his offence; this was followed by an inquiry on the part of the magiſtrate, whether it belonged to his cognizance, and whether it ought to be tried, called "Anacrisis;" the plaintiff then, with a ſubſcription of the magiſtrate, ſummoned his adverſary to appear; but if he refuſed to appear, he was charged by the plaintiff and defendant were before the magiſtrate, he inquired of the former whether the witneſſes were all ready, which was the ſecond "Anacrisis;" when no plea was urged on the part of either plaintiff or defendant for putting off the trial, an oath was adminiſtered to both parties. Theſe oaths, with thoſe of the witneſſes, and other matters relating to the action, were written upon tablets, and depoſited in a veſſel, which was delivered to the judges. The judges being appointed by lots, took their places at the aſſigned day in the tribunal. The magiſtrate then propoſed the cauſe to them, and gave them authority to determine it. The public crier read the indictment containing the grounds of the accuſation which were noted down by the judges. If the defendant did not appear, ſentence was immediately paſſed againſt him; but if he preſented himſelf within ten days, aſſigning reaſons for his abſence, the former ſentence was reverſed, and the trial was to be brought forward by the defendant within two months; but if it was not brought on, the former ſentence was confirmed. Before trial, both parties depoſited a ſum of money in the hands of the magiſtrate who introduced their cauſe into the court, who, if the money was not paid, eraſed their cauſe from the roll. The depoſit, which was 3 drachmas for a cauſe of the value of 100 drachmas to 1000; and to ſuch cauſes as were and leſs than 10,000: was divided among the judges; and the perſon who loſt his cauſe reſtored the money to his adverſary, and paid the charges. The witneſſes in the trial were to be free-born, and deſerving of credit; and they were confidered as infamous if they had forfeited their privileges by miſconduct. The teſtimony was ſometimes given aloud in open court, and ſometimes in writing upon a tablet of wax. If the parties required it, they were allowed advocates, whoſe ſpeeches were limited as to length of time, meaſured by a water glaſs. When the parties had finiſhed, the crier was commanded by the preſiding magiſtrate, to order the judges to bring in their verdict; and where the law had provided penalties, a verdict of guilty or not guilty was ſufficient; but where the laws were ſilent, another ſentence was neceſſary, determining the puniſhment due to the offence. When the laws were ſilent, the judges might limit the puniſhment; ſentence was at firſt given by black and white ſhells called ψηφοι, or pebbles called ψηφοι: but of braſs were afterwards uſed, and then beans; the white beans were whole, and uſed to acquit; and the black were bored through, to condemn. The cauſe being [illegible] on a tablet and depoſited in a [illegible] under the ſtatue of the [illegible] for conviction was guilty, he [illegible] to receive puniſhment; but if he was found [illegible] the day paſt; it [illegible] to puniſhment. [illegible] his adverſary, he was [illegible] which the law inflicted on the crime with which his adverſary was accuſed. [illegible] cauſe itſelf δικη, and the accuſed φευγων. Αιτια was the name of the [illegible] after it. When the trial was cloſed, the judges went to the temple of Ly[illegible], [illegible] their money.

The Athenian judicatory [illegible] cerning thoſe crimes that affected the ſtate, called κατηγοριαι, and all perſons were [illegible] lic wrong, by bringing [illegible]

private, concerning all controverſies between private perſons, called δικαι; and no one could proſecute an offender except he who was injured, or ſome of his family. The public judgments were murder, malicious wounding, a conflagration of the city, poiſon, conſpiracy againſt the life of another, ſacrilege puniſhed with death, impiety, treaſon, fornication; whoredom, puniſhable by fine; celibacy; refuſing to ſerve in war; and cowardice, puniſhable with infamy; deſertion of the fleet and of the army, puniſhed by fine; deſertion from their poſt, as leaving the infantry for the cavalry; refuſing to ſerve in the fleet, and loſing their ſhield, puniſhed with infamy; charging men with debts already paid, puniſhed by fine; an action for falſe arreſts, for beating a free man or reducing him to ſlavery, aſſault or frivolous accuſation, puniſhed by a fine; receiving bribes for any public affair, or perverting juſtice, fined ten times the value of what they received, and puniſhed with the higheſt degree of infamy; for offering bribes for the perverſion of juſtice, and particularly in cauſes relating to the freedom of the city; for eraſing a name out of the public debt-book before the debt was diſcharged; digging a mine without the public knowledge, a twenty-fourth part of the metal belonging to the public; againſt magiſtrates who had neglected to ſurrender their accounts; for propoſing a new law, and acting contrary to the eſtabliſhed laws; againſt magiſtrates, ambaſſadors, and other public officers, who had miſemployed the public money, or otherwiſe offended; againſt ambaſſadors who had forfeited their truſt; againſt diſaffected tumultuous perſons; an action for debts due to the public, falſely charged upon thoſe who had never paid the fines impoſed upon them; for the diſcovery of any ſecret injury; and againſt ſuch as exported corn from Attica, appropriated the public money or land, or for miſapplying the property of orphans; againſt thoſe who confeſſed their crimes without ſtanding a trial; againſt thoſe who protected murderers; and againſt ſuch as had been guilty of certain ſtate offences. Of private judgments, which were very numerous, the principal were againſt thoſe who had done an injury puniſhed with fine, an action of aſſault, a law-ſuit generally for the recovery of an eſtate, a ſuit concerning relationſhip, an action of divorce, an action by a maſter or patron againſt his clients who were freed ſlaves, and who refuſed to perform the ſervices incumbent upon them, an action againſt ſojourners who neglected to chuſe a patron, an action of ingratitude, againſt thoſe who had violated the chaſtity of women, or injured the perſons of men, an action concerning nuiſance, againſt thoſe who would not divide their property among juſt claimants, for demanding rent, againſt guardians who had defrauded their wards, of ſlander, by which the criminal was fined 500 drachmas, againſt thoſe who had ſuborned falſe witneſſes, againſt thieves, an action claiming an eſtate againſt thoſe who refuſed to reſtore that with which they were entruſted, againſt thoſe who would not fulfil their contracts, and a ſuit between debtors and creditors.

The criminal puniſhments of the Athenians were ατιμια, infamy or diſgrace; βαραθρον, a deep pit into which condemned perſons were caſt headlong (ſee BARATHRUM); ξυλον, or the ignominious puniſhment of hanging or ſtrangling; δεσμος, the puniſhment of fetters or impriſonment; δουλεια, ſervitude, by which a criminal was reduced to the condition of a ſlave; ζημια, a peculiar fine laid upon the criminal, according to the nature of his offence; death, inflicted for various offences; κρημνος, a precipice from which the malefactor was thrown headlong; κυφων, a collar uſually made of wood; λιθοβολια, lapidation, a common puniſhment for adultery; ξιφος, with which the criminal was beheaded; fetters with five holes; πανσικακιη, a round inſtrument to confine the hand; a croſs, conſiſting of two beams laid acroſs one another, to which the malefactor was nailed; στηλη, a pillar, on which the crimes of the offender were engraven; στιγματα, marks impreſſed with a hot iron upon ſlaves; τυπτανα, or τυπτανια, clubs, with which malefactors were beaten to death; σχοινοι, ſmall cords, by which criminals were ſtretched upon the rack; φαρμακον, poiſon, of which various ſorts were uſed, but the moſt common was the juice of hemlock; φυγη, or baniſhment, of which there were ſeveral ſorts; χοινιξ, the fetters, in which the legs were faſtened; σανις, a piece of wood to which the criminal was bound; καταποντισμος, drowning in the ſea; and πυρ, or burning. Public honours and rewards were ατελεια (ſee ATELEIA), or an immunity from taxes and other public duties; εικων, the honour of a ſtatue erected in any public place; προεδρια, or the liberty of the firſt ſeats at public entertainments; σιτια, an entertainment at the public expence, given to thoſe who had deſerved well of their country; and στεφανοι, crowns conferred by the vote of the people in the public aſſembly, by the ſenators in council, by the tribes to their own members, and by the demotai in their own δημος, or borough.

As to the laws of the Athenians, it was a received opinion that they were taught the uſe of laws by Ceres; but it is certain that Theſeus retained the privilege of making and preſerving laws. Draco was the next law-giver, and his laws were called θεσμοι; theſe were all, except thoſe of murder, repealed by Solon, whoſe laws were diſtinguiſhed by the term νομοι. The theſmothetæ ſwore to the obſervance of them, on the penalty of dedicating a ſtatue as large as life to the Delphian Apollo; and the people were bound to obey them for a hundred years. Piſiſtratus afterwards aſſumed for himſelf, and left to his ſons, the authority of a law-giver; but the laws of Solon were in ſome degree enforced by Cliſthenes, who himſelf added new ones. Theſe continued in force till the Peloponneſian war, when the government was altered by the four hundred, and afterwards by the thirty tyrants. The ancient laws were again reſtored by Euclides, and others by the influence of Diocles, Ariſtophon, and afterwards by Demetrius Phalereus; and theſe, with Æſchylus and Thales, were the chief legiſlators of Athens. (Suidas.) The laws were annually reviſed; and a new law was to be propoſed before an old one could be repealed. Solon, and other law-givers who ſucceeded him, committed their laws to writing. The laws of Solon were engraved on tablets of wood; and ſome affirm, that the original in his hand-writing were always kept in the citadel, and copies of them in the prytaneum. The laws were all engraven on the wall in the βασιλικη στοα, or royal portico, for the inſpection of the public. This was the cuſtom after the expulſion of the thirty tyrants.

ATHENIANS, *Commerce of the.* The harbour of Piræus was much frequented, not only by Grecian veſſels, but alſo by thoſe of the nations which the Greeks denominated Barbarians. But as the Athenians were actuated by the ſpirit of conqueſt, and aſpired to the ſovereignty of the ſea, in order to obtain that of the land, they directed their attention to the navy with this view; and therefore their commerce was reſtrained to the procuring from other countries the commodities and productions neceſſary to their ſubſiſtence. Nevertheleſs, the Athenians adopted a variety of regulations, and enacted many laws for extending commerce, and preventing as much as poſſible the litigations and obſtacles which impeded its operations. They inflicted a fine of a thouſand drachmas (about 37 l. 10 s.), and ſometimes the puniſhment of impriſonment, on him who accuſed

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a merchant of any crime which he was unable to prove. As Attica produced but little corn, the exportation of it was prohibited; and thoſe who fetched it from foreign countries were forbidden, under rigorous penalties, to carry it to any other market but that of Athens. A great quantity was brought from Egypt and Sicily; and a greater quantity from Panticapæum and Theodoſia, cities of the Cherſoneſus Taurica, becauſe the ſovereign of that country, the maſter of the Cimmerian Boſphorus, exempted the Athenian veſſels from paying the duty which he levied on the exportation of that commodity. In conſequence of this privilege, they traded in preference to the Cimmerian Boſphorus, from which Athens received annually 400,000 medimni of corn. The Athenians alſo imported from Panticapæum, and the different coaſts of the Euxine ſea, timber for building, ſlaves, ſalt, honey, wax, wool, leather, and goat-ſkins; from Byzantium, and other parts of Thrace and Macedonia, ſalt-fiſh and wood; from Phrygia and Miletus, carpets, coverlets for beds, and the fine wool of which they made their cloths; from the iſlands of the Ægean ſea, wines of the various kinds of fruits which they produce; and from Thrace, Theſſaly, Phrygia, and many other countries, a great number of ſlaves. Oil was the only commodity which Solon allowed them to exchange for foreign merchandize; the exportation of all other productions from Attica was prohibited; nor was it permitted to carry out of the country, without paying heavy duties, the timber of the fir, the cypreſs, the plane, and other trees which grow in the environs of Athens. In their ſilver mines the Athenians found a great reſource for their commerce. As ſeveral ſtates debaſed their coin, the money of Athens, in greater eſtimation than that of other countries, procured for them an advantageous exchange. In general, they purchaſed wine in the iſlands of the Ægean ſea, or on the coaſts of Thrace; for it was principally by means of this commodity that they trafficked with the people who inhabited the borders of the Euxine ſea. The taſte conſpicuous in the works of their artiſts, rendered the productions of their ſkill and induſtry deſirable; ſo that they exported to diſtant countries ſwords and arms of different kinds, cloths, beds, and various utenſils. Books were with them alſo an article of trade. They maintained correſpondents in almoſt all the places to which they were attracted by the hope of gain; and, on the other hand, many of the ſtates of Greece appointed agents at Athens to ſuperintend the intereſts of their trade. The Athenians for the moſt part employed their money in trade; but they were not allowed to lend it for any place but Athens. The lender had his ſecurity on the merchandize or goods of the borrower; and as the dangers of the ſea were partly riſked by the former, and the profit of the latter might be very conſiderable, the intereſt of money thus lent might riſe as high as 30 per cent. more or leſs, according to the length and hazards of the voyage. The landed intereſt amounted to 12 per cent. per annum, ſometimes to 16 per cent. monthly, and among the lower claſſes of the people, the quarter of the principal was exacted for daily intereſt. Commerce, by increaſing the circulation of wealth, gave riſe to the occupation of bankers, and thus its circulation was ſtill more facilitated.

Athens, *Money of*, was of three ſorts. Silver was firſt coined, afterwards gold, and laſtly copper. The moſt common coins were thoſe of ſilver, and they were of different value. Above the drachma (9d. Engliſh), conſiſting of ſix oboli, was the didrachma, or double drachma, and the tetradrachma or quadruple drachma; below it were the pieces of 4, 3, and 2 oboli; after which were the obolus and ſemiobulus (i. e. 6d. 4½d. 3d. 1½d. and ¾d. Engliſh). The latter being found inconvenient for common uſe, copper money was coined about the beginning of the Peloponneſian war, and pieces of that metal were ſtruck, which were not worth more than the eighth part of an obolus. The largeſt piece of gold weighed two drachmas, and was worth twenty ſilver drachmas (i. e. fifteen ſhillings Engliſh). Gold was very ſcarce in Greece; it was brought from Lydia and Macedonia, where the peaſants collected the ſmall pieces which the rains waſhed down from the neighbouring mountains. See Money.

Athens, *Revenues of*, ſometimes amounted to the ſum of 2000 talents or 450,000 l. and theſe revenues were of two kinds; thoſe which were raiſed in the country itſelf, and thoſe that were drawn from the tributary cities and ſtates. The firſt claſs comprehended the product of the houſes, lands, and woods appertaining to the republic, and farmed out for a certain ſum; the twenty-fourth part reſerved from the ſilver mines, payable by individuals who had permiſſion to work them; the annual tribute received from freedmen and the 10,000 foreigners ſettled in Attica; the fines and confiſcations, the principal of which went into the treaſury of the ſtate; the fifth levied on corn and other merchandize imported, and alſo on ſeveral commodities that were exported from the Piræus; which, during the Peloponneſian war, were farmed at thirty-ſix talents (8100l.); and a number of other taxes of leſs importance, yielded by commodities ſold in the market, and levied on ſuch as kept courtezans in their houſes. Moſt of theſe duties were farmed; and the farmers remitted, before the ninth month of the year, the ſum ſtipulated to the receivers of the revenue. The ſecond and principal branch of the revenues of the ſtate, conſiſted in the tributes which were paid by a number of cities and iſlands dependent upon it. Its claims of this kind were founded on the abuſe of power. After the battle of Platæa, the conquerors having reſolved to revenge on Perſia the inſults offered to Greece, the inhabitants of the iſlands who had entered into the league agreed to ſet apart every year a conſiderable ſum to defray the expences of the war. The Athenians collected in different places 460 talents (103,500l.); and by degrees, as their power increaſed, they changed the gratuitous contributions of the allied cities, into an humiliating exaction, impoſing on ſome the obligation to provide ſhips whenever they ſhould be called upon, and demanding of others the annual tribute to which they had formerly ſubjected themſelves. In the ſame manner they taxed their new conqueſts, and the ſum total of the foreign contributions amounted, at the beginning of the Peloponneſian war, to 600 talents (135,000l.); and towards the middle of the ſame war, to twelve or thirteen hundred. The conqueſts of Philip reduced this ſum to 400 talents, and the Athenians flattered themſelves they ſhould again be able to advance it to 1200 (270,000l.) The 460 talents drawn annually from the ſtates leagued againſt the Perſians, and depoſited by the Athenians in the citadel, at firſt amounted to the ſum of 10,000 talents (2,250,000l.) according to Iſocrates (t. i. p. 395.); or 9700 (2,182,500l.) according to Thucydides. (l. ii. c. 13.) Pericles, during his adminiſtration, had laid up 8000; but having expended 3700, either in the embelliſhment of the city, or the expences of the ſiege of Potidæa, the 9700 were reduced to 6000 (1,350,000l.) at the beginning of the Peloponneſian war. This war was ſuſpended by a truce, which the Athenians entered into with the Lacedæmonians, and the contributions which they had then received amounted to 12 or 1300 talents; and during the ſeven years of the truce, they placed 7000 talents (1,575,000l.) in the public treaſury. Theſe revenues, however conſiderable, were inſufficient

sufficient to defray the expences of the ſtate; and recourſe was frequently had to free gifts and forced contributions. Of all the branches of public expenditure, the maintenance of the navy was the moſt heavy: when an armament was to be fitted out, each of the ten tribes levied in its district the ſame number of talents as there were galleys to be equipped, and denominated them from the ſame number of companies, compoſed ſometimes of fifteen perſons liable to contribute. Demoſthenes made an amendment in the mode of aſſeſſing this tax. The decree propoſed by him for this purpoſe was as follows: every citizen, whoſe fortune amounted to ten talents, was to furniſh the ſtate with one galley; if he poſſeſſed twenty talents, with two; and however rich he might be, no more ſhould be required of him than three galleys and a ſhallop. Thoſe whoſe ſubſtance was leſs than ten talents were to join in contributing a galley.

Athenians, *Religion of the.* From the earlieſt times the objects of religious worſhip multiplied among the Athenians. They received the twelve principal divinities from the Egyptians, and others from the Libyans and different nations; and they were ſo fearful of omitting religious worſhip, that they even erected altars to the unknown God. (Pauſan. in Attic.) See Altar. In proceſs of time a law was enacted, prohibiting, under pain of death, the introduction of any foreign worſhip, without a decree of the areopagus. It was an ancient practice, to conſecrate, by monuments and feſtivals, the memory of kings, and other diſtinguiſhed perſons, who had rendered eſſential ſervice to their country, or to mankind. To this claſs the Athenians referred Theſeus, Erechtheus, ſuch as deſerved to have their names appropriated to the ten tribes, and many others, as Hercules, &c. But the worſhip of the latter differed from that of the gods, in the ceremonies that accompanied it, as well as in the object to which it was directed. Before the deity they proſtrated themſelves, imploring his protection, thanking him for his bounties, and acknowledging their dependence. In honour of the heroes, and as a memorial of their illuſtrious deeds, they conſecrated temples, altars, and groves, and celebrated feſtivals and games. Incenſe was burnt on their altars, and libations were poured over their tombs to procure repoſe to their manes. The religion of the common people entirely conſiſted in prayers, ſacrifices, and purifications. Individuals preſented their prayers to the gods at the commencement of any undertaking: and they offered up their addreſſes in the morning, the evening, at the riſing and ſetting of the ſun and moon. Sometimes they repaired to the temple with downcaſt eyes and dejected countenances; they kiſſed the ground, offered their prayers ſtanding, on their knees, and proſtrate, and held branches in their hands, which they lifted up towards heaven, or ſtretched out towards the ſtatue of the god, after applying it to their mouths. In addreſſing the infernal deities, they ſtruck the earth with their feet or hands. Some pronounced their devout addreſſes in a low voice; but Pythagoras wiſhed them always to be uttered aloud, that nothing might be aſked which could excite a bluſh. At the ſeaſons of worſhip, the ſpace before the temple and the porticoes that ſurrounded it, were full of people; ſo juſtly has the apoſtle Paul characteriſed the Athenians, when he called them (Acts, xvii. 22.), δεισιδαιμονεστερους, "too ſuperſtitious," as the common tranſlation renders it, or perhaps as it might be rendered leſs offenſively and more conformably to the conciliatory addreſs, which the apoſtle would have uſed on ſuch an occaſion, and alſo to the frequent uſe of the term, "very devout." See Lardner's Works, vol. i. p. 193. The prieſts were the principal miniſters of religion; and they were next in precedence to the kings and chief magiſtrates. They obtained their office by inheritance, ſometimes by lot, by the appointment of the prince, or by popular election: and they were required to be unmaimed in body, chaſte and uncontaminated by the pleaſures of the world in their diſpoſition and character, and in their habits devoted to retirement and piety. Of theſe prieſts there were ſeveral orders, and among them there was one, denominated Archiereus, high prieſt, who had the ſuperintendance of the reſt. Some temples were ſerved by prieſteſſes, as particularly that of Bacchus in the quarter of the marſhes. The revenues aſſigned for the maintenance of the prieſts and temples were derived from different ſources, as a certain part of the produce of penalties and confiſcations, and of the ſpoils taken from the enemy, and the offerings of individuals. They formed, however, no ſeparate and independent body; nor had the miniſters of different temples any common intereſt; and in cauſes which reſpected them perſonally, they were amenable to the ordinary tribunals. Functions of inferior ſanctity, that related to the ſervice of the temple, were intruſted to lay officers: ſome of whom were guardians of the treaſury, and others aſſiſted as witneſſes and inſpectors at ſolemn ſacrifices. Next to the prieſts, were the ſoothſayers and interpreters of omens. The worſhip of the Athenians was originally performed in the open air, upon the tops of mountains; and on theſe ſpots temples were afterwards erected, and dedicated to Jupiter, Apollo, and the other gods. Their altars, alſo, were conſtructed of various materials and of different dimenſions, according to the variety of gods to whom they were conſecrated. Both temples and altars were places of refuge or aſylum for malefactors and criminals of all deſcriptions: and it was deemed an act of ſacrilege to force them from their ſanctuary. See Asylum. Their ſacrifices alſo were of various kinds, as to their object and deſign, the materials of which they conſiſted, and the places in which they were offered, and the ceremonies that attended them. (See Sacrifice.) As public worſhip was preſcribed by one of the fundamental laws, and therefore cloſely connected with the conſtitution, it was impoſſible to attack religion, without endangering that conſtitution. It was conſequently the duty of the magiſtrates to maintain it, and to oppoſe all innovations viſibly tending to its deſtruction. Hence the poet Æſchylus was accuſed of having, in one of his tragedies, revealed the doctrine of the myſteries; Diagoras under a ſimilar charge, ſaved himſelf by flight; Protagoras was criminally proſecuted, and obliged to fly; Prodicus of Ceos was condemned to drink poiſon; Anaxagoras was impriſoned, and his life was preſerved by the interpoſition and influence of Pericles; and the life of Alcibiades was endangered by a charge of his having been concerned in the mutilation of the ſtatues of Mercury. See each of theſe biographical articles.

Athens, in *Geography*, a townſhip of America, in Windham county, Vermont, thirty-two miles north-eaſt from Bennington, and about ſix weſt from Connecticut river, having 450 inhabitants.

ATHERDEE. See Ardee.

ATHERINA, or Atherine, in *Ichthyology*, one of the Linnæan genera of abdominal fiſhes; and diſtinguiſhed by having the upper jaw rather flat, ſix rays in the branchioſtegous, and a ſilvery ſtripe on each ſide of the body. Gmelin notices five ſpecies of this genus, viz. Hepſetus, Menidia, Sihama, Japonica, and Brownii; which ſee reſpectively.

ATHERINOIDES, a ſpecies of Clupea, diſtinguiſhed from the other fiſhes of the ſame genus by having a ſilvery lateral line. Gmelin obſerves, that this fiſh from its broad

ſilvery

filvery line appears to belong to the genus Atherina; but having a compreſſed body, and ſmall ventral fins, approaches nearer to the Cirrea genus, in which he places it. This kind is a native of Surinam.

In the dorſal fin are twelve rays: fourteen in the pectoral fins; eight in the ventral fins; thirty-two in the anal fin; and eighteen in the tail.

ATHEROMA, in *Surgery*, is a ſoft, pultaceous, uninflamed tumor; generally contained within a cyſt, or membranous bag. The cure of this tumor is eaſily effected by removal with a ſcalpel. See Tumor, and Encyſted.

ATHERSTON, in *Geography*, a market town in the county of Warwick, ſituated upon the Watling-ſtreet way, conſiſting principally of one long ſtreet, excepting two ſmall avenues or ſtreets on the north ſide leading to the market-place and the chapel, the mother church being at Mancetter, now a ſmall village about a mile to the ſouth, on the road leading to Coventry. The liberty is bounded on the weſt by the river Anker, which ſeparates it from Leiceſterſhire. The market is on Tueſday. The trade conſiſts principally in the hat manufacture, wool-combers, ribband-weavers, and the cotton trade has been likewiſe lately introduced. It contains about 2600 inhabitants. Diſtance from London 108 miles.

ATHESIS. See Adige.

ATHIAS, in *Biography*, a Jew, was a famous printer of Amſterdam, in the ſeventeenth century; and in 1661, and 1667, he printed two editions of the Hebrew bible, in two volumes 8vo., for which he obtained of the States-general an honorary recompence of a medal, and a chain of gold. He alſo printed the bible in Spaniſh, German, and Engliſh. He died in 1700. Dict. Hist.

ATHIE, in *Geography*, a town of France, in the department of the Somme, and chief place of a canton in the diſtrict of Peronne, two leagues S. S. E. of Peronne.

ATHINI, or Setines, the modern Athens, is not inconſiderable, ſays Chandler (Travels in Greece), either in extent, or in the number of its inhabitants. It enjoys a fine temperature, and a ſerene ſky; the air is clear and wholeſome. The town ſtands beneath the acropolis or citadel, and does not encompaſs the rock, as it formerly did, but ſpreads into the plain, chiefly on the weſt and north-weſt. The houſes are [illegible] and ſtraggling, with many large areas or courts before them. The water is conveyed to them in channels from mount Hymettus, and in the market-place is a large fountain. The Turks have ſeveral moſques, and public baths. The Greeks have convents for men and women, with many churches, in which ſervice is regularly performed, and oratories or chapels, frequented on the anniverſaries of the ſaints to whom they are dedicated. Beſides the more ſtable antiquities, of which ſome notice has been taken under Athens, there are many detached pieces that have been found in the town, near the fountains, and alſo in the ſtreets, the walls, the houſes, and the churches. Among theſe are fragments of ſculpture, a marble chair or two, which probably belonged to the gymnaſia or theatres, a ſun-dial at the cathedral or cathedral, inſcribed, as it is ſaid, with the name of Euclid; and at the archiepiſcopal houſe, a cauldron-full of marble, uſed as a ciſtern for receiving water, but once, probably, ſerving as a public ſtandard or meaſure. Many columns, [illegible] and pedeſtals, are ſcattered about; and alſo a fine mutilated Herma. The acropolis, or citadel, is now a fortreſs, with a thick irregular wall, ſtanding on the brink of precipices, and incloſing a large area, about twice as long as broad. Some portions of the ancient wall remain, and it is repaired with patches of pieces of columns, and with marbles taken from the ruins. The garriſon conſiſts of a few Turks, who reſide there with their families, and are called by the Greeks "Caſtriani," or ſoldiers of the caſtle. Their houſes overlook the city, plain, and gulf; but the ſituation is as airy as pleaſant; the rock is lofty, abrupt, and inacceſſible, except [illegible] towards the Piræus; and on the weſt ſide is a mountainous ridge, within cannon ſhot. The acropolis furniſhed, ſays Chandler, an ample field to the ancient virtuoſi. It was [illegible] of ancient glory, and exhibited an amazing diſplay of beauty, of opulence, and of art; each contending, as it were, for the ſuperiority. Heliodorus, named Periegetes or the guide, employed in this place fifteen books. Polemo Periegetes, four volumes; and Strabo, in the Auguſtan age, aſſirms, that as many would be required in treating of other portions of Athens and of Attica. The number of ſtatues, in particular, was prodigious. Time, [illegible] and the [illegible] images, plundered the acropolis, as well as Delphi and Olympia; and yet Athens, and each of theſe places, had not fewer than 3000 remaining in the time of Pliny. This banquet of the ſenſes, continues this traveller, has long been withdrawn; and is now become like the tale of a viſion. The ſpectator views with concern the marble ruins intermixed with mean flat-roofed cottages, and extant amid rubbiſh; the ſad memorials of a nobler people. The antiquities of this city have been alſo deſcribed by Wheeler and Spon, who viſited it in the time of Charles II; and by Mr. le Roy and many others. Mr. Stuart, however, who reſided there between three and four years, has ſurpaſſed others in the accuracy and elegance of his plans and of his deſcription. Spon, in ſpeaking of Attica, ſays, that the road near Athens was pleaſing, and the very peaſants poliſhed. Wheeler, his fellow-traveller, ſpeaking of the civilization of the Athenians, obſerves, that even the ſhepherds bid them welcome, and wiſhed them a good journey; and that their bad fortune had not been able to deprive them of that ſubtlety of wit which they poſſeſſed by nature; and that, notwithſtanding the barbariſm that hath long prevailed, they ſeem to be much more poliſhed in their manners and converſation than any others in thoſe parts. Stuart confirms, with regard to the preſent Athenians, the account given by Spon and Wheeler of their anceſtors; as he found among them the ſame addreſs, and the ſame natural acuteneſs, though ſeverely curbed by their deſpotic maſters. At their convivial meetings, it was a frequent cuſtom for one of them to take a lyre, or a ſpecies of guitar, and after a ſhort prelude on the inſtrument, to accompany the inſtrumental muſic with his voice; ſuddenly chanting ſome extempore verſes, ſeldom exceeding two or three diſtichs: this performer delivered the lyre to his neighbour; who, after he has done, delivers it to another; and thus the inſtrument circulated, till it had paſſed round the table. He adds, that, notwithſtanding the various fortune of Athens as a city, Attica was ſtill famous for olives, and mount Hymettus for honey. Thus "human inſtitutions periſh, but nature is permanent."

The preſent Athens, Athini, or Setines, is the capital of Livadia, a province of European Turkey, the ſee of an archbiſhop; and contains, as ſome ſay, 10,000, or, according to others, 15 or 16,000 inhabitants, chiefly Greeks. The chief articles of trade are ſilk, wax, wool, and oil. It is a ſea-port, and ſituated on the north-eaſt coaſt of the gulf of Engia in the archipelago, with a ſafe and large harbour, narrow at the entrance, and commanded by the citadel. N. lat. 37° 57'. E. long. 23° 55'.

ATHIS, a town of France, in the department of the Orne, and chief place of a canton in the diſtrict of Mortagne; thirteen miles ſouth-weſt of Falaiſe.

ATHIS, in *Ancient Geography*, a town of Aſia, ſituate on the weſtern bank of the Euphrates, ſouth-weſt of Nicephorium.

ATHLETÆ, in *Antiquity*, perſons of ſtrength and agility, diſciplined to perform in the public games. The word is formed from ἆθλος, *certamen, combat*; whence alſo ἆθλον, *the prize*, or *reward*, adjudged to the victor.

Under athletæ were comprehended wreſtlers, boxers, runners, leapers, throwers of the diſk, and thoſe practiſed in other exerciſes exhibited in the Olympic, Pythian, and other ſolemn ſports; for the conquerors in which there were eſtabliſhed prizes.

From the five uſual exerciſes, the athletæ were alſo denominated πενταθλοι, and by the Latins *quinquartiones*; at leaſt ſuch as profeſſed them all.

Thoſe who were deſigned for this profeſſion, frequented the gymnaſia or paleſtræ from their youth; and they were obliged to ſubmit to the moſt ſtrict diſcipline and abſtemious regimen. Their fare was coarſe and ſcanty; they were prohibited the uſe of wine, and enjoined continence; and thus Horace (Art. Poet. v. 412.) deſcribes them:

"Qui ſtudet optatam curſu contingere metam,
Multa tulit fecitque puer; ſudavit et alſit;
Abſtinuit venere, et vino."

The apoſtle Paul, in his firſt epiſtle to the Corinthians (ch. ix. 25.) enforces temperance by an alluſion to the athletæ; and Tertullian encourages the martyrs by the ſame reference. But when the privilege of being ſupported at the public expence, was granted to ſuch of the athletæ as were victorious, they abandoned their habits of abſtinence and exerciſe, and indulged themſelves to a very ſhameful degree of indolence and of gluttony. Before their exerciſes, their bodies were rubbed with oils and various unguents, in order to render them ſupple and vigorous; and they practiſed a kind of noviciate in the gymnaſia for ſeveral months, that by previous application and practice they might be fit for the conteſts in which they engaged. At firſt they made uſe of a belt, with an apron annexed to it, for the ſake of decency; but they afterwards laid aſide this covering, and engaged in ſeveral of the combats naked. To this inſult on public decency, ſome of the beſt writers of antiquity have attributed that infamous paſſion, to the indulgence of which the Greeks were notoriouſly addicted. The women, indeed, were prohibited from approaching the places where theſe public games were celebrated. Before they were admitted to the combat, they were examined as to their birth, for none but Greeks were admitted; as to their condition, which was required to be free; and as to their manners, which were to be irreproachable. The name and country of each champion were regiſtered, and a herald, before the commencement of the conteſt, proclaimed their names. They ſolemnly vowed not to employ any unfair means, and to conform to the eſtabliſhed regulations by which the games were conducted.

ATHLETIC CROWN. See CROWN.

ATHLETIC *Habit* denotes a ſtrong hale conſtitution of body, which was the object the athletæ aimed at, and to which their diet correſponded.

ATHLETIC *Weight*. See WEIGHT.

ATHLONE, in *Geography*, the moſt conſiderable town of the county of Weſtmeath, in Ireland, ſituated on the river Shannon, over which it has a long bridge of many arches, ſo that it was formerly an important paſs into the weſtern province. It is partly in the county of Roſcommon, and is the moſt central town in the iſland. Notwithſtanding its advantageous ſituation for trade and improvement, it is ſaid to be in many parts a poor, ruinous, dirty looking place. In the middle of the bridge is a monument, with ſome figures, together with queen Elizabeth's eſcutcheon of arms, and ſome inſcriptions declaring the time and founders of the building. The caſtle, which was on the Roſcommon ſide, called the Iriſh town, was built by king John, on a high raiſed round hill reſembling a Daniſh rath or fort, ſo as to command the bridge and the adjacent country. This was long the reſidence of the lord preſidents of Connaught, who held in it their courts of juſtice. In the time of the civil war, it was ſtrongly fortified on both ſides of the river; and the Engliſh under the lord preſident ſtood a long ſiege in the caſtle, in 1641 and 1642. During the whole of this melancholy period, it was a place of great ſtrength and importance, generally in the poſſeſſion of the Iriſh or Catholic party; till, in 1651 it was taken by ſir Charles Coote, at the head of the parliamentary forces. After the defeat of James the Second at the Boyne, his adherents remained at Athlone, and having deſtroyed the Engliſh town which was eaſt of the Shannon, and broken the bridge, reſolved to maintain the Iriſh diſtrict on the weſt. For this purpoſe they ſtrongly entrenched themſelves; and in the following year the general St. Ruth took his ſtation with the main army behind the town. The Engliſh, under Ginckle, ſucceeded however in paſſing the river after many unſucceſsful attempts, and by a ſurpriſing effort of valour got poſſeſſion of the town and caſtle, which was in great meaſure to be attributed to the careleſſneſs and confidence of St. Ruth, the French general. General Ginckle received a title from the town, which is ſtill enjoyed by his deſcendants. W. long. 7° 49′. N. lat. 53° 21′ 30″.

ATHLOTHETA, in *Antiquity*, an officer appointed to ſuperintend the public games, and adjudge the prizes.

The athlotheta was the ſame with what was otherwiſe called *æſymneta*, *brabeuta*, *agonarcha*, *agonotheta*, &c.

ATHNACH, the name of one of the principal of the Hebrew accents, which ſerves not only to regulate the voice, but to diſtinguiſh the members of a ſentence, whence its name *athnach*, i. e. *reſpiratio*: on this account it is called *king*, and *pauſe*, and anſwers to our colon, and ſometimes to a note of interrogation: it is marked under a letter thus (֛).

ATHOL, in *Geography*, the moſt northern diſtrict of Perthſhire, in Scotland; extending about 43 miles in length, and 30 in breadth, and bounded on the north by Badenoch, on the weſt by Lochaber, on the eaſt and ſouth-eaſt by Mar and Gowrie, on the ſouth by Stratherne and Perth proper, and on the ſouth-weſt by Braidalbane. It is mountainous, and contains part of the ancient Caledonian foreſt; but the mountains are interſperſed with fruitful vallies. It has ſeveral villages, but no towns of any importance. The moſt famous places are Blair caſtle, ſeated on the river Tilt, near its influx into the Gurry, an agreeable ſtream that flows into the Tay, and belonging to the duke of Athol, whoſe title is derived from the diſtrict; and the paſs of Gillicranky, memorable on account of the battle fought here in the beginning of king William's reign, between his general M' Kay, and the highlanders who adhered to king James.

ATHOL, a townſhip of America, in Worceſter county, Maſſachuſetts, comprehending 16,000 acres of rocky land, and watered with ſtreams and rivers, and containing 848 inhabitants; 35 miles north-weſt from Worceſter, and 72 from Boſton.

ATHOR, or ATHYR, in *Mythology*, the name of one of the moſt ancient divinities of Egypt; ſignifying in the Coptic language, "night." By this name the prieſts did not originally mean to denote the obſcurity which is occaſioned

ſioned by the diſappearance of the ſun, but the darkneſs which overſpread chaos previouſly to the creation, and from which the Almighty Creator called forth into an habitable ſtate the material univerſe. This myſterious night was in their opinion the origin of things. Orpheus, initiated in the myſteries of the Egyptians, communicated them to the Greeks, and recommended them by the harmony of his verſes. Pauſanias, when he viſited Greece, ſaw at Megara "the oracle of the night," where every thing was taught that related to Athor. This ſymbolical deity, by which the Egyptians characterized the principle of things, became, in the language of the Greek philoſophers, the "Venus Cœleſtis," or the mother of the world. Orpheus ſings them this part of their theogony in his hymn to the night, where he ſays, "I ſhall ſing the night, mother of gods and men, the origin of the creation, which we ſtyle Venus." The poets ſoon took poſſeſſion of this ſubject, and as they muſt have a deity for embelliſhing their poems, they made her ſpring from the foam of the ſea, and repreſented her as animating the world, and giving life to every thing that breathed. See Ovid de Faſt. l. iv. v. 91. and Lucretius, l. i. v. 1. &c. The Egyptian prieſts, who had painted night as a divinity, apprized that the minds of the vulgar required ſenſible objects, made another metamorphoſis of night into the moon, the planet of the night, and the moon was repreſented by the cow, whoſe horns exhibited, as their imagination ſuggeſted, her firſt phaſis. The philoſophers farther extended this doctrine; and they beſtowed the name of night, Athor, and Venus, on the period during which the ſun, having paſſed the equator, remains in the ſouthern hemiſphere, when the days are ſhorteſt and the nights longeſt. See Macrobius, l. i. c. 21. The following paſſage from Plutarch (De Iſid. & Oſir.) proves that this opinion originated in Egypt. "In the month of Athyr (the third month of the Egyptian year), the Egyptians ſay that Oſiris (or the ſun), is dead. Then the nights become longer, the darkneſs increaſes, and the force of the light is diminiſhed. On this occaſion, the prieſts perform mournful ceremonies. They expoſe to the people a gilded ox covered with a black veil, in token of the grief of the goddeſs Iſis (or the moon): for in Egypt the ox is the ſymbol of Oſiris, and of the earth."

Athor had temples in Egypt. Herodotus mentions "Athor-Beki," the city of Athor, which Strabo (l. 17.) and Diodorus (l. i.) render by the name of Aphroditopolis, the city of Venus. Ælian (De Anim. l. ii. c. 27.) ſpeaking of Chuſas, a town of the Hermopolitan nome, ſays, that in this town they worſhip Venus; and that a peculiar worſhip was alſo paid to the cow. He alſo informs us, that Iſis, or the moon, was repreſented by the horns of the cow. Jablonſki, Pantheon Ægypt. vol. i. Savary's Letters, vol. ii. p. 354—364.

ATHOS, in *Geography*, a famous mountain of Greece, in the Chalcidian region of Macedonia, ſeated on a peninſula, the coaſts of which form the Sinus Strymonicus, or gulf of Conteſſa, and the Sinus Singiticus, or gulf of Monte Sancto, and joined to the land by an iſthmus about twelve leagues broad. The circuit of this peninſula, and of the baſe of mount Athos, is commonly reckoned to contain about forty leagues. N. lat. 40° 10'. E. long. 24° 45'. This mountain conſiſts of a chain of eminences or ſummits, ſeven or eight leagues long, and three or four broad, one of which attracts particular attention on account of its height and habitations, and is denominated Athos, Agioſoros or heholy mountain, and Monte Sancto. Of its elevation very extravagant and incredible accounts have been given by ſome ancient writers. Mela reports, that it is ſo high as to reach above the clouds. Martianus Capella aſſerts that it was ſix miles high; and it was believed that no rain fell upon it, as the aſhes left on the altars erected near its ſummit remained dry and undiſperſed. Plutarch and Pliny have aſſerted, that on the ſummer ſolſtice, at the ſummer ſolſtice, on the market-place of Myrina, the principal city of the iſland Lemnos. On [illegible] it is ſaid, the inhabitants of the continent [illegible] at the termination of the ſhadow, on which was inſcribed this verſe:

"[illegible]"
"[illegible]"

According to Pliny, the diſtance between the foot of mount Athos and the iſland of Lemnos [illegible]; and according to Belon (Obſerv. l. i. c. 25.), eight leagues. The Greeks, ſtruck with the ſingular ſituation and towering [illegible] upon it many churches, monaſteries, and hermitages, that it became almoſt wholly inhabited by devotees; and this circumſtance gave occaſion to its being denominated "the holy mountain;" which it ſtill retains, though many of the conſecrated buildings are decayed. Among modern travellers, there is a conſiderable difference of opinion about its height: ſome make it thirty miles in circumference, and two in perpendicular elevation; and add, that it may be travelled over in three days, and ſeen at the diſtance of ninety miles: others ſtate the altitude of its conical ſummit at 3300 feet. The cold on its ſummit is extreme; nevertheleſs it abounds with many different kinds of plants and trees, particularly the pine and fir, and it ſupplies a multitude of ſprings and ſtreams. Its variety of monaſteries and churches gives it a pictureſque appearance. It is now inhabited by Caloyers, a ſort of Greek monks, of the order of St. Baſil, who never marry, and fare hardly, as they abſtain from fleſh, and ſubſiſt chiefly on olives pickled when they are ripe. Their number is reckoned about 6000, and they inhabit ſeveral parts of the mountain, on which are twenty-four monaſteries, raiſed to the height of five or ſix ſtories, and ſurrounded with high walls, flanked with towers, and guarded with artillery againſt the aſſaults of banditti and robbers. They are much reſpected by the Turks, and receive alms from them. They have the character of being very induſtrious, and they clothe themſelves like hermits. They had formerly ſeveral valuable Greek manuſcripts, and employed themſelves in writing copies of the Greek Teſtament (ſee ALEXANDRIAN *Manuſcript*); but they are now become ſo illiterate, that they can ſcarcely read or write.

As the ſea on this coaſt is very tempeſtuous, and the Perſian fleet had ſuffered ſhipwreck in doubling this promontory, Xerxes is ſaid, for preventing a ſimilar diſaſter, to have cut a paſſage through the mountain of ſufficient width, to admit two gallies, with three banks of oars each, to paſs in front: by theſe means he ſevered from the continent the cities of Dion, Olophyxus, Acrothoon, Thyſus, and Cleone. Before he began his works, he is ſaid to have written a letter, addreſſed to the mountain, in the following terms: "Athos, thou proud and aſpiring mountain, that liſteſt up thy head to the ſkies, I adviſe thee not to be ſo audacious, as to put rocks and ſtones in the way of my workmen: if thou thus oppoſeſt me, I will cut thee entirely down, and throw thee headlong into the ſea." Modern travellers inform us, that they perceive no traces of this work; and many of them are of Juvenal's opinion:

"Perforatus Athos, et quicquid Græcia mendax
Audet in hiſtoria."

Dinocrates, an architect in the ſuit of Alexander, propoſed to this conqueror to perpetuate his memory by [illegible]

ing a ſtatue of this mountain, holding in one hand a city, and repreſenting a river as flowing from the other. But the extravagant propoſal was not accepted.

ATHOTIS, or THOT, in *Biography*, king of Thebes, and according to the practice of the early ages, prieſt and phyſician, is ſaid to have cultivated, and written on anatomy. The preciſe time in which he lived is not known, though ſuppoſed to be about 2000 years before the birth of Chriſt.

ATHULIA, in *Entomology*, a very little ſpecies of PAPILIO (*Nymph. Phal.* Gmel.) found in the northern parts of Ruſſia. The wings are fulvous, dotted with black, the lower ones white on the under ſide, dotted with black, and marked with two fulvous bands. This is *Papilio Phabe* of Eſper, and belongs to the family *Satyri* in the Fabrician ſyſtem. *Obſ.* Papilio Athulia minor of Eſper, Pap. t. 89. is a variety of the Papilio Dictynna of Fabricius.

ATHWART, in *Navigation*, is ſynonymous with acroſs the line of the courſe.

ATHWART *the fore-foot*, is a phraſe that denotes the flight of a cannon-ball from one ſhip acroſs the courſe of another, to intercept the latter, and oblige it to ſhorten ſail, that the former may come near enough to examine her.

ATHWART-*hauſe*, expreſſes the ſituation of a ſhip, when ſhe is driven by wind or tide, or any other accident, acroſs the fore-part of another.

ATHWART-*ſhips*, reaching acroſs the ſhips from one ſide to the other.

ATHY, in *Geography*, a town of the county of Kildare, near the borders of the Queen's county, 32 miles from Dublin, at which the aſſizes are held alternately with Naas. It is ſituated on the river Barrow, which is navigable hence to the ſea, and which a branch of the grand canal from Dublin to the Shannon meets at this town. It was founded in the twelfth century, on account of a ford over the river; and became of importance as a paſs, and ſometimes as a frontier town of the Engliſh pale, in the diſſenſions which haraſſed the country for many centuries, whilſt the old towns of Ardree and Ardſcull in its neighbourhood gradually decayed; and the poſition of either can now only be aſcertained from a Daniſh rath, and ſome ruins. It was early granted the immunities of a merchant or market town, being mentioned as ſuch in a ſtatute of Henry VI.; and it was made a borough by James I. in 1615, in conſequence of which two members were returned to parliament previouſly to the union, under the patronage of the duke of Leinſter. Athy contained 550 houſes in 1793, of which 160 were ſlated and built of lime and ſtone, and 390 thatched cabins; the population of which might be eſtimated at about 3300. There were at that time no manufactories which deſerved the name, notwithſtanding the advantages derived from the canal; and the unhappy ſtate of that part of the country ſince gives too much reaſon to ſuppoſe that no improvement has yet taken place. The exports from the neighbouring country to Dublin, by the canal, conſiſted of coals, corn, flour, butter, and potatoes, to the amount of above 20,000 pounds per annum. N. lat. 52° 59'. W. long. 7° 1'. Anthолog. Hibern. vol. i. Dr. Beaufort's Map and Memoir.

ATHYNA, a ſmall town of Hungary, in Sclavonia proper, and county of Poſſega, beyond the Drave.

ATI, or ATY, a ſmall canton of Africa, in Guinea, upon the Golden Coaſt, north of Fantin, and to the eaſt of Abramboe.

ATIA. See ODIO *et* ATIA.

ATIBAR, a name given by the inhabitants of the kingdom of Gago, in Africa, to gold-duſt; from which word the Europeans, and eſpecially the French, have compoſed the word *tiber*, which alſo ſignifies gold-duſt among thoſe who trade in that commodity.

ATICHY, in *Geography*, a town of France, in the department of the Oiſe, and chief place of a canton in the diſtrict of Noyon, eight miles eaſt of Compiegne.

ATICK-OOM-ASHISH, in *Ornithology*, the name by which the ſpecies of LOXIA *Hudſonica* is known in Hudſon's bay. Latham. Sonnini, in his "Additions à l'Hiſtoire Naturelle de Buffon," adopts the firſt part of this long denomination, Atick, as the name of this ſpecies. See HUDSONICA LOXIA.

ATIENÇA, in *Geography*, a town of Spain, in Old Caſtile, with an ancient caſtle, ſituate among the mountains called "Sierra d'Atiença," between Siguença and Borgo d'Oſma.

ATIMIA, *infamy* or *diſgrace*, in *Antiquity*, a puniſhment among the Athenians, inflicted for various crimes. A perſon ſuffered this puniſhment, when, retaining his property, he was deprived of ſome privilege, enjoyed in common with other citizens: and alſo, when he ſuffered a temporary deprivation of the privilege of free citizens, and his goods were confiſcated. Thoſe who were indebted to the public treaſury, till their debts were paid, incurred this penalty. Alſo, when the criminal and his poſterity were deprived of every right of a free citizen. This was incurred by thoſe that were guilty of theft or perjury, or other ſimilar offences. Infamous perſons were not allowed to give evidence.

ATINGA, in *Ichthyology*, a ſpecies of DIODON, of an oblong form, and beſet with rounded ſpines. Gmelin, &c. In Muſ. Ad. Fr. it is deſcribed as oſtracion diodon corpore ſpinis undique armato; and in Amoen. Ac. oſtracion conico-oblongus, aculeis undique longis teretiformibus, in primis in lateribus. It is called by Marcgraave *guamajacu atinga*, and is *l'atingue*, or *poiſſon armé* of French writers. In England it is known by the name of porcupine fiſh.

This ſpecies lives in the American ſeas, and about the cape of Good Hope: and keeps the ſhores for the ſake of its food, which conſiſts of crabs and teſtaceous vermes or ſhell-fiſh. The length rather exceeds twelve inches; the body is compreſſed at the ſides, and bluiſh; the back rather broad, round, and duſky; belly broad, long, white, and ſpotted all over with black. The head is ſmall, broad above, and rather compreſſed on the ſides; eyes large, iris yellow; noſtrils ſimple and tubular; mouth narrow; upper jaw rather longeſt, and angular in the middle; fins yellow, ſpotted with black; margin browniſh, and the rays ramoſe. This creature has the power of dilating its body, and erecting its ſpines at pleaſure. It is uſually taken in nets, but will alſo take bait, which is commonly the tail of a crab, faſtened on the hook. The fleſh is eatable; but if the relation of Piſo may be depended upon, it ſhould be prepared for the table with the utmoſt caution; he tells us that the gall is very poiſonous, and that ſhould the fleſh become impregnated with it (which muſt be the caſe if the gall-bladder burſt in gutting of the fiſh), the moſt dangerous conſequences might enſue to thoſe who eat of it; the ſenſes of the afflicted perſons fail, their limbs become languid, and their tongue immoveable, cold ſweats ſucceed, and in this ſtate they die, unleſs ſome ſpeedy remedy be applied.

Gmelin deems diodon holocanthus aculeis capitis colloque longioribus of Lin. Syſt. Nat. and hiſtrix alter of Willughby, to be a variety of the preceding ſpecies; it is diſtinguiſhed by having the ſpines of the head and neck longer than in the other.

ATINGACU CAMUCU, in *Ornithology*, the name aſſigned by Marcgraave in "The Hiſtory of Braſil." Ray, Willughby,

Willughby, and others, to the bird described under the title of *cuculus cornutus* by Gmelin. Buffon calls it *atingacu du Brésil*, and Latham the *horned cuckow*. See CORNUTUS CUCULUS.

ATINO, in *Geography*, a town of Italy, in the kingdom of Naples, and country of Lavora, once the see of a bishop, suppressed by Leo III.; three leagues north of Aquino. This was the ancient Atina or Atinum, situate in the north-east part of Latium, and south-east of Sora. It belonged to the Samnites; and Frontinus says, that Nero Claudius Cæsar established a colony in this place.

ATINTANES, in *Ancient Geography*, a people of Europe, who, according to Thucydides, inhabited the eastern part of Illyria. Their country, however, is joined, by Livy and Polybius, to Macedonia. They submitted to the Romans, commanded by Posthumius.

ATISIS, or ATISO, a river of Italy, in Insubria, which discharged itself into the lake Verbanus.

ATITLAN, in *Geography*, a lake of America, in Mexico, in the government of Guatimala, and the country of the Choutales. It is about ten leagues in circuit.

ATIZOE, in the writings of the *Ancient Naturalists*, a name of a stone used in the consecration and anointing of kings. Pliny describes it to have been of a lenticular figure, and of the size of three fingers, of a bright silvery colour, and of a pleasant smell. He says it was found in India, and in some other places. Agricola is of opinion it was a kind of bitumen.

ATKINS, RICHARD, in *Biography*, the descendant of a good family at Tuffleigh, in Gloucestershire, finished his education at Baliol college in Oxford. From thence he removed to Lincoln's Inn; and, after a short interval, during which he travelled into France, he became an accomplished courtier. In the civil war, he joined the king's party, and was a considerable sufferer. After the restoration, he was appointed one of the deputy lieutenants of the county of Gloucester. But being imprisoned in the Marshalsea gaol of Southwark for debt, he died there in 1677. He was the author of several pieces; and particularly of a treatise "Of the origin and growth of Printing;" in which he gives an extract from an old MS. chronicle, said to be preserved in the palace of the archbishop at Lambeth, containing an historical account of the introduction of this valuable art into our country. The authority of this chronicle has been much disputed by Mr. Palmer, in his "General History of Printing," and also by Dr. Middleton: and vindicated by Mr. Bowyer, in the notes to his abridgment of Dr. Middleton's "Dissertation on the origin of printing in England." See PRINTING.

ATKINSON, in *Geography*, a township of America, in Rockingham county, New Hampshire, incorporated in 1767, and containing, in the year 1790, 479 inhabitants. It is distant from Portsmouth thirty miles; and has an academy, founded in 1789 by the hon. N. Peabody, and endowed with 1000 acres of land.

ATKYNS, SIR ROBERT, in *Biography*, an eminent and patriotic English lawyer, descended of an ancient family in Gloucestershire, and born in 1621, was the son of sir Edward Atkyns, one of the barons of the exchequer. Having finished his academical course of education at Baliol college Oxford, and entered for the study of the law at Lincoln's Inn, he afterwards became eminent in his profession. Distinguished by his professional reputation and his loyalty, he was soon after the restoration created a knight of the bath, and in 1672 appointed one of the judges of the court of common pleas. In 1679, disgusted by the arbitrary measures of the existing government, he resigned his post and retired into the country. On occasion of the trial of lord William Russel, he gave his advice, and afterwards wrote free remarks on this subject. He then avowed the maxim, "that there neither is, nor ought to be, constructive treason; it defeats the very scope and design of the statute 25 Edw. III. which is to make a plain declaration what shall be adjudged treason by the ordinary courts of justice. His argument in favour of sir William Williams, speaker of the commons' house of parliament, who was prosecuted by the crown for signing an order for the printing of Dangerfield's narrative concerning the popish plot, was afterwards printed under the title of "The power, jurisdiction, and privilege of parliament, and the antiquity of the house of commons asserted." In the reign of James II. his attachment to the constitution was manifested by an argument on the case of sir Edward Hales, which was printed under the title of "An Inquiry into the Power of dispensing with Penal Statutes." The doctrine of dispensations was further discussed in his "Discourse concerning the ecclesiastical jurisdiction in the realm of England. After the accession of king William III. this friend to the revolution was appointed, in 1689, lord chief baron of the exchequer. He then wrote two pieces in defence of the memory of lord Russel, whose attainder was reversed by parliament. In 1689, he was advanced to the office of speaker of the house of lords, and retained it till the year 1693. The last public act of his life was his memorable speech addressed to sir William Ashurst, lord mayor of London, on occasion of his being sworn into his office, in October 1693. This speech, referring to the alarming projects of Lewis XIV. and the designs of Charles II. and James II. to establish absolute power, and to introduce popery, was very favourably received; it passed through several editions, and was thought to have been eminently serviceable to the government. In 1695, he resigned his offices, and retired to his seat in Gloucestershire, where he died in 1709, at the age of 88 years. "He was a man of great probity, as well as of great skill in his profession; and a warm friend to the constitution, which he was ready to maintain against all opponents." "In whatever view we consider him," says his biographer, "in his private, or in his public station; as a gentleman, or as a judge; as an eminent lawyer, or a distinguished patriot; as a statesman, or an author; we shall find nothing but what is great and amiable, worthy of love and respect, and of that veneration which is due to virtuous men from posterity." Besides his valuable "Tracts," which were collected and published in one volume, he is said to have been the author of a treatise against the exorbitant power of the court of chancery. Biog. Brit.

His only son, sir Robert Atkyns, who was born in 1646, and died in 1711, differed from his father in his opinions, but inherited his prudence and probity, and was equally esteemed and beloved by men of all parties. As he preferred the character of a country gentleman, he is chiefly known as the author of a topographical work, intitled "The ancient and present State of Gloucestershire," which was published after his death. A great part of the copies of this work was destroyed by a fire in the printer's warehouse, so that those which remained became scarce and dear. Biog. Brit.

ATLANTA, in *Ancient Geography*, a town of Greece, in the country of the Locrii, destroyed by an earthquake before the birth of Plato.

ATLANTES, a people of ancient Libya, of whom no record now remains but the name.

ATLANTIC OCEAN, in *Geography*, a name given to the sea which separates Europe and Africa on the east from America to the west. Mr. Kirwan, conceiving that at the time of the deluge the waters of the great southern ocean below the equator, rushed on the northern hemisphere

ſcribes the formation of the bed of the Atlantic, from lat. 20° ſouth up to the north pole, to the concuſſion of theſe enormous maſſes of water. The bare inſpection of a map, he ſays, is ſufficient to ſhew that this vaſt ſpace was not owing to the impreſſion of water: the protuberance from cape Trio to the river of the Amazons, or La Plata, in ſouth America, correſponding with the excavation on the Afric ſide, from the river of Congo to cape Palmas; and the African protuberance from the ſtraits of Gibraltar to cape Palmas, anſwering to the immenſe cavity between New York and cape St. Roque. The depreſſion of ſuch a vaſt tract of land cannot appear improbable, adds this author, when we conſider the ſhock it muſt have received, and the enormous load with which it was charged. Nor are ſuch depreſſion and abſorption unexampled, ſince we have had frequent inſtances of mountains ſwallowed up, and ſome very lately in Calabria. Iriſh Tranſ. vol. vi. p. 288. See OCEAN.

ATLANTIDES, in *Aſtronomy*, a denomination given to the Pleiades, or ſeven ſtars, ſometimes alſo called *virgiliæ*. They are thus called, as being ſuppoſed by the poets to have been the daughters either of Atlas, or his brother Heſperus, who were tranſlated into heaven. See ATLAS.

ATLANTIS, in *Antiquity*, an iſland ſpoken of by Plato, and many other writers, under ſome extraordinary circumſtances; and rendered famous by a controverſy among the moderns, concerning its place and exiſtence. The Atlantis took its name from Atlas, Neptune's eldeſt ſon, who, they tell us, ſucceeded his father in the government of it.

The moſt diſtinct account of this celebrated country is given us in Plato's Timæus and Critias; which amounts, in a few words, to what follows. "The Atlantis was a large iſland in the Weſtern ocean, ſituate before, or oppoſite to, the ſtraits of Gades. Out of this iſland there was an eaſy paſſage into ſome others, which lay near a large continent, exceeding all Libya and Aſia. Neptune ſettled in this iſland, which he diſtributed among his ten ſons; to the youngeſt fell the extremity of the iſland called *Gadir*, which in the language of the country ſignifies *fertile*, or *abundant in ſheep*. The deſcendants of Neptune reigned here from father to ſon, for a great number of generations, in the order of primogeniture, during the ſpace of 9000 years. They alſo poſſeſſed ſeveral other iſlands; and paſſing into Europe and Africa, ſubdued all Libya as far as Egypt, and all Europe to Aſia Minor. At length the iſland ſunk under water; and, for a long time afterwards, the ſea thereabouts was full of flats and ſhelves."

This iſland was 30,000 ſtadia in length, and 2000 in breadth; it was in a very high degree fertile and productive, abounding with paſture and arable, and in metals and trees. The northern part of it had various mountains, which were ſtored with villages and magnificent habitations. The inhabitants were numerous and powerful, and diſtinguiſhed both by arts and arms. It was governed by ten archons, who, in their reſpective diſtricts, adhered to eſtabliſhed cuſtoms, and were inveſted with the power of life and death over their ſubjects. This federative republic was eſtabliſhed, according to Plato in a dialogue of which only a fragment remains, by a law derived from Neptune himſelf its firſt founder, engraved upon a column and placed in a temple. Aſſemblies were held alternately every five years, in which all public affairs were the ſubjects of deliberation. The offences of citizens were examined by the archons and puniſhed according to the degree of their aggravation. Plato in this dialogue has recited ſeveral ceremonies which were obſerved by the archons in the exerciſe of their legiſlative and judicial offices.

The actual exiſtence and local ſituation of the Atlantic iſland has given occaſion to many different opinions. The reality of Plato's Atlantis has had many advocates. Buffon (Nat. Hiſt. by Smellie, vol. i. p. 507.), after citing the paſſage relating to it from Plato's Timæus, adds; "this ancient tradition is not devoid of probability. The lands ſwallowed up by the waters, were, perhaps, thoſe which united Ireland to the Azores, and the Azores to the continent of America, for in Ireland there are the ſame foſſils, the ſame ſhells, and the ſame ſea-bodies, as appear in America, and ſome of them are found in no other part of Europe."

M. Bailly, in his "Lettres ſur l'Atlantide de Platon, &c." publiſhed at Paris, in 1779, 8vo., maintains the exiſtence of the Atlantides, and their iſland Atlantis, by the authorities of Homer, Sanchoniathon, and Diodorus Siculus, in addition to that of Plato. In proof of the opinion that Plato's account of the Atlantic iſland is not a fiction of his own deviſing, a late writer (ſee Taylor's tranſlation of the Cratylus, Phædo, Parmenides, and Timæus of Plato, 1793) alleges the following relation of one Marcellus who wrote an hiſtory of Ethiopian affairs, according to Proclus in Tim. p. 55. "That ſuch and ſo great an iſland once exiſted is evinced by thoſe who have compoſed hiſtories of things relative to the external ſea; for they relate that in their times there were ſeven iſlands in the Atlantic ſea ſacred to Proſerpine; and beſides theſe, three others of an immenſe magnitude, one of which was ſacred to Pluto, another to Ammon, and another, which is the middle of theſe, and is of a thouſand ſtadia, to Neptune. And beſides this, that the inhabitants of this laſt iſland preſerved the memory of the prodigious magnitude of the Atlantic iſland as related by their anceſtors, and of its governing for many periods all the iſlands in the Atlantic ſea: and ſuch is the relation of Marcellus in his Ethiopic hiſtory."

The learned Rudbeck, profeſſor in the univerſity of Upſal, in an expreſs treatiſe, intitled, "Atlantica, ſive Manheim," maintains, very ſtrenuouſly, that Plato's Atlantis is Sweden and Norway; and attributes to his country whatever the ancients have ſaid of their Atlantis or Atlantic iſland.

M. Bailly (ubi ſupra, letter 24.), after citing many ancient teſtimonies which concur in placing this famous iſle in the north, quotes that of Plutarch, who confirms theſe teſtimonies by a circumſtantial deſcription of the iſle of Ogygia, or the Atlantis, which he repreſents as ſituated in the north of Europe, and as having near it three iſlands more, in one of which the inhabitants of the country ſay, that Saturn is kept priſoner by Jupiter. Theſe four iſlands may, as M. Bailly conjectures, be Iceland, Greenland, Spitzberg, and Nova Zembla, or ſome others nearer the Pole. He controverts the opinion of Rudbeck as not conformable with the account of Plato, who repreſents the Atlantis as an iſland, which Sweden is not. Adhering ſtill to his ſyſtem, M. Bailly, perſuaded by a variety of plauſible circumſtances, which he has ingeniouſly combined, places that famous iſland among thoſe of the Frozen ocean. In this he is ſtrongly ſeconded by Plutarch, who tells us that the Atlantis is in a region where "the ſun during a whole ſummer month is ſcarcely an hour below the horizon, and where that ſhort night had its darkneſs diminiſhed by a twilight." This, it may be ſaid, is a palpable indication of a northern climate; but how is this ſituation reconcileable with the fertility of the ſoil, the mildneſs of the air, particularly the ſtrait called the columns of Hercules, which Plutarch and Plato mention among the circumſtances pertaining to the abode

abode of the Atlantis? how is it alſo poſſible to conceive aſtronomy cultivated in a frozen and cloudy region, where the obſervations of the heavenly bodies muſt have been inconvenient and impracticable? The firſt difficulties, ſays our fanciful author, cannot be removed without ſuppoſing a change of air and climate in thoſe regions by the gradual cooling of the earth, and its progreſſive motion towards univerſal congelation. Such is the "fairy tale" of this learned and ingenious author. Sir W. Jones, the learned preſident of the Aſiatic Society, in his elaborate account of the Peninſulas (Aſiatic Reſearches, vol. i. p. 415), ſuggeſted that one may conſider "Iran" as the nobleſt iſland, or to the Greeks and Arabs would have called it, or at leaſt as the nobleſt peninſula in this habitable globe; and he adds, "if M. Bailly had fixed on it as the Atlantis of Plato, he might have ſupported his opinion with far ſtronger arguments than any that he has adduced in favour of Nova Zembla. If the account indeed, of the Atlantes," ſays this writer, "be not ſurely an Egyptian or an Utopian fable, I ſhould be more inclined to place them in Iran than in any region with which I am acquainted."

Others will have America to be the Atlantis; and hence infer that the new world was not unknown to the ancients: but what Plato ſays, does by no means ſupport this ſuppoſition. America ſhould rather ſeem to be the vaſt continent beyond the Atlantis, and the other iſlands mentioned by Plato.

Kircher, in his Mundus Subterraneus; and Beckman, in his Hiſtory of Iſlands, chap. v. advance the moſt probable opinion, if the reality of this iſland be admitted.—The Atlantis, according to them, was a large iſland which extended from the Canaries to the Azores; and theſe iſlands are the remains thereof not ſwallowed up by the ſea.

ATLANTIS, *New*, is the name of a fictitious, philoſophical commonwealth, of which a deſcription has been given by lord Bacon.

The New Atlantis is ſuppoſed to be an iſland in the South-ſea, to which the author was driven in a voyage from Peru to Japan. The compoſition is an ingenious fable, formed after the manner of the Utopia of Sir Thomas More, or Campanella's City of the Sun. Its chief deſign is to exhibit a model or deſcription of a college, inſtituted for the interpretation of nature, and the production of great and marvellous works, for the benefit of men, under the name of Solomon's houſe, or the college of the ſix days work. Thus much, at leaſt, is finiſhed; and with great beauty and magnificence. The author alſo propoſes a frame of laws, or of the beſt ſtate or mould of a commonwealth: but this part is not executed. Bac. Works, tom. iii. p. 235.

ATLAS, in *Biography* and *Mythology*, an ancient king of Mauritania, the ſon of Uranus and brother of Prometheus, who is ſaid to have lived about the time of Moſes, or about 1582 years B. C. He is repreſented as having been an excellent aſtronomer, as an obſerver of the ſtars, and as the inventor of the ſphere. The poets have exhibited him as bearing the heavens on his ſhoulders, and thus he is ſeen in the famous ſtatue at the Farneſe palace in Rome; and one of them repreſents him as groaning under the burden, on account of the multitude of gods whom ſuperſtition had placed in this elevated manſion. He was metamorphoſed into a mountain for his inhoſpitality to Perſeus. His daughters, it is ſaid, were transformed into ſtars, in complement to his aſtronomical talents and obſervations; ſeven of them forming the Pleiades, and the other ſeven the Hyades.

ATLAS, in *Geography*, a celebrated mountain or rather chain of mountains, in Africa, which is ſo high, that it ſeems to bear the heavens. Hence the fable, in which Atlas, the king of this country, is ſaid to bear the heavens on his ſhoulders.

The ancients, however, aſcribed to this mountain a magnitude and elevation to which it has no claim; and can no where ſtand in competition with the Alps or the Apennines. They ſeem to have conſidered it as one high mountain, not as a ridge. Thus Pliny (l. v. c. 1.), deſcribes it as a detached mountain, riſing from the ſands to a great height on the ſhores of the ocean to which it gave its name; and yet, in the ſame chapter, he repreſents it as a range paſſed by Suetonius Paulinus on his progreſs to the Niger. Strabo (l. xvii.) mentions its being called Dyris, (ſee ADIRIS) by the ancients, and as being beyond the pillars of Hercules, on turning to the left or ſouth. Dr. Shaw (Trav. p. 5.) repreſents it as a remarkable chain of eminences, which ſometimes borders upon the Sahara, and ſometimes lies within the Tell. He adds, "that if we conceive, in an eaſy aſcent, a number of hills, uſually of the perpendicular height of 4, 5, or 600 yards, with a ſucceſſion of ſeveral groves, and ranges of fruit and foreſt-trees, growing one behind another, upon them; and if to this proſpect we ſometimes add a rocky precipice of ſuperior eminence, and more difficult acceſs, and place upon the ſide, or ſummit of it, a mud-walled Daſhkrah of the Kabyles, we ſhall then have a juſt and lively picture of mount Atlas, without giving the leaſt credit to the nocturnal flames, the melodious ſounds, or laſcivious revels of ſuch imaginary beings, as Pliny, Solinus, and others, have in a peculiar manner attributed to it." According to ſome modern accounts, this ridge divides the kingdom of Algiers from Zaab and Biledulgerid, or its direction is ſouth-weſt and north-eaſt; and therefore it may be conſidered as extending from cape Geer in a north-eaſt direction, and giving ſource to many rivers flowing north and ſouth, till it terminates in the kingdom of Tunis. This main ridge in ſome places may preſent a double chain, and in others diverge its branches. Its ſtructure towards the weſtern extremity is granite and primitive. M. Lempriere, in his journey to Morocco, ſeems to have clearly aſcertained the range of Atlas. The town of Santa Cruz ſtands near its furtheſt extremity; while Tarudant, to which he paſſes through an open plain, lies on the ſouth of the Atlas. Hence it appears, that Cape Geer is its termination, or the great Atlas of Ptolemy, while the ſmaller Atlas is a branch extending towards Saffi or Cape Cantin; and another branch, now called the Leſſer Atlas, reaches to Tangier. According to Chenier (Preſent State of Morocco, vol. i. p. 13.), Mount Atlas is the eaſtern boundary of all the weſtern provinces of Morocco. He repreſents it as formed by an endleſs chain of lofty eminences, divided into different countries, inhabited by a multitude of tribes, whoſe ferocity permits no ſtranger to approach. He profeſſes to be unable to deſcribe theſe mountains accurately; but adds, that nothing would be more intereſting to the curioſity of the philoſopher, or conduce more to the improvement of our knowledge in Natural Hiſtory, than a journey over mount Atlas. The climate, though extremely cold in winter, is very healthy and pleaſant, the vallies are well cultivated, abound in fruits, and are diverſified with foreſts and plentiful ſprings, the ſtreams of which, uniting at a little diſtance, form great rivers, and loſe themſelves in the ocean. According to the reports of the Moors, there are many quarries of marble, granite, and other valuable [illegible], and [illegible] ble, there are alſo mines, but [illegible]

of theſe riches: they conſider their liberty, which their ſituation enables them to defend, as the moſt ineſtimable of all treaſures.

As the province of Morocco lies to the weſt of mount Atlas, part of the ancient Numidia, called the kingdom of Tafilet, ſituate in a ſandy plain, lies to the eaſt: and from Morocco to this province there is no way but by croſſing one of the extremities of the Atlas, either by the ſide of the province of Sus, or by that of Fez; the latter road, being leſs ſultry than the other, is moſt frequented.

Atlas, in *Anatomy*, the name of the firſt vertebra of the neck, which ſupports the head. See Vertebra, and Skeleton.

Atlas, in *Commerce*, a ſilk ſattin manufactured in the Eaſt Indies. It muſt be owned that the manufacture of theſe ſilks is wonderful, eſpecially of the flowered atlaſſes; in which the gold and ſilk are wrought together in ſuch a manner, as no workman in Europe can imitate: yet they are far from having that fine gloſs and luſtre, which the French know how to give their ſilks.

In the Chineſe manufactures of this ſort, they gild paper on one ſide with gold leaf, then cut it into long ſlips, and weave it into their ſilks; which makes them with very little coſt look very rich and fine. The ſame long ſlips are twiſted or turned about ſilk threads ſo artificially, as to look finer than gold thread, though it be of no great value.

Atlas, in *Entomology*, a ſpecies of Phalæna, belonging to the *Bombyx* tribe. The wings are falcated or hooked, yellow-brown and varied; a tranſparent ſpot in the middle of each wing, with a ſmaller one next that on the anterior pair. Linn. Fabr. &c.

"Phalæna Atlas is the largeſt inſect of the moth tribe hitherto diſcovered, and is indeed a gigantic creature. The ſpecies is common in China, but is not peculiar to that country, being found in other parts of Aſia, and in America. The influence of climate may be eaſily traced in the varieties from different countries; that from Surinam is the largeſt, and of the deepeſt colours. The Chineſe kind is the next in ſize; the colours incline to orange, and the anterior wings are more falcated or hooked at the ends; there are two other Aſiatic varieties known, that are ſtill ſmaller, and have the wings extremely falcated.

"The larva of Phalæna Atlas is figured by M. Merian in her Inſecta Surinamenſia, Plate 52.; it is about four inches in length, green, with a yellow ſtripe diſpoſed longitudinally. Upon each ſegmeent are four diſtinct round tubercles, of a coral-like orange colour, which are ſurrounded with very delicate hairs. The pupa is large, and is incloſed in a web of an ochraceous colour. The ſilk of this web is of a ſtrong texture, and it has been imagined, if woven, would be ſuperior in durability to that of the common ſilk-worm. Seba has alſo repreſented the larva, (f. i. pl. 57. vol. iv.), in his Theſaurus Naturæ. It is figured by him nearly ſix inches in length, and bulky in proportion; the Phalæna or Moth is alſo larger than that figured by Merian, which is a ſmall ſpecimen of the Surinam kind. According to Merian, there are three broods of this inſect in a year; they are very common, and feed on the orange trees. Linnæus ſays, that they adhere ſo tenaciouſly to the leaves, that they can ſcarcely be taken off. An opinion has been long prevalent, that the web of this inſect might eaſily be manufactured into a very durable ſilk; and it certainly admits of doubt whether the Chineſe do not actually rear the moth for this purpoſe. Silk is an important article in China, and other Eaſtern countries, where the uſe of linen is little known; the Jeſuit miſſionaries mention ſeveral ſorts in uſe among the Chineſe, ſome of which is admired for its beauty, and others for durability; theſe kinds are probably the produce of different inſects, and Phalæna Atlas may be of that number. Leſſer and Lyonet, in their "Theologie des Inſectes," ſay, that at this day there are to be found in China, in the province of Canton, ſilk worms in a wild ſtate, which, without any care being taken of them, make in the woods a kind of ſilk, which the inhabitants afterwards gather from the trees; it is grey, without luſtre, and is uſed to make a very thick and ſtrong cloth, named there Kien Tcheon; and by ſome European naturaliſts, it is imagined to be the product of this very ſpecies." Vide Donov. Inſ. China (Atlas). We ſhall again reſume this ſubject under the articles Phalæna, Silk-worms, &c. in treating of thoſe analogous creatures which produce a ſilk of ſuch ſtrength or beauty as to be uſeful, or promiſe to become ſo, in the concerns of man: a ſubject this that highly merits conſideration; and which we ſhall endeavour to elucidate as copiouſly and accurately, as the magnitude and importance of the articles demand.

Atlas, a ſpecies of Scarabæus, found in South America. The thorax is armed with three horns, the middle one of which is very ſhort; horn on the head recurved. Linn. and Fabr. Ent. Syſt.

Atlas *Amboinenſis* (*Papilio f.*), a name given by ſome Entomological writers to the Linnæan Papilio Priamus. Muſ. petrop. 644, &c.

Atlas is alſo a title given to books of univerſal geography, containing maps of the known parts of the world; as if they were viewed from the top of that celebrated mountain, which the ancients eſteemed the higheſt in the world; or rather on account of their holding the whole world like Atlas. The ſame name is given to maps of the ſtars.

ATLENBURG, or Attelneurgh, in *Geography*, a town of Germany, in the circle of Lower Saxony, and duchy of Lauenburg, on the Elbe; four miles weſt of Lauenburg.

ATLITA, in *Entomology*, a ſpecies of Papilio found in the Eaſt Indies. This butterfly is indented, brown, gloſſed with blue; beneath fulvous, with undulated glaucous ſtreaks, and five blind-eye ſhaped ſpots. Fabricius and Donov. Inſ. India. Gmelin has overlooked this ſpecies in his Syſt. Nat.

ATLITES, a name under which the ſpecies of Papilio Laomedia, was at firſt deſcribed in Amoen. Acad. 6. p. 407. 72.

ATMOSPHERE, formed of ἀτμος, *vapour*, and σφαῖρα, *a ſphere*, an appendage of our earth; conſiſting of a thin, fluid, elaſtic ſubſtance, called *air*, which ſurrounds the terraqueous globe to a conſiderable height, gravitates towards its centre, on its ſurface, is carried along with it round the ſun, and partakes of all its motions both annual and diurnal.

By atmoſphere is underſtood the whole maſs, or aſſemblage of ambient air: though among ſome of the more accurate writers, the atmoſphere is reſtrained to that part of the air next the earth, which receives vapours and exhalations, and refracts the rays of light.

The farther or higher ſpaces, though perhaps not wholly deſtitute of air, are ſuppoſed to be poſſeſſed by a finer ſubſtitute called *ether*, and are hence called *etherial regions*.

For the nature, conſtitution, properties, and different ſtates and uſes of the atmoſphere, ſee Air, the ſequel of this article, Eudiometer, and Eudiometry; where this ſubject will be treated of at large as its importance requires.

A late eminent author conſiders the atmoſphere as a large chemical

chemical veſſel, wherein the matter of all the kinds of ſublunary bodies is copiouſly floating; and thus expoſed to the continual action of that immenſe furnace the ſun; whence proceed innumerable operations, ſublimations, ſeparations, compoſitions, digeſtions, fermentations, putrefactions, &c.

We have a large apparatus of inſtruments, contrived for indicating and meaſuring the ſtate and alterations of the atmoſphere; as ANEMOMETERS, BAROMETERS, EUDIOMETERS, HYGROMETERS, MANOMETERS, THERMOMETERS, &c.

ATMOSPHERE, *Electricity of the.* Beſide thoſe large quantities of the electric matter, with which the clouds are charged in a thunder-ſtorm, it has been obſerved, firſt by M. Monnier in 1752, and afterwards repeatedly and with peculiar attention by others, particularly by the abbé Mazeas in 1753, and Mr. Kinnerſley, that the atmoſphere is never wholly deſtitute of the electrical fluid. A perſon electrified negatively may ſatisfy himſelf of this, by extending his arm in the open air, and preſenting a long ſharp needle with its point upwards; for the electric matter collected from the remoter air will appear luminous, as it converges to the point of the needle. Mr. Canton's balls are likewiſe an excellent contrivance for the ſame purpoſe, and may be made uſe of, not only for determining the electricity of the atmoſphere in general, but the poſitive or negative quality of it. According to this ingenious philſopher, deſiccated atmoſpheric air, when heated, becomes negatively electric; and when cooled, the electricity is of the poſitive kind, even when the air is not permitted to expand or contract; and the expanſion or contraction of atmoſpheric air occaſions changes in its electrical ſtate. But no electrician, in the earlier ſtage of this ſcience, conducted his obſervations in this way with greater accuracy and farther purſued them, than S. Beccaria. (See "Beccaria's Eſſay on Atmoſpheric Electricity, annexed to the Engliſh tranſlation of his Artificial Electrity," p. 421, &c.) From him we learn, that the atmoſphere diſcovers no ſigns of electricity in windy and clear weather, nor in moiſt weather without rain, nor when the ſky is covered with diſtinct and black clouds with a ſlow motion; but he always obſerved a moderate, though interrupted electricity, for the moſt part of the poſitive kind, in a clear ſky, when the weather was calm; and in rainy weather without lightning, a little before the rain fell, and during the continuance of it, till the rain was almoſt over. The electricity of the atmoſphere, according to Beccaria, was always poſitive, during the day and in dry weather, but always negative, when a bright or ſerene atmoſphere ſucceeded dark and moiſt weather. The quantity of atmoſpherical electricity was found to increaſe after the riſing of the ſun, and during his progreſs; and its augmentation was the more conſiderable, as the moiſture of the air was diminiſhed; but it decreaſed in the evening. In days equally dry, the degree of electricity at noon was proportional to the degree of heat; and in a ſerene atmoſphere, with little wind, a conſiderable quantity of the electrical matter commonly aroſe after ſun-ſet, during the precipitation of dew. Thick fogs were obſerved, during their aſcent into dry air, to carry with them a conſiderable quantity of the electric matter. And the electricity was ſtronger, as his rods were higher, and the ſtrings, which were extended and inſulated in the open air, were longer.

Mr. Cavallo (Complete Treatiſe on Electricity, vol. ii. p. 42. ed. 4.) deduces the following concluſions from his experiments and obſervations on this ſubject; viz. that there is in the atmoſphere at all times a quantity of electric matter:—that the electricity of the atmoſphere, and of fogs, is always poſitive:—that, in general, the ſtrongeſt electricity is obſervable in thick fogs, and alſo in froſty weather: and the weakeſt, when it is cloudy and warm, and rain approaches:—that it does not ſeem to be leſs by night than in the day:—and that the electricity is ſtronger in places more elevated than in thoſe that are lower; and therefore, according to this rule, if it may be extended to any diſtance from the earth, the electricity in the higher regions of the atmoſphere muſt be exceedingly ſtrong. Mr. Read, in his "Summary View of the Spontaneous Electricity of the Earth and Atmoſphere," obſerves, that the electricity of the atmoſphere in moderate weather, was always found to be poſitive; in ſtorms and diſturbed ſtates of the air, frequently negative; and ſuddenly and repeatedly changing from one ſtate to the other. Warm ſmall rain was found to be very ſlightly electric; large drops, ſtrongly; hail ſhowers, the moſt intenſely of all. In an eaſterly wind of long continuance, and reckoned unhealthful, the electricity was ſo faint, as to require the niceſt of all known teſts for diſcovering its exiſtence. The vapour of water, as ſoon as it had attained the height of five or ſix inches of inſulation in the air, was found to be permanently and poſitively electrified; and the ſurface from which it evaporated, negatively. Vapour has a greater capacity for electricity, or abſorbs and requires more of this fluid, than water in its denſe ſtate; and therefore rarefaction muſt diminiſh, and condenſation increaſe, the ſenſible electric charge of the vapour. Hence, in ſerene weather, the atmoſphere is ſubject to a regular flux and reflux, or increaſe and diminution of electricity, twice in every twenty-four hours, depending on the action of the ſun, and the conſequent evaporation and ſtate of the vapours. This diligent obſerver and judicious reaſoner further obſerves, that a limited portion of the earth's ſurface is often ſenſibly electrified; over it, there is always a proportionate quantity of the contrary electricity in the atmoſphere; and when an electrified cloud is carried forward by wind, an equal and oppoſite electric charge keeps pace with it on the earth, till the two charges, becoming more augmented, or approaching nearer to one another, or meeting with ſome conducting eminence, ruſh together, and produce an exploſion.

The ſubject of atmoſpherical electricity has engaged the particular attention of M. Sauſſure; and few perſons have had more favourable opportunities for obſerving the phenomena that attend it, or poſſeſſed a more extenſive acquaintance with meteorology in general, for enabling him to illuſtrate theſe phenomena by appoſite obſervations, than this author. He confirms the fact noticed by others, and previouſly known, that aerial electricity varies according to the ſituation, being generally ſtrongeſt in elevated and inſulated ſituations, and not obſervable under trees, in ſtreets, houſes, or incloſed places. But it is not ſo much the height, as the ſituation of the places, which determines the degree of electricity: for the projecting angle of a high hill will often exhibit a ſtronger electricity than the plain at the top of the hill, as there are fewer points in the former to deprive the air of its electricity. The intenſity of the atmoſpherical electricity is ſubject to a great variety of changes, of which ſome depend on obvious circumſtances and others are altogether inexplicable. Theſe changes, according to M. Sauſſure, were ſometimes ſo rapid in their ſucceſſion, that he had not time to note them down. When rain falls without a ſtorm, theſe changes are not ſo frequent; but with reſpect to the intenſity of the electric force, they are very irregular; whilſt the quality of it is more conſtant. Rain or ſnow almoſt always gives poſitive electricity. In cloudy weather, without rains or ſtorms, the electricity generally follows the ſame laws as in ſerene weather. Its

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intenſity is generally diminiſhed by ſtrong winds, which blend the different ſtrata of the atmoſphere, cauſe them to ſubſide towards the ground, and thus diſtribute the electricity uniformly between the earth and the air. M. Sauſſure has obſerved a ſtrong electricity, with a ſtrong north wind. In foggy weather, the electricity is the ſtrongeſt, unleſs the fog is about to be diſſolved into rain. The various modifications of electricity in the atmoſphere are obſerved with the greateſt advantage in ſerene weather. M. Sauſſure found, in winter and in ſuch weather, that the electricity was generally weakeſt in the evening, when the dew had fallen, and ſo continued till ſun-riſe; afterwards its intenſity augmented by degrees, ſometimes ſooner and ſometimes later; but uſually before noon it attained a certain maximum, from which it again declined till the fall of the dew, when it would be ſometimes ſtronger than it had been during the whole day; after which it would again gradually decreaſe during the whole night; but it was never quite deſtroyed in weather perfectly ſerene. Hence it may be inferred, that atmoſpherical electricity, like the water of the ocean, is ſubject to a flux and reflux, which produce an increaſe and diminution twice in twenty-four hours. The moments of its greateſt force are ſome hours after the riſing and ſetting of the ſun; and thoſe in which it is weakeſt precede its riſing and ſetting. Of this periodical flux, M. Sauſſure has given a remarkable inſtance, deduced from his obſervations in an extraordinary degree of cold, and at an elevation of ſixty feet above the level of the lake of Geneva. From the reſult of eighteen of theſe obſervations, made during three ſucceſſive days, when the ſky was quite ſerene, we learn, that the electricity was pretty ſtrong at nine in the morning; that from this time it gradually decreaſed till about ſix in the evening, which was its firſt minimum; after which it increaſed again till eight, its ſecond maximum; it then gradually declined till ſix in the morning, which was the period of its ſecond minimum; after which, it again increaſed till ten in the morning, which was the firſt maximum of the following day: but as this day was cloudy, its periods were leſs regular. The electricity of ſerene weather is leſs eaſily obſerved in ſummer than in winter. In ſummer, if the ground has been dry for ſome days, and the air is alſo dry, the electricity increaſes from the riſing of the ſun, till three or four in the afternoon, when it is ſtrongeſt: it then decreaſes till the dew begins to fall, when it again increaſes; but after this it declines and is almoſt reduced to nothing during the night. However, the ſerene days that ſucceed rainy weather in ſummer generally exhibit the ſame diurnal periods or ſtates of electricity, with thoſe that are obſervable in winter. The electricity of the air is invariably poſitive in ſerene weather, both in winter and ſummer, in the day and in the night, in the ſun and in the dew. Hence it ſhould ſeem, that the electricity of the air is eſſentially poſitive; and that whenever it appears to be negative, as in particular rains or ſtorms, this ſtate is produced by ſome clouds which have been expoſed to the preſſure of the electric fluid contained in the upper part of the atmoſphere, or to more elevated clouds that have diſcharged a part of their fluid upon the earth, or upon other clouds. M. Sauſſure, having collected theſe and ſimilar phenomena, as the reſult of numerous and repeated obſervations, inſtituted a ſet of experiments on evaporation, in order to inveſtigate and aſcertain their cauſe. Theſe our limits will not allow us to detail; but the general reſult was, that evaporation, which ſeems to be the vehicle that conveys electric matter into the atmoſphere, from china and ſilver always produced negative electricity; and from iron and copper, generally poſitive electricity: and hence it may be inferred, that electricity is poſitive with thoſe bodies that are capable of decompoſing water, or of being decompoſed themſelves by their contact with the water; and negative, with all thoſe which are not at all decompoſed or altered. As to the producing cauſes or ſources of atmoſpherical electricity, we may obſerve in general, that they may be reduced to four, viz. friction, evaporation, heat and cold, and condenſation and expanſion: and with reſpect to the changes and modifications to which the atmoſpherical electricity is continually ſubject, they may be attributed to the operation of the various cauſes that produce it, and to the chemical proceſſes that are conſtantly carried on by means of the various ingredients that compoſe the atmoſphere. M. Volta (Phil. Tranſ. vol. lxxii. p. 32.), in reference to this ſubject obſerves, that as the vapours on their condenſing loſe part of their latent heat, on account of their capacity being diminiſhed they part with ſome electric fluid. Hence (he ſays) originates the poſitive electricity which is always more or leſs predominant in the atmoſphere, when the ſky is clear, viz. at that height where the vapours begin to be condenſed. Accordingly the atmoſpherical electricity is ſtronger in fogs, in which caſe the vapours are more condenſed, ſo as to be almoſt reduced to drops, and is ſtill ſtronger when thick fogs become clouds. In accounting for clouds, negatively electrified, he ſuppoſes that when a cloud, poſitively electrified, has been once formed, its ſphere of action is extended a great way round, ſo that if another cloud comes within that ſphere, its electric fluid, according to the well known laws of electric atmoſpheres, muſt retire to the parts of it which are moſt remote from the firſt cloud: and from thence the electric fluid may be communicated to other clouds, or vapours, or terreſtrial prominences: thus, a cloud may be electrified negatively, which cloud may, after the ſame manner, occaſion a poſitive electricity in another cloud, &c. This explains not only the negative electricity, which is often obtained from the atmoſphere in cloudy weather; and the frequent changes from poſitive to negative electricity, and contrarywiſe, in ſtormy weather; but alſo the waving motion obſerved in the clouds, and the hanging down of them, ſo as nearly to touch the earth. For an account of the inſtruments that are uſed for diſcovering and eſtimating the electricity of the atmoſphere, ſee COLLECTOR, CONDENSER, CONDUCTORS, and ELECTROMETER: and for further obſervations on this ſubject, ſee alſo ELECTRICITY, EVAPORATION, LIGHTNING, RAIN, VAPOUR, &c.

ATMOSPHERE, *Figure of the.* The atmoſphere envelopes all parts of the ſurface of our globe; if therefore both the one and the other continued at reſt, and were not endowed with a diurnal motion round their axis, then the atmoſphere would be exactly ſpherical, according to all the laws of gravity; for all the points of the ſurface of a fluid in a ſtate of reſt, muſt be equally removed from its center. But the earth and the ambient atmoſphere are inveſted with a diurnal motion, which carries both the one and the other round their axis: and the different parts of both having a centrifugal force, the tendency of which is more conſiderable, and that of the centripetal leſs, as the parts are more remote from the axis; the figure of the atmoſphere muſt become an oblate ſpheroid, becauſe the parts that correſpond to the equator are farther removed from the axis, than the parts which correſpond to the poles.

Beſides, the figure of the atmoſphere muſt repreſent ſuch a ſpheroid, becauſe the ſun ſtrikes more directly on the air which encompaſſes the equator, and is comprehended between the two tropics, than on that which pertains to the polar regions. Whence it follows, that the maſs of air, or part of the atmoſphere, adjoining to the poles, being leſs heated, cannot expand ſo much, nor reach ſo high. Nevertheleſs,

theleſs, as the ſame force which contributes to elevate the air, diminiſhes the preſſure on the ſurface of the earth, higher columns of it at or near the equator, all other circumſtances being the ſame, may not be heavier than thoſe that are lower at or near the poles.

Mr. Kirwan (Iriſh Tranſ. for 1788. p. 61.), ſtating the height of the mercury in the barometer on the level of the ſea, indicating the natural ſtate of the atmoſphere, to be thirty inches under the equator and under the poles, obſerves, that in order to produce this ſtate, the weight of the atmoſphere muſt be every where equal at the ſurface of the ſea; and as the weight of the atmoſphere proceeds from its denſity and height, this equality of weight requires that the atmoſphere ſhould be higheſt where its denſity is leaſt, and higheſt where its denſity is leaſt. Theſe extremes of denſity take place in the equatorial and polar regions. Under the equator, the centrifugal force, the diſtance from the centre of the earth, and the heat are at their maximum; in the vicinity of the poles, on the contrary, they are at their minimum. From this reaſoning it follows, that the atmoſphere muſt be higheſt under the equator, and loweſt under the poles, with ſeveral intermediate gradations. Kirwan ſuppoſes the rarefaction of the atmoſphere in the polar regions to proceed from the vapours and exhalations, which he takes to be a combuſtion of inflammable air, cauſed by electricity; and as this air is lighter than any other, it conſequently occupies the higheſt regions of the atmoſphere. See Aurora, and Electricity.

Atmospheric, *Weight of the*. The weight of the atmoſphere, depending partly upon its height, and partly upon its denſity, and its conſequent preſſure, are properties that have been diſcovered by means of the aſcent of mercury in the barometer, and of water in pumps, ſyphons, and other machines. See Air, *Weight of*. The quantity of the preſſure may be eaſily eſtimated by comparing the weight of a column of atmoſphere with that of a correſponding column of quickſilver, or of water, by which it is counterbalanced. Upon theſe principles it has been found, that the preſſure of the atmoſphere ſuſtains a column of quickſilver, in the tube of the barometer, of the height of about thirty inches; and hence it follows, that the whole preſſure of the atmoſphere is equal to the weight of a column of quickſilver, having an equal baſe, and about thirty inches in height. But as a cubical inch of quickſilver weighs about 8 oz. 1.45 drams, avoirdupoiſe, the weight of 30 cubical inches will be 15 pounds nearly. Such, therefore, is the weight of the atmoſphere on every ſquare inch of ſurface. It has been alſo found, by pumps and other hydraulical engines, that the preſſure of the atmoſphere ſuſtains a column of water from 34 to 35 feet, ſay 34½ feet, high; and as a cubical inch of water weighs 9.25 drams, and a cubical foot 1728×9.25 drams, nearly 1000 ounces avoirdupoiſe, or 62½ pounds, the amount of the preſſure of the atmoſphere on a ſquare foot will be 34½ times 62½, or 2156¼ pounds; and a ſquare foot, containing 144 ſquare inches, $\frac{2156.25}{144}$, or nearly 15 pounds, will be its preſſure on a ſquare inch. Hence it follows, that if a man's body contain 15 ſquare feet, which is near the truth, he will ſuſtain a weight equal to $2156\frac{1}{4} \times 15 = 32343\frac{3}{4}$ pounds avoirdupoiſe, when the quickſilver in the barometer ſtands at 30 inches.

This preſſure is ſo great, that it would be abſolutely inſupportable, and even fatal to us, if it were not equal in every part, and counterbalanced by the ſpring of ſome other elaſtic fluid within us, which is diffuſed through the whole body, and reacts with an equal force againſt the outward preſſure. The nature of this internal elaſtic fluid is not clearly underſtood, nor, indeed, is its exiſtence poſitively aſcertained. But whatever it be, it balances the weight of the atmoſphere. However, if any one be preſſed by ſuperincumbent portion of air, as e.g. by deſcending into deep water, it is always felt in a greater or leſs degree (ſee Diving), more eſpecially when the change is ſudden; and, on the other hand, if the preſſure of the atmoſphere be taken off [illegible], as from the hand placed over the exhauſted receiver of an air-pump, the weight of the ſuperincumbent atmoſphere is felt, and the [illegible] of the blood ſometimes forces it out [illegible]. We [illegible] our bodies rareſies the air contiguous to their ſurfaces, and therefore a living animal does not ſuſtain an equal atmoſpherical preſſure with that of inanimate and cold ſubſtances. Moreover, as the earth's ſurface contains, in round numbers, 200 [illegible] ſquare miles, and every [illegible] 27,878,400 ſquare feet, the ſurface [illegible] 5,575,680,000,000 ſquare feet on the earth's [illegible], which, multiplied by 2156¼ pounds, will give 12 [illegible] pounds for the preſſure or weight of the whole atmoſphere.

Mr. Cotes (Hydroſtatical and Pneumatical Lect. p. 112.) mentions the reſult of a computation which he made of the weight of all the air, which preſſes upon the whole ſurface of the earth; and he obſerves, that it is equal to the preſſure of a globe of lead, nearly 60 miles in diameter. The computation proceeds upon theſe principles; that the weight of a column of air, reaching to the top of the atmoſphere, is nearly equal to a column of water, having the ſame baſis, and the altitude of 34 feet; that the ſemidiameter of the earth is equal to 21,000,000 feet; and that the ſpecific gravity of water is to that of lead as 1000 to 11,325.

The difference of the weight of the atmoſphere, and of its conſequent preſſure, at different times, and in different ſituations, is a circumſtance that deſerves our particular notice. This difference in the ſame ſituation ariſes from changes in the ſtate of the atmoſphere; and it chiefly occurs in places at ſome diſtance from the equator. It is indicated, and of courſe eaſily eſtimated, by the different height to which the mercury is raiſed in the barometer. As the greateſt variation of the height of the mercury occupies a range of about 3 inches, or from 28 to 31 inches, being $\frac{1}{10}$th of the whole range, a column of air of any aſſignable baſe, equal to the weight of a cylinder of mercury of the ſame baſe, and of the altitude of 3 inches, will be taken off from the preſſure upon a body of an equal baſe, at ſuch times as the mercury is three inches lower in the barometer: and therefore every ſquare inch of the ſurface of our bodies is preſſed upon at one time more than another, by a weight of air equal to that of three cubical inches of mercury. As this is about $\frac{1}{10}$th of the whole quantity, the difference of the preſſure, which the human body ſuſtains at one time more than another, amounts to about 1½ ton. The reaſon why we are not ſenſible of this preſſure is explained in the following manner by Borellus, de Mot. nat. a grav. fac. prop. 29, &c. After ſaying that ſand, perfectly rammed in a hard veſſel, is not capable, by any means, of being penetrated or parted, not even by a wedge; and likewiſe that water, contained in a bladder compreſſed equally on all ſides, cannot yield or give way in any part: he proceeds; "In like manner, within the [illegible] of an animal is contained a diverſity of parts, ſome hard, as bones; others ſoft, as muſcles, nerves, membranes, &c.; others fluid, as blood, fat, &c. Now it is not poſſible the bones ſhould be broke or diſplaced in the body, unleſs the weight lay heavier on one part than on another, as we

ſometimes ſee in porters. If the preſſure be ſubdivided, ſo that it lie equally all around, upwards, downwards, and ſideways, and no part of the ſkin be exempt therefrom, it is impoſſible any fracture or luxation ſhould follow. The ſame may be obſerved of the muſcles and nerves; which though ſoft, yet being compoſed of ſolid fibres, do naturally ſuſtain each other, and reſiſt the common weight. The ſame holds of blood and other humours; and as water does not admit any manner of condenſation, ſo the animal humours contained in their veſſels may ſuffer an attempt from an impulſe made in one or more particular places, but cannot be forced out of their veſſels by an univerſal compreſſion. It follows, that as none of the parts undergo either ſeparation, luxation, contuſion, or any other change of diſpoſition; it is impoſſible any ſenſe of pain ſhould enſue, which can only be the effect of a ſolution of continuity. This is confirmed by what we ſee in divers," &c. See Diving.

The ſame is farther confirmed by Mr. Boyle, who, including a young frog in a veſſel half full of water, and intruding ſo much air that the water might ſuſtain eight times the weight it otherwiſe would; yet the animalcule, notwithſtanding the great tenderneſs of its ſkin, did not ſeem at all affected thereby.

Beſides, it ought to be conſidered that the preſſure of the atmoſphere is uniform and equal on all parts of the body; and that we have been accuſtomed to it by long experience. It ſhould alſo be recollected, that when the ordinary weight of the atmoſphere is augmented, the weather is commonly dry and ſerene; the circulation is promoted; the blood is driven to the internal parts; a more abundant ſecretion of the juices takes place; and the tonic tenſion of the ſolid parts is increaſed; and theſe circumſtances combined produce an additional flow of ſpirits, and render us more lively and active. The ſame beneficial effect is obſervable even in brute animals. On the contrary, when the weight of the air is diminiſhed, the weather is uſually moiſt and foggy, and the animal frame becomes ſenſible of oppreſſion, liſtleſſneſs, and inactivity. Theſe changes in the ſtate of the atmoſphere, which are felt more or leſs by perſons of all deſcriptions, and of which valetudinarians frequently complain, would be more ſenſibly experienced, if they occurred by very ſudden tranſitions: for to this circumſtance the ſenſation of uneaſineſs and indiſpoſition is chiefly to be attributed; and accordingly great and ſudden changes in the ſtate of the barometer and atmoſphere, are generally accompanied with a correſponding alteration in the corporeal frame and animal ſpirits. But when a change of this kind occurs gradually, and when the ſame ſtate of the atmoſphere continues for ſome time, its effect is leſs ſenſibly perceived; as the body poſſeſſes a power of accommodating itſelf to ſuch change. The ſpring of that elaſtic fluid, to which we have already referred, ſerves as a counterpoiſe to the preſſure of the atmoſphere, and when this is diminiſhed it becomes more relaxed, ſo that the equilibrium between the one and the other is maintained. Hence it happens, that in moiſt foggy weather, when the preſſure of the atmoſphere is leaſt conſiderable, our veins never ſwell, nor are we ſenſible of any internal expanſion of our bodies; but, on the contrary, the veſſels are more diſtended, the circulation becomes more languid, and we ſeem to be oppreſſed with a weight. Upon the whole, we may obſerve, that the preſſure of the atmoſphere reſembles a kind of bandage, which being drawn tighter, as in the caſe of increaſed preſſure, conſtringes the veſſels of the body, and accelerates the circulation; and which being more relaxed, as in the diminiſhed preſſure, occaſions a diſtenſion of the veſſels, and is attended by a more ſlow and languid circulation. But this is a ſubject, in the elucidation of which phyſiologiſts are not agreed. As variations of the atmoſpheric preſſure in the ſame place produce effects that are ſenſibly felt, particularly by perſons of delicate and tender conſtitution, whatever explication may be given of theſe effects, and to whatever intermediate cauſes they may be aſcribed; the changes of preſſure are alſo perceived in different ſituations, as they are more elevated or depreſſed. Indeed if the aſcent from lower to higher ſtations, and vice verſâ, be gradual, the body adapts itſelf to the changes that attend them, and they are ſcarcely, if at all, perceivable; but in the caſe of a more rapid aſcent or deſcent, or when the difference of height is very conſiderable, the effects are more ſenſible and apparent. Many facts and obſervations to this purpoſe have been furniſhed by thoſe who have aſcended in balloons, or deſcended in diving-bells. (See Aerostation, and Diving.) The accounts given by perſons who have aſcended conſiderable eminences above the level of the ſea, have been very various; nor is it certain that the effects they have perceived have been owing wholly or merely to the variation of the atmoſpheric preſſure. Some have complained of a total laſſitude, which they have aſcribed to the dilatation of the corporeal veſſels, of obſtructions to the functions of the reſpiratory organs, of violent reachings and vomitings of blood, and, in ſome caſes, of the extruſion of blood through the fine coats of the lungs, and an enſuing hæmoptyſis. M. Sauſſure, in his aſcent to the top of mount Blanc, felt great uneaſineſs, as he advanced upwards. He informs us, that his reſpiration was much oppreſſed, the circulation of blood accelerated, and the pulſe quickened, that he was ſeized with other ſymptoms of a fever; and that his ſtrength was alſo very much exhauſted. Theſe ſymptoms of oppreſſion and debility, however, did not begin to appear till he had aſcended to the perpendicular height of $2\frac{1}{2}$ miles above the level of the ſea; and upon an additional aſcent of $\frac{1}{4}$ of a mile, he found the ſymptoms above recited. To ſome other concurring cauſe, beſides the rarity of the atmoſphere, it is natural to aſcribe ſome of theſe ſymptoms; and, indeed, he himſelf ſays, that the atmoſphere at the top of the mountain was much impregnated with carbonic acid, which is known to be pernicious to animals, and to be productive of ſome of the above-mentioned effects. In other caſes, perſons in elevated ſituations have experienced no effects like thoſe which M. Sauſſure has related, and which the mechanical theory of diminiſhed preſſure would lead us to expect. Mr. Brydone and M. Howel mention no inconvenience of this kind to which they were ſubject on the top of mount Ætna; nor do the French mathematicians, who were for ſome time on the ſummit of a very high eminence of the Andes, make any other complaint beſides that of the difficulty of reſpiration. (See Andes.) But Dr. Heberden, who aſcended to the top of Teneriffe, a mountain higher than Ætna, makes no mention even of this circumſtance. It has alſo been alleged, that no inconvenience has been experienced by a gradual deſcent in the diving-bell to conſiderable depths in the ſea, as long as the perſons who have deſcended have remained in the air in the bell; though they have found a very material difference on expoſing themſelves to the preſſure of the water. See Diving.

It is not eaſy to aſſign the true cauſe of the variations of the atmoſpheric weight and preſſure that occur in the ſame ſituation. In places within the tropics, where theſe variations are not very conſiderable, the chief cauſe ſeems to be the heat of the ſun; and its effects are regular and uniform, as the mercury in the barometer ſubſides about half an inch in the day, and riſes again to its former height in the night. But in the temperate zones the range is much greater, ex-

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tending from 28 to 31 inches, and ſhewing, by its various altitudes, correſponding variations in the weather. The cauſes that influence the variations of the one, produce alſo a ſimilar effect on the other; and if the former were known, the latter might be aſcertained. The immediate cauſes may probably be reduced to the two following; viz. an emiſſion of latent heat from the vapours of the atmoſphere, or of electric fluid from theſe or from the earth. Both theſe cauſes are obſerved to produce the ſame effect with the ſolar heat in the tropical climates, which is that of rarefying the air by blending with it, or ſetting looſe a lighter fluid, which did not previouſly act with ſuch power in any particular place. For a more particular account of different theories on this ſubject ſee Barometer, Hail, Meteorology, Rain, Snow, Weather, and Wind. Of the importance and utility of this property of the atmoſphere, many inſtances occur in the animal economy, chemical proceſſes, and mechanical operations. See Cupping, Reſpiration, Colour, Combustion, Vapour, Pump, and Syphon.

With the gravity and preſſure of the air are nearly connected its other properties of *denſity* and *elaſticity*. The denſity of the atmoſphere muſt principally depend on its gravity; and, in general, increaſe and decreaſe in the ſame proportion. In the lower and intermediate ſtrata of the atmoſpherical air, this ratio obtains; but it is not uniform and conſtant in all elevations. In the higher regions of the atmoſphere, where the electric fluid abounds, this fluid may diminiſh the gravity of the atmoſphere, without affecting its denſity. Beſides, the denſity of the atmoſphere in the torrid zone will not decreaſe ſo faſt in proportion to the height of the column, as in the temperate and frigid zones; becauſe the column is longer, and becauſe a greater portion of atmoſpheric air occupies the higher parts of this column. Conſequently the denſity of the atmoſphere at the equator, which is leſs at the ſurface of the earth, muſt at a certain height equal, and at a greater height exceed, the denſity of the atmoſphere in the temperate zones and at the poles. As a current of atmoſpheric air is continually aſcending at the equator, and part of it occupies the higher regions of the atmoſphere, and as its fluidity will prevent its accumulation at the equator, it will of courſe deſcend towards the poles: and during our winter, a greater portion of the equatorial column will flow to the northern than to the ſouthern hemiſphere; but a leſs portion will purſue this courſe during the ſummer. The mercurial column, therefore, will be always higheſt with us in winter, and the correſponding range of the barometer more conſiderable than in ſummer; and vice verſâ. The denſity of the atmoſphere will be materially affected by the caloric or matter of heat which it contains, and of courſe it will depend in great meaſure on the degree of cold which prevails. Where the cold is greateſt, the denſity of the atmoſphere will alſo be greateſt, and its height will be diminiſhed. In thoſe countries which abound with high mountains that are generally covered with ſnow, the cold will be more intenſe than in others leſs elevated, though ſituate in the ſame latitude; and of courſe the height of the atmoſpheric columns will be proportionally lower. Hence the ſuperior air in its paſſage to the poles will be retarded, and accumulate over them. Such accumulations will take place over the north-weſtern parts of Aſia, and over North America; and on this account the barometer uſually ſtands higher, and its range is more uniform than in Europe. Similar accumulations are alſo formed in the ſouthern parts of the old continent; for inſtance, over the mountainous tracts of Thibet, Tartary, Turkey in Europe, Africa, and even in ſome degree on the Pyrenées and Alps. When theſe accumulations have for any time prevailed, the denſity of the atmoſphere becomes too conſiderable to be balanced by the ſurrounding matter; and of courſe it will deſcend towards the regions of the atmoſphere that lie over the adjacent countries, and produce cold winds, that will raiſe the mercury in the barometer. Thus the north-eaſt winds in Europe are occaſionally accompanied by a riſe of the barometer, becauſe they proceed from accumulations of the atmoſphere in the north-weſt parts of Aſia, or about the pole; and hence it is, that the north-weſt wind from the mountains of Thibet, raiſes the barometer at Calcutta.

As the mean heat of our hemiſphere is not permanent, the denſity of the atmoſphere, and conſequently the quantity of equatorial air, which flows towards the poles, muſt be ſubject to correſponding variations. The accumulations of atmoſpheric air on the mountainous parts of the ſouth of Europe and Aſia, occaſionally exceed their uſual limits, which is partly owing to earlier falls of ſnow, or to the excluſion of the ſolar rays by fogs of long continuance. In this caſe the atmoſphere in the polar regions will ſuſtain a correſponding diminution of denſity. In the torrid zone and equatorial regions the heat is uniform; and the denſity of the atmoſphere, modified by it, as well as the height of the atmoſphere, will not be ſubject to much variation. Kirwan, Iriſh Tranſ. for 1788, p. 60. See Density. See alſo Barometer, under which article the cauſe of the variations in the weight and preſſure of the atmoſphere is particularly diſcuſſed. For the effects of the removal of the preſſure of the atmoſphere, ſee Air *Pump*, and Vacuum. For the elaſticity of the atmoſphere, ſee Air, and Elasticity *of the Air*.

Atmosphere, *Height of the*. The height of the atmoſphere has been a ſubject of particular inveſtigation; more eſpecially ſince it was diſcovered by the Torricellian tube, that air is endued with weight and preſſure. And, indeed, if the air poſſeſſed no elaſtic power, but were every where of the ſame denſity, from the ſurface of the earth to the extreme limit of the atmoſphere, like water, which is equally denſe at all depths, the whole height of the atmoſphere might be aſcertained without difficulty. It has already been obſerved, that the weight of a column of air, reaching to the top of the atmoſphere, is equal to the weight of the mercury contained in the barometer, and counterbalancing it; and the proportion of weight likewiſe being known between equal bulks of air and mercury; it will be eaſy to find the height of ſuch a column, and conſequently that of the atmoſphere itſelf.—For a column of air, one inch high, being to an equal column of mercury as 1 to 11364.6; it is evident that 11364.6 ſuch columns of air, that is, a column 947 feet high, would be equal in weight to one inch of mercury: and conſequently the 30 inches of mercury ſuſtained in the barometer, require a column of [illegible] feet long, whence the height of the atmoſphere would only be 28410 feet, or little more than five Engliſh miles and a quarter high.

But the air, by its elaſtic property, expands and contracts; and it being found by repeated experiments in England, France, and Italy, that the ſpaces it takes up, when compreſſed by different weights, are reciprocally proportional to thoſe weights themſelves; or, that the air takes up the leſs ſpace, the more it is preſſed; it follows, that the air in the upper regions of the atmoſphere, where its weight is ſo much leſs, muſt be much rarer than near the ſurface of the earth; and, conſequently, that the height of the atmoſphere muſt be much greater than is above aſſigned.

Mr. Cotes, in his Hydroſtatical Lectures, Lect. ix. has

demonſtrated, in a very familiar and intelligible manner, that if any number of diſtances from the ſurface of the earth be taken in an arithmetical progreſſion, the denſities of the air at theſe diſtances will be in a geometrical progreſſion. Let [illegible] Plate IX. *Pneumatics*, fig. 72.) repreſent a veſſel containing the ſurface of the earth as to the top of the atmoſphere; and let the ſide *ax* be divided into inches *ab*, *bc*, *cd*, &c. and let the lines *bl*, *cl*, *dm*, &c. be drawn parallel to *ax*. It is evident that the air contained between the lines *bl* and *ak* becomes rarer as we aſcend, becauſe every ſucceeding portion of it reſpectively is preſſed by a leſs column of ſuperincumbent air than the next below it. Suppoſe then that the air *ak* is every where uniform, but denſer than the air *bl* and ſuperior. Let the air *bl* be reduced into a leſs ſpace *bq*, ſo as to become of equal denſity with the air *ak*, by retaining the ſpace *bq* leſs than *bl*, in the proportion that the air *bl* is leſs denſe than the air *ak*. And let a ſimilar compreſſion be continued, ſo as to reduce every inch breadth of air to the ſame denſity with the air *ak*. The ſpaces *ak*, *bq*, *cr*, &c. will evidently be as the denſities of the ſeveral inches of air, *ak*, *bl*, *cm*, &c. and the quantity or weight of the ſuperincumbent air belonging to each of theſe ſpaces, and reaching to the top of the atmoſphere, will always be as the ſum of all the ſpaces ſituated above any ſpace propoſed; the quantity or weight being, by the conſtruction of the figure, as the ſpace which it poſſeſſes. Since then the denſity of the air is as the force which compreſſes it, and this force is the quantity of ſuperincumbent air, the denſities of the air between *ax* and *bk*, *bk* and *cl*, *cl* and *dm*, &c. are to each other as the quantities of air above *ax*, *bk*, *cl*, &c. up to the extremity of the atmoſphere. But theſe denſities, by what we have already ſhewn, are as the ſpaces *ak*, *bq*, *cr*, &c. and the quantities of ſuperincumbent air are as the ſpaces *xlβqrstvx*, *xγrstvx*, *xδsvx*, &c.; therefore the ſpaces *ak*, *bq*, *cr*, &c. are to each other reſpectively as the ſpaces *xlβqrstvx*, *xγrstvx*, *xδsvx*, &c. Now the former ſpaces *ak*, *bq*, *cr*, being the differences of the latter, and mutually proportional, are, by a well known theorem in proportion, in a geometrical progreſſion; as the diſtances *ab*, *ac*, *ad*, are in an arithmetical progreſſion. And thus the denſities of the air belonging to every one of the inches, continued to the extremity of the atmoſphere, decreaſe in the ſame geometrical progreſſion; and every the leaſt variation of altitude will cauſe the ſame proportionable variation of denſity in the air. As the rarity of the air is reciprocally as its denſity, we may conclude that if the diſtances from the earth increaſe in an arithmetical progreſſion, the different degrees of rarity of the air increaſe in a geometrical progreſſion. Whence it is obvious, ſince an arithmetical ſeries adapted to a geometrical one, is analogous to the logarithms of the ſaid geometrical one, that the diſtances are every where proportional to the logarithms of the correſponding rarities. It is alſo plain, that, as the diſtances or altitudes are proportional to the logarithms of the denſities or weights of the air, any height taken from the earth's ſurface, which is the difference of two altitudes to the top of the atmoſphere, is proportional to the difference of the logarithms of the two denſities there, or to the logarithm of the ratio of thoſe denſities, and their correſponding compreſſing forces, as meaſured by the two heights of the barometer there.

This law was firſt obſerved and demonſtrated by Dr. Halley, from the nature of the hyperbola; and afterwards by Dr. Gregory, by means of the logarithmic line. See Phil. Tranſ. N° 181. or Abr. ibid. vol. ii. p. 13. and Greg. Aſtron. lib. v. prop. 3. See the further illuſtration and proof of it under the article *Atmoſpherical* Logarithmic.

From this propoſition, having made two or three barometrical obſervations of the rarity or denſity of the air at two or three different known heights, it is eaſy to deduce a general rule for determining its rarity or denſity at any other height, or the height correſponding to any rarity or denſity; and conſequently the altitude of the whole atmoſphere, ſuppoſing the utmoſt degree of rarity known, beyond which the air cannot go.

But it is to be obſerved, that theſe computations of the rarity of the atmoſphere, at different heights, are founded on this principle, that the denſity of the air is every where proportionable to the ſuperincumbent weight. And this rule holds true only upon the ſuppoſition that the heat is uniform at different diſtances from the earth; for if the air be hotter in one part than in another, the air will be more rarefied in the hotter part than it will be in the cooler, although preſſed by the ſame weight, or at the ſame altitude above the earth's ſurface.

It muſt not be here omitted, that ſome obſervations made by Caſſini, and his aſſociates, ſeem to render this method precarious.—In continuing the meridian line of the obſervatory at Paris, they meaſured the altitudes of ſeveral mountains with great accuracy; noting the height of the barometer at the top of each; and found, that the rarefactions of the air, as you aſcend from the level of the earth, are much greater than they ought to be, according to this proportion.

Suſpecting therefore the juſtneſs of the experiments, the Royal Academy made divers others, under great dilatations of air, far exceeding the rarities found on the tops of the mountains; the reſult whereof was, that they all exactly anſwered the proportion of the incumbent weights. Whence it ſhould follow, that the higher air about the tops of mountains is of a different nature, and obſerves a different law from that near the earth.

This may be owing to the great quantity of groſs vapours and exhalations here, more than there; which vapours being leſs elaſtic, and not capable of ſo much rarefaction as the pure air above, the rarefactions of the pure air increaſe in a greater ratio than the weights diminiſh. M. Fontenelle, however, from ſome experiments made by M. de la Hire, accounts for the phænomenon in a different manner; alleging, that the elaſtic power of air is increaſed by the admixture of humidity therewith; and conſequently that the air near the tops of mountains, being moiſter than that below, becomes thereby more elaſtic, and rarefies in a greater ratio than naturally and in a drier ſtate it would.—But Dr. Jurin ſhews, that the experiments produced to ſupport this ſyſtem are by no means concluſive. Append. ad Varenii Geograph.

M. Bouguer likewiſe, in the Memoirs of the Royal Academy of Sciences at Paris for the year 1753, intimated his opinion, that the condenſations of the atmoſphere did not obſerve the ſame law at different heights: and endeavoured to account for the variation, by ſuppoſing that particles of air at different heights are poſſeſſed of unequal degrees of elaſticity. If this were the caſe it would be impoſſible to apply the barometer to the menſuration of heights with any degree of certainty. But M. de Luc has ſhewn, by his more accurate experiments, that this pretended inequality of ſpring in the particles of air does not ſubſiſt; and that its condenſations and dilatations follow the ſame law uniformly at all heights and in all climates, excepting only the differences that are cauſed by heat, and other local circumſtances. Admitting therefore the principle above ſtated, as applicable to all altitudes within our reach, or as far as the ſummits of the higheſt mountains on earth, when a correction is made merely for the difference of heat or temperature,

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ture, he determined the altitudes of hills both by the barometer and also by geometrical measurement; and shewing how to allow for the difference of temperature, he has given a rule for the measurement of heights by the barometer, deduced from a greater number of experiments, and much more accurate than any before published. See his "Recherches sur la Modification de l'Atmosphere," vol. ii. Similar rules have also been deduced from accurate experiments by sir George Shuckburg and general Roy, both concurring [illegible] for the altitudes and densities [illegible] to those are nearly true, when the elasticity of the air is corrected on account of its density; and the result [illegible] that the difference of the altitudes of places, as given by the mercury in the barometer [illegible] is equal to the altitude in English fathoms of the one place above the other; that is, when the temperature of the air is about 31 or 32 degrees of Fahrenheit's thermometer; and a certain quantity more or less, according as the actual temperature is different from that degree. See the principles and application of these rules, detailed more at large, under the article Barometer. But it may be here shewn, that the same rule may be deduced deductively of a train of experiments, merely by means of the density of the air at the surface of the earth. Thus, let D denote the density of the air at one place, and d the density at the other; both measured by the column of mercury in the barometer: then the difference of altitude between the two places will be proportional to the log. of D — the log. of d, or to the log. of $\frac{D}{d}$. But as this formula expresses only the relation between different altitudes, with respect to their densities, recourse must be had to some experiment in order to obtain the real altitude which corresponds to any given density, or the density which corresponds to a given altitude. The first and most natural is that which results from the known specific gravity of air, with respect to the whole pressure of the atmosphere on the surface of the earth. Now, as the altitude a is always as the log. of $\frac{D}{d}$, assume b, so that a may be $= b \times$ log. $\frac{D}{d}$, where b will be of one constant value for all altitudes: and to determine that value, suppose a case in which we know the altitude a corresponding to a known density d; as e. g. take $a = 1$ foot or 1 inch, or some such small altitude; and because the density D may be measured by the pressure of the whole atmosphere, or the uniform column of 27,600 feet, when the temperature is 55°, 27,600 feet will therefore denote the density D at the lower place, and 27,599 the less density d at one foot above it; consequently, we have this equation, viz. $1 = b \times$ log. of $\frac{27600}{27599}$, which by the nature of logarithms is nearly $= b \times \frac{.4342945}{27600} = \frac{b}{63551}$ nearly; and hence $b = 63551$ feet, which gives this formula for any altitude in general; viz. $a = 63551 \times$ log. $\frac{D}{d}$, or $a = 63551 \times$ log. $\frac{M}{m}$ feet, or dividing by 6, the number of feet in a fathom, $10{,}592 \times$ log. $\frac{M}{m}$ fathoms, where M denotes the column of mercury which is equal to the pressure of the atmosphere at the bottom, and m that at the top of the altitude a; and where M and m may be taken in any measure, either feet or inches, &c. This formula is [illegible] part, which must be added when the medium exceeds 55°, [illegible] the 9600th part of the whole volume. This formula may [illegible] portionably from 55°: thus, as the difference 592 is the [illegible] part of the whole 10592, and [illegible] part of 435: therefore to [illegible] the change of the [illegible] 31, which reduces the 55° to 31°. Consequently, the [illegible] $a = 10600 \times$ log. of $\frac{M}{m}$ fathoms, when the temperature is 31°, or nearly the freezing point; and for every degree above that, the result would be increased by [illegible] 435th part, and proportionably diminished below it.

This formula may be computed under the following practical precepts: 1. Observe the height of the barometer at the bottom of any height or depth proposed to be measured, together with the temperature of the mercury by means of the thermometer attached to the barometer, and also the temperature of the air in the shade by another thermometer which is detached from the barometer. 2. Let the same thing be done also at the top of the said height or depth, and as nearly as possible at the same time; reduce these altitudes of the mercury to the same temperature, if it be thought necessary, by correcting either the one or the other, viz. augmenting the height of the mercury in the colder temperature, or diminishing that in the warmer, by its 9600th part for every degree of difference between the two; and the altitudes of the mercury so corrected are these denoted by M and m in the above formula. 3. Take out the common logarithms of the two heights of mercury so corrected, and subtract the less from the greater, cutting off from the right hand side of the remainder three places for decimals, and then those on the left hand will be fathoms in whole numbers, the tables of logarithms being supposed to comprehend seven places of decimals. 4. Correct the number last found for the difference of the temperature of the air, in the following manner; viz. take half the sum of the two temperatures of the air, shewn by the detached thermometers, for the mean one; and for every degree by which this differs from the standard temperature of 31°, take so many times the 435th part of the fathoms above found, and add them if the mean temperature be more than 31°, but subtract them if it be below 31°, and the sum or difference will be the true altitude in fathoms, or being multiplied by 6, it will give the true altitude in English feet.

Example I. To find the altitude, when the state of the barometers and thermometers is as follows, viz.

Thermometers detached	Thermometers attached	Barometers
57	57	29.68 lower
42	43	25.28 upper
Mean 49½	Dif. 14	

A 3

As 9600 : 14 :: 29.68 : .04
Cor. .04

Mean 49½
Stand. 31

Diff. 18½

logs.
M = 29.64 . . 4718482
m = 25.23 . . 4027771

As 435 : 18½ :: 691.011 : 29.388
29.388

The altitude fought is { 720.399 fathoms or 4322.394 feet.

Example II. To find the altitude of a hill, when the ſtate of the barometer and thermometer, obſerved at the bottom and top of it, is as follows: viz.

Thermometers detached	Thermometers attached	Barometers
35	41	29.45
31	38	26.82
Mean 33	Diff. 3	

As 9600 : 3 :: 29.45 : .01
.01

Mean 33
Stand. 31

Diff. 2

logs.
M = 29.44 . . . 4689378
m = 26.82 . . . 4284588

As 435 : 2 :: 404.790 : 1.86
1.86

The altitude fought is { 406.65 fathoms, or 2439.90 feet.

M. De Luc found that the height of the atmoſphere, ſuppoſing its limits where the mercury would ſtand only at one line, and the thermometer indicating 0 in his ſcale, 17° in that of Reaumur, and about 70° in Fahrenheit's, is 25105.45 toiſes, or 11 leagues and 3 toiſes; and in the ſame circumſtances, if the mercury in the barometer ſunk to $\frac{1}{10}$ of a line, the height of that part of the atmoſphere would be 35105.45 toiſes.

Upon the principles above ſtated, the following table is calculated; ſuppoſing firſt as a mean of the obſervations at the Puy de Domme in France, and thoſe on Snowdon-hill in Wales, that at the altitude of ſeven miles, the air is four times rarer than at the ſurface of the earth.

At the altitude of	miles above the ſurface of the earth, the air is	times rarer than at the earth's ſurface.
7	- - - - -	4
14	- - - -	16
21	- - - -	64
28	- - - -	256
35	- - -	1024
42	- - -	4096
49	- - -	16384
56	- - -	65536
63	- -	262144
70	- -	1048576
77	- -	4194304
84	- -	16777216
91	- -	67108864
98	- -	268435456
105	-	1073741824
112	-	4294967296
119	-	17179869184
126	-	68719476736
133	-	274877906944
140	-	1099511627776

It might eaſily be ſhewn by purſuing the calculation in this table, that a cubic inch of the air we breathe would be ſo much rarefied at the altitude of 500 miles, that it would fill a ſphere equal in diameter to the orbit of Saturn.

Hence it appears that the atmoſphere, however indefinitely it may be expanded, becomes at a comparatively ſmall diſtance, ſo rare and light, as to be utterly imperceptible in its effects as a reſiſting medium: and if the atmoſpheres of the planets reſemble that of the earth, they muſt be ſo attenuated at the diſtances of the planets from one another, as to give no ſenſible reſiſtance to their motions round the ſun for many ages.

M. de la Hire, after Kepler, recurred to the more ancient method of aſcertaining the height of the atmoſphere, viz. from the conſideration of the crepuſcula. It appears, from the obſervations of aſtronomers, of the duration of twilight, and of the magnitude of the terreſtrial ſhadow in lunar eclipſes, that the effect of the atmoſphere to reflect and intercept the light of the ſun, is ſenſible to the altitude of between 40 and 50 miles. So far then we may be certain that the atmoſphere reaches; and at that altitude we may collect, from what has been already ſaid, that the air is above 10,000 times rarer than at the ſurface of the earth. How much farther the atmoſphere may extend, we are altogether ignorant. Cotes's Hydroſt. Lect. p. 123. and 125.

It is allowed by aſtronomers, that when the centre of the ſun is 18°, or allowing for the refraction 17° 27′, below the horizon, the twilight begins or ends: now the ray which we ſee can be no other than a horizontal line, or a tangent to the earth in the place where the obſerver is; but this ray cannot come directly from the ſun, which is under the horizon; and muſt therefore be a ray reflected to us by the laſt inner and concave ſurface of the atmoſphere. We are to ſuppoſe that the ſun when 17° 27′ below the horizon, emits a ray which is a tangent to the earth, and ſtrikes upon this laſt ſurface of the atmoſphere, and is thence reflected to our eye, being ſtill a tangent, and horizontal. If there were no atmoſphere, there would be no crepuſculum; and conſequently, if the atmoſphere were not ſo high as it is, the crepuſculum would begin and end when the ſun is at a leſs diſtance from the horizon than 17° 27′, and contrarily.—Hence we infer, that the extent of the arc by which the ſun is depreſſed when the crepuſculum begins or ends, determines the height of the atmoſphere. We are to note, however, that 33′ muſt be ſubtracted from the arc of 18° for the refraction which raiſes the ſun ſo much higher than he would be; and 16′ more for the height of the upper limb of the ſun, which is ſuppoſed to ſend the ray above his centre, ſo that the arc which determines the height of the atmoſphere is only 17° 11′. Two rays, one direct and the other reflected, but both tangents to the earth, muſt neceſſarily meet in the atmoſphere at the point of reflection, and comprehend an arc between them of 17° 11′, of which they are tangents.—Hence it follows, from the nature of the circle, that a line drawn from the centre of the earth, and cutting the arc in two, will go to the point of concurrence of thoſe two rays; and as it is eaſy to find the exceſs of this line above the ſemi-diameter of the earth, which is known, it is eaſy to find the height of the atmoſphere, which is only that exceſs. See CREPUSCULUM.

On this principle, M. de la Hire diſcovered the height of the atmoſphere to be 37223 fathoms, or near 17 French leagues. The ſame method was alſo made uſe of by Kepler, who only rejected it, becauſe it gave the height of the atmoſphere twenty times greater than he others ſe allowed

lowed it. It muſt be added, that in this calculation, the direct and reflected rays are ſuppoſed to be right lines; whereas in fact they are curves, formed by the perpetual refraction which the rays undergo in paſſing through a ſeries of different denſities of air. Computing then upon them, as two ſimilar curves, or rather as a ſingle curve, one extreme whereof is a tangent to the earth; its vertex, equally diſtant from both the extremes, determines the height of the atmoſphere; which therefore will be found ſomewhat lower than in the former caſe; the point of concurrence of two right lines, which are here only tangents to the curve, the one at one end, and the other at the other, being higher than the vertex of the curve. In this way, M. de la Hire finds the atmoſphere 36362 fathoms, or 16 leagues. Hiſt. de l'Acad. Roy. de Scien. an. 1713. p. 71.

The nature of the curve, which is deſcribed by a ray of light in paſſing through the atmoſphere, has been the ſubject of aſſiduous inveſtigation. M. De la Hire took great pains to demoſtrate, that, ſuppoſing the denſity of the atmoſphere proportional to its weight, this curve is a cycloid: and he ſays, that if the ray be a tangent to the atmoſphere, the diameter of its generating circle will be the height of the atmoſphere; and that this diameter increaſes, till at laſt, when the rays are perpendicular, it becomes infinite, or the circle degenerates into a right line. This reaſoning ſuppoſes that the ſurface of the atmoſphere is a plane; but ſince it is a curve, he obſerves that theſe cycloids become in fact epicycloids. Hermannus, in his "Phoronomia," has detected the error of M. De la Hire, and ſhewn that this curve is infinitely extended, and has an aſymptote: and Dr. Brook Taylor obſerves, "Method. Increm." p. 168. that it is one of the moſt intricate and perplexed that can well be propoſed. This ingenious author computes the refractive power of the air, to be to the force of gravity at the ſurface of the earth, as 320,000.000 to 1.

The extreme rarity of the atmoſphere at conſiderable altitudes, ſuch as thoſe of forty or fifty miles, bounding the production of twilight, has perplexed philoſophers in accounting for meteors, which, whatever be their origin, whether electrical or otherwiſe, are obſerved at a much greater elevation than that to which the refractive power of the atmoſpherical air extends. A very remarkable one of this kind was obſerved by Dr. Halley in the month of March 1719; the altitude of which he computed to have been between 69 and 75½ Engliſh miles; its diameter being 2800 yards or more than a mile and a half, and its velocity about 350 miles in a minute. Others of a ſimilar kind, but of a greater altitude and velocity, have been obſerved by others; and particularly one ſeen in Auguſt 1783, whoſe height above the earth could not be leſs than ninety miles, and its diameter was not leſs than the former, whilſt its velocity was certainly not leſs than 1000 miles in a minute. From analogy and reaſoning it is very probable, that ſuch meteors are not eſſentially different from thoſe that are ſeen near the ſurface of the earth. Nevertheleſs in the high regions where they are obſerved, the atmoſphere, according to our computation, ought not to have denſity ſufficient to ſupport flame and to propagate ſound; and yet ſuch meteors are commonly ſucceeded by one or more exploſions, and are accompanied, as it has been reported, with a hiſſing noiſe as they paſs over our heads. The meteor of 1719 was not only very bright, ſo that for ſome time it changed the night into day, but was attended with an exploſion that was heard over all the iſland of Britain, occaſioning a violent concuſſion of the atmoſphere and ſeeming to ſhake the earth itſelf. And yet, in the regions in which this meteor moved, the air ought to have been 300 thouſand times rarer than the air we breathe, or 1000 times rarer than the vacuum commonly made by a good air-pump. Dr. Halley conjectures, that the immenſe magnitude of ſuch bodies may compenſate for the rarity of the medium in which they move. Allowing them to be electrical phenomena, difficulties occur in explaining ſeveral circumſtances attending them; and particularly the ſplendor of their appearance, which requires a circumambient fluid capable of confining and condenſing the electric matter of which they are compoſed. From late experiments, it has been inferred, that the electric fluid cannot pervade a perfect vacuum. See Meteor.

Atmoſphere, Action and Reflection of the. That the atmoſphere has a refractive power, which is the cauſe of many phenomena, is unqueſtionable. This power is aſcertained by the production of twilight above noticed, and by many other facts and experiments. Alhazen the Arabian, who lived about A. D. 1100, ſeems to have been more inquiſitive into the nature of refraction than the preceding writers. But neither Alhazen, nor his follower Vitellio, knew any thing of its juſt quantity, which was not known to any tolerable degree of exactneſs, till Tycho Brahe, with incredible diligence, ſettled it. But neither Tycho, nor Kepler, diſcovered in what manner the rays of light were refracted by the atmoſphere. Tycho thought the refraction was chiefly cauſed by denſe vapours, very near the earth's ſurface. Kepler placed the cauſe wholly in the higher regions of the atmoſphere, which he took to be uniformly denſe; and thence he determined its altitude to be little more than that of the higheſt mountains. But the true conſtitution of the atmoſphere, deduced afterwards from the Torricellian experiment, afforded a juſter idea of theſe refractions, eſpecially after it appeared by a repetition of Mr. Lowthorp's experiment, that the air's refractive power is proportionable to its denſity. By this variation of the air's denſity, a ray of light, in paſſing through the atmoſphere, is continually refracted at every point, and thereby deſcribes a curve, and not a ſtraight line, as it would have done were there no atmoſphere, or were its denſity uniform. See Refraction.

The atmoſphere, or air, has alſo a reflective power; and this power is the cauſe that enlightens objects ſo uniformly on all ſides. The abſence of this power would occaſion a ſtrange alteration in the appearance of things; their ſhadows would be ſo very dark, and their ſides enlightened by the ſun ſo very bright, that probably we could ſee no more of them than their bright halves; ſo that, for a view of the other halves, we muſt turn them half round, or, if immoveable, muſt wait till the ſun could come round upon them. Such a pellucid unreflective atmoſphere would indeed have been very commodious for aſtronomical obſervations upon the courſe of the ſun and planets among the fixed ſtars, viſible by day as well as by night; but then ſuch a ſudden tranſition from darkneſs to light, and from light to darkneſs immediately, upon the riſing and ſetting of the ſun, without any twilight, and even upon turning from or to the ſun at noon day, would have been very inconvenient and offenſive to our eyes.

However, though the atmoſphere is greatly aſſiſtant to the illumination of objects, yet it muſt alſo be obſerved that it ſtops a great deal of light. By M. Bouguer's experiments, it ſeems that the light of the moon is frequently 2000 times weaker in the horizon, than at the altitude of 66 degrees; and that the proportion of her light at the altitudes of 66 and 19 degrees, is about 3 to 2. The lights of the ſun muſt bear the ſame proportion to each other at thoſe heights, which M. Bouguer made uſe of.

as being the meridian heights of the ſun, at the ſummer and winter ſolſtices, in the latitude of Creſſe in France. Smith's Optics. Rem. 95. See Light, and Reflection.

Atmoſphere, Solidity of the. See Fudiometry.

Atmoſphere, Temperature of the. The variable temperature of the atmoſphere, at different ſeaſons and in different latitudes, has been the ſubject of accurate investigation; and many ſyſtematic and curious have been propoſed in order to account for the changes which it undergoes. That the preſence or the want of the principal ſource of heat as well as of cold, is too obvious to have been overlooked; and the effect produced by the great extent and quantity of the ocean has long and univerſally been acknowledged. It is true, however, that the ancient philoſophers of Greece and Rome had held the opinion, that the torrid zone, under a vertical ſun and a cloudleſs ſky, was uninhabitable. These ſolitudes, however, are peopled and regularly viſited by the ſcientific and curious. The hotteſt days are frequently felt in the coldeſt climates, and the greateſt cold, as well as perpetual ſnow, are found in equatorial regions, or even immediately under the equator. In the ſame latitudes, different temperatures have been obſerved, not only in different ſeaſons of the year, but in the ſame hour of the day. The temperature of the northern coaſt of North America differs widely from that of the weſtern oppoſite coaſt of Europe, but agrees nearly with that of the eaſtern coaſt of Aſia lying between the ſame parallels. Mem. Philad. vol. i. Theſe, and ſimilar circumſtances, have made it neceſſary for meteorologiſts to recur to other cauſes of varying temperature, beſides the immediate agency or abſence of the ſolar rays. Dr. Halley has, indeed, proved, that, abſtracting from the intervention of fogs, miſts, and mountains of ice, the hotteſt weather, might in ſummer, take place even under the poles, the duration of the ſun's light more than compenſating for the obliquity of its direction (ſee Heat); but as many phyſical cauſes obſtruct the activity of the ſolar rays in theſe and other regions, it was ſtill neceſſary to recur to ſome other cauſe. At length M. De Mairan (Mem. Acad. Par. 1719 and 1767) diſcovered, that the rigour of the cold of winter is tempered by the heat imparted to the atmoſphere by the earth itſelf; which heat, probably poſſeſſed from its origin, is preſerved and renewed by the inceſſant influences of the ſun, to which one half of its ſurface is conſtantly expoſed. Admitting this fact, the temperature of the atmoſphere muſt depend on the capacity of the earth for receiving and retaining heat, and for communicating it to the ſurrounding medium. But as the earth is compoſed of land and water, it ſhould be conſidered that the capacities of theſe conſtituent parts for receiving both heat and cold are very different. Land, particularly when dry, receives heat from the ſun's rays very readily, but tranſmits it through its own ſubſtance to great depths very ſlowly; and on the other hand, water, by reaſon of its tranſparency, receives heat very ſlowly, but diffuſes what it receives more readily. Dr. Hales found, that in the month of Auguſt 1724, when the air, and the ſurface of the earth, were both at 88°, a thermometer, placed only two inches under the ſurface, ſtood at 85°; another 16 inches under the ſurface indicated 70°, and a third 24 inches deep, ſtood at 68°. The two laſt thermometers preſerved the ſame temperature both day and night, till the end of the month, and then fell to 63° or 61°; the earth obſtinately retaining its heat, at that depth, though the temperature of the air frequently varied. On the 26th of October, a thermometer, expoſed to the air, ſtood at 35.5°; but one ſunk two inches in the earth was heated to 43.85°; another at the depth of 16 inches ſtood at 48.8°; and another 24 inches deep, ſhewed 50°; and from the 1ſt to the 12th of November, when the temperature of the external air was 27°, a thermometer placed at the depth of 24 inches ſtood at 43.8°; but from the month of March to that of September in the following year, the external air was conſtantly warmer than the earth at the depth of 16 inches or 2 feet: the ſeaſon, however, was very rainy, and the evaporation, thus occaſioned, prevented the earth from being warmed ſo much as it otherwiſe might have been. Hales Veget. Statics, vol. i. p. 61, &c. From theſe experiments it may be inferred, that the ſurface of the earth is much heated during the ſummer, but that the heat deſcends very ſlowly, a great part of it being communicated to the air; that during the winter, the earth gives out to the air the heat which it had received during the ſummer; and that wet ſummers are ſucceeded by cold winters. The experiments of Dr. Hales agree nearly the ſame reſults with thoſe of Mariotte (Sur le Froid and le Chaud, p. 189.); who found, that the earth is gradually heated during the ſummer, and as gradually cooled during the winter months; and that, at the diſtance of a few feet under the ſurface, it is conſtantly warmer than the external air; and the exceſs was found to remain till April, when the ſurface is again heated by the ſun's rays, and ſlowly tranſmits its heat downwards. Hence it appears, that at the diſtance of about 80 or 90 feet below the ſurface, provided that there be a communication with the external air, or at a leſs depth if there be no ſuch communication, the temperature of the earth admits of very ſlight variation, and generally approaches to the mean annual heat. Then the temperature of ſpring is nearly the ſame as the annual temperature, and varies very little. M. Van Swinden has obſerved, that the greateſt cold, and even that which exceeds 0 of Fahrenheit's ſcale, if it laſts no more than a few days, penetrates no deeper than 20 inches when the earth is covered with ſnow, and not above 10 inches if no ſnow lies on the ſurface; and this fact evinces the important and uſeful purpoſes anſwered by this covering in high northern latitudes. Such facts tend to prove, that the heat of the earth does not increaſe as we deſcend into it; but at the greateſt depths it is nearly the ſame as the mean annual temperature of the latitude. It has been obſerved, that land is capable of receiving much more heat or cold than water. To this purpoſe, Dr. Raymond found, in the neighbourhood of Marſeilles, land frequently heated to 160°; but he never found the ſea hotter than 77°; and in winter he frequently obſerved the earth cooled down to 14° or 15°, but the ſea never lower than 44° or 45°. (Mem. de la Societ. de Med. de Paris, an. 1778. p. 70.) From theſe facts it is an obvious inference, that the atmoſphere which lies over the ſea ſhould maintain a more uniform temperature than that over the land; and this is found to be the fact; nor is it difficult to give a ſatisfactory explication of it. During ſummer, the temperature of the ſea on its ſurface is conſtantly diminiſhed by the proceſs of evaporation; and in the winter, when the ſuperficial water is cooled, it deſcends by its augmented gravity to the bottom, and its place is occupied by water of a higher temperature. This alternate change of this heavier and lighter air proceeds, and the winter elapſes before the atmoſphere has diminiſhed the temperature of the water below a certain degree. Between the mean annual temperature of the atmoſphere over the ocean, and that of countries ſituated at a conſiderable diſtance from it, there is a very perceptible difference. As the ſea is never heated to the ſame degree as the land, the

the mean temperature of ſummer over the ſea may be conſidered as lower than that over the land. In winter, when the force of the ſun's rays is weakened, the ſea imparts its heat to the atmoſphere much more readily than the earth. The mean temperature on ſea, is, therefore, at this ſeaſon higher than on land, and in cold countries this difference in the evolution of heat is ſo very conſiderable, that it more than counterbalances the difference which takes place in ſummer; inſomuch that in high latitudes, the mean annual temperature at ſea ought to exceed that on the land. Mr. Kirwan obſerves, that, in order to find the temperature in any place, ſituate between the latitudes 70° and 35°, the ſtandard temperature for the ſame latitude ſhould be lowered ½d of a degree for every 50 miles of diſtance; ſince in winter the cold always increaſes in proportion to the diſtance from the ſtandard. At a leſs diſtance than 50 miles the atmoſphere on the ocean and land are ſo blended together by the agency of ſea and land winds, that little difference is perceptible in the annual mean temperature. In lower latitudes than 30°, the ſolar rays even in winter act with no inconſiderable force, the ſurface of the earth alſo retains a pretty conſiderable degree of heat, and conſequently the mean annual temperatures of the ſea and land preſerve a greater equality. In proportion as we approach to the equator, the force of the ſun's rays in winter acts with additional energy, and the mean temperature of the land atmoſphere at this ſeaſon approximates nearer and nearer to that of the ſea, till at the equator they become equal.

In latitudes diſtant from the equator, iſlands are warmer than continents, becauſe they participate more of the temperature of the ſea. Countries that lie ſouthward of any ſea, are warmer than thoſe that have the ſame ſea to the ſouth of them, at leaſt in our hemiſphere, becauſe the winds that ſhould cool them in winter are tempered, by paſſing to them from that ſea; and thoſe that are northward of the ſea are cooled in ſummer by the breezes that iſſue from it; but a northern or ſouthern bearing of the ſea renders a country warmer, than if it lay either to the eaſt or weſt. Tracts of land which are covered with trees and luxuriant vegetables, are much colder than thoſe which have leſs ſurface of vegetable matter: for though living vegetables alter their temperature ſlowly, and with difficulty, yet the evaporation from their numerous ſurfaces is much greater than from the ſame ſpace of land uncovered with vegetables; and beſides, when they are tall and cloſe, as foreſts, they exclude the ſun's rays, and ſhelter the winter ſnows from the wind and ſun. From ſome experiments of Mr. Williams (Philad. Tranſ. vol. ii. p. 150.) it appears, that foreſts diſcharge one-third more vapour into the atmoſphere, than the ſame ſpace of ground would do if actually covered with water. From this reaſoning it appears, that woody countries are much colder than thoſe that are open and cultivated; and it will enable us to account for the amelioration of climate that attends agricultural cultivation. See CLIMATE.

Another principal ſource of heat, beſides the ſun's rays and earth, which may be regarded as a repoſitory of heat, is the condenſation of vapour. It is well known, that vapour contains a quantity of the matter of heat, which produces no other effect but that of making it aſſume an aerial expanded ſtate, until the vapour is condenſed into a liquid, but during this condenſation a quantity of ſenſible heat is let looſe, which warms the ſurrounding atmoſphere. This condenſation is frequently occaſioned by the attraction of an electrical cloud; and hence proceeds the ſultrineſs which we often experience before rain.

Note [illegible] in every [illegible] perature from which the atmoſphere ſeldom deviates beyond a certain [illegible] Mr. Playfair, profeſſor of mathematics in the univerſity of Edinburgh (ſee Edinb. Tranſ. vol. v. part 2. for 1802, p. 193.), [illegible] the ſtate of the barometer and thermometer for each of theſe diviſions. In his tables the three firſt columns contain the greateſt, leaſt, and mean height of the barometer; and the fourth column gives the temperature of the air in the room where the barometer is kept. The fifth and 6th columns ſhew the [illegible] air, obſerved during the ten days to which the numbers refer; the next three give the mean heights, as obſerved at three different times every day; viz. at eight in the morning, ten in the evening, and as nearly as poſſible to the warmeſt time of the day, or ſome time between mid-day and three in the afternoon. The mean of all theſe is taken for the mean temperature of the day, which being computed for each day, the mean of all theſe mean temperatures is ſet down for the mean temperature of the atmoſphere for every one of the thirty-ſix diviſions of the year. The mean of the three diviſions of every month is given in the next column, under the title of the mean temperature of the month. It is preſumed, ſays Mr. Playfair, that the mean temperatures, which are the points moſt difficult to be aſcertained, are given with tolerable exactneſs, as they are deduced from three obſervations made every day, of which the firſt, viz. that at eight in the morning, is not far from the medium temperature of the whole day, and the other two are as near as circumſtances will allow, to the two extremes of greateſt heat and greateſt cold. At Edinburgh, the mean temperature for the year 17[illegible] was 4[illegible]; [illegible]; and for 1799, 46.13°. From a mean of the obſervations made at the houſe of the Royal Society, from 1772 to 1780, the annual temperature of London appears to be 51.9°, or in round numbers 52°.

The greateſt mean annual temperature prevails at the equator, or in the ſecond degree of north latitude. As we recede from the equator, the mean temperature gradually decreaſes, and it is moſt diminiſhed at the poles. This diminution takes place in ſuch a manner, that the mean annual temperatures of all the latitudes are arithmetical means between the mean annual temperatures of the equator and of the pole. The ratio between the decreaſe of temperature, and the diſtance from the equator, was firſt aſcertained by Mr. Tobias Mayer of Gottingen (Oper. Ined. vol. i.); and by means of an equation deduced from it, and rendered more clear, accurate, and general, Mr. Kirwan has calculated the mean annual temperature of every degree of latitude between the equator and the pole. He ſuppoſes the mean annual heat to be the greateſt under the equator, and leaſt under the poles; that at the equator he calls m, and that at the north pole $m-n$, and putting ϕ for any other latitude, the temperature of that latitude will be $m-n \sin. \phi^2$. Hence, as the mean annual temperature of lat. 40°, determined by the beſt obſervations, is 62°, and the temperature of lat. 50° is found to be 52.9°; thus the value of m and n being known, the mean annual temperatures of the equator, and of the poles, may be determined; for the ſquare of the ſine of 40° is 0.41, and the ſquare of the ſine of 50° is 0.58: then,

$$m - 0.41\,n = 62$$
$$\text{and } m - 0.58\,n = 52.9;$$
$$\text{conſequently } 62 + 0.41\,n = 52.9 + 0.58\,n.$$

Whence the value of n is found to be 53 nearly, and m in the firſt equation is 84; and therefore the mean temperature of

the equator is 84, and that of the pole 31. Upon theſe principles the following table was calculated.

TABLE of the Mean Annual Temperature of the Air and Surface of the Ocean.

Lat.	Temper.	Lat.	Temper.	Lat.	Temper.
90	31	61	43.5	32	69.1
89	31.2	60	44.3	31	69.9
88	31.2	59	45.09	30	70.7
87	31.24	58	45.8	29	71.5
86	31.2	57	46.7	28	72.3
85	31.4	56	47.5	27	72.8
84	31.5	55	48.4	26	73.8
83	31.7	54	49.2	25	74.5
82	32	53	50.2	24	75.4
81	32.2	52	51.1	23	75.9
80	32.6	51	52.4	22	76.5
79	32.9	50	52.9	21	77.2
78	33.2	49	53.8	20	77.8
77	33.7	48	54.7	19	78.3
76	34.1	47	55.6	18	78.9
75	34.5	46	56.4	17	79.4
74	35	45	57.5	16	79.9
73	35.5	44	58.4	15	80.4
72	36	43	59.4	14	80.8
71	36.6	42	60.3	13	81.3
70	37.2	41	61.2	12	81.7
69	37.8	40	62	11	82
68	38.4	39	63	10	82.3
67	39.1	38	63.9	9	82.7
66	39.7	37	64.8	8	82.9
65	40.4	36	65.7	7	83.2
64	41.2	35	66.6	6	83.4
63	41.9	34	67.4	5	83.6
62	42.7	33	68.3	0	84

In forming this table, Mr. Kirwan ſought for a ſtandard ſituation, with whoſe temperature, in every latitude, we may compare and approximate the temperature of all other ſituations in the ſame latitudes, on water only. Accordingly, he chuſes that ſituation for a ſtandard, which is moſt free from any beſide the moſt permanent cauſes of alteration, viz. that part of the Atlantic that lies between the 80th degree of northern, and the 45th degree of ſouthern latitude, and extending weſtward as far as the gulf ſtream, and to within a few leagues of the coaſt of America; and all that part of the Pacific ocean, reaching from N. lat. 45° to S. lat. 40° from the 20th to the 275th degree of longitude, eaſt from London, which is by far the greater part of the ſurface of the globe. Within this ſpace the mean annual temperature is as expreſſed in the table; and the author has found the temperature of latitudes beyond it in the northern hemiſphere, though not lying within the ſtandard.

Mr. Kirwan has alſo attempted to aſcertain the mean monthly temperature of the ſtandard ocean. With this view he ſtates, that in every latitude, the mean temperature of the month of April ſeems to approach very nearly to the mean annual heat of that latitude; and as far as heat depends on the action of the ſolar rays, the mean heat of every month is as the ſine of the ſun's altitude, or rather, as the ſine of the ſun's mean altitude during that month. Hence to find the mean heat of May, ſay, as the ſine of the ſun's mean altitude in the middle of April, ſo is the ſine of the ſun's mean altitude in May to the mean heat of May. By a ſimilar proceſs, the temperatures of June, July, and Auguſt may be found: but this rule would give the temperatures of the ſucceeding months too low; becauſe it does not comprehend the quantity of heat accruing to the ſame place by communication of the internal heat of the globe, which in every latitude is nearly the ſame as the mean annual heat of that latitude. Hence the real temperature of this month may be eſtimated as an arithmetical mean between the aſtronomical and terreſtrial heats. E. g. in lat. 51° the aſtronomical heat of the middle of September is 44.66°, and the mean annual heat is 52.4°; conſequently the real heat of this month is $\frac{44.66 + 52.4}{2} = 48.4$, which is more conformable to obſervation. Mr. Kirwan has [illegible] the mean temperature of the [illegible] lat. 80 to lat. 0. Hence he ſhews, that the coldeſt weather in all climates prevails in the month of January; and that July is the warmeſt month in all latitudes above 48°; but in lower latitudes, Auguſt is generally the warmeſt; that December and January, and alſo June and July, differ but little; that the differences between the hotteſt and coldeſt months, within 20° of the equator, are inconſiderable, and that they increaſe as we recede from the equator; that in the higheſt latitudes we often meet with a heat of 75 or 80 degrees; that every habitable latitude enjoys for two months a heat of 60 degrees at leaſt, which ſeems to be neceſſary for the growth and maturity of corn; and that the quickneſs of vegetation in the higher latitudes proceeds from the duration of the ſun above the horizon; that as the cold of the higher latitudes, and the heat of the lower, are moderated by the vicinity of ſeas and mountains, theſe, inſtead of being irregular and fortuitous, may be regarded as a wiſe and beneficial proviſion of nature, in this reſpect as well as in many others. Mr. Kirwan has alſo ſhewn, that the greateſt cold within the twenty-four hours generally happens half an hour before ſun-riſe, in all latitudes: the greateſt heat in all latitudes between 60° and 45° is found about half paſt two o'clock in the afternoon; between lat. 45° and 35°, at two o'clock; between lat. 35° and 25°, at half paſt one; and between lat 25° and the equator, at one o'clock. On ſea, the difference between the heat of day and night is not ſo great as on land, particularly in low latitudes.

TABLE exhibiting a Compariſon of the Temperature of London, with that of other noted Places.

	Annual.	Jan.	July.
London	1000	1000	1000
Paris	1021	1021	1037
Edinburgh	923	1040	958
Berlin	942		
Stockholm	811	1583	958
Petersburgh	746	1556	1000
Vienna	1000	1035	1037
Pekin	1000	1730	1211
Bourdeaux	1000	1000	1000
Montpelier	1111	852	1111
Madeira	1316	559	1111
Port Royal Town in Jamaica	1333		
Madras	1363	491	1347

The firſt column of this table exhibits the differences of the annual temperature; the ſecond, that of January; and the third that of July; that of London, as the ſtandard, being

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being of [illegible] ... The degree of cold is denoted in the [illegible] and the degree of heat in the [illegible] and third.

A View of the Annual Temperature of different Places, according to Orders of the Thermometer.

	North Lat.	Longitude.		
[illegible]s, in England	70° 5′			
[illegible] -	[illegible]	22° 18′	E.	40
[illegible]a -	[illegible]	[illegible]	[illegible]	38.8
[illegible] -	[illegible]	[illegible]	[illegible]	[illegible]
[illegible] -	[illegible]	18	E.	42.39
[illegible] -	[illegible]	[illegible]	[illegible]	[illegible]
[illegible] -	[illegible]	3	W.	[illegible]
[illegible] -	[illegible]	5 42	E.	52.6
[illegible] -	[illegible]	[illegible]	[illegible]	[illegible]
[illegible] in Portugal	[illegible]	0	[illegible]	48.03
[illegible] -	52 10	[illegible]	[illegible]	[illegible]
[illegible] -	[illegible]	[illegible]	[illegible]	[illegible]
Dunkirk -	[illegible]	2 [illegible]	E.	[illegible]
[illegible] -	[illegible]	[illegible]	[illegible]	[illegible]
Rouen -	[illegible]	1	W.	[illegible]
[illegible] -	[illegible]	12 05	E.	49.35
Paris - -	[illegible]	2 25	E.	52
[illegible], in Champagne	[illegible]	4 10	E.	[illegible]
Vienna -	[illegible]	16 22	E.	[illegible]
Dijon -	[illegible]	4 57	E.	52.8
[illegible] -	[illegible]	1 28	E.	55.53
Poitiers -	[illegible]	0 30	E.	[illegible]
[illegible] -	[illegible]	6 50	E.	48.87
Padua -	[illegible]	12	E.	[illegible]
Rhodez, in Guienne	45 21	2 30	E.	52.9
[illegible] -	[illegible]	[illegible]	[illegible]	[illegible]
[illegible] -	43 36	3 [illegible]	E.	60.87
Marſeilles -	43 19	5 27	E.	[illegible]
Mont Louis, in Roufillon,	42	2 [illegible]	E.	44.5
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible] - -	42 25	71	W.	50.3
Philadelphia -	39 56	75 [illegible]	W.	52.5
[illegible] - -	[illegible]	[illegible]	[illegible]	[illegible]
Algiers -	[illegible]	2 17	E.	[illegible]
Grand Cairo -	[illegible]	[illegible]	[illegible]	73
Canton -	[illegible]	[illegible]	E.	[illegible]
Tivoli, in St. Domingo	[illegible]	[illegible]	[illegible]	74
Spaniſh Town, in Jamaica	18 15	76 [illegible]	W.	81
Manilla -	[illegible]	[illegible]	E.	78.4
Fort St. George -	13	87	E.	[illegible]
Ponticherry -	12	67	E.	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Falkland Iſlands -	[illegible]	[illegible]	W.	47.4
Quito - -	[illegible]	[illegible]	W.	[illegible]

As the earth is the chief ſource of heat in the ſubject atmoſphere, ſo it is the chief ſource of cold; and the greateſt cold muſt prevail in the higheſt regions of the atmoſphere, more eſpecially as clear rarefied air ſeems to receive no heat from the rays of the ſun, which it tranſmits or reflects. Thus, if the focus of a powerful burning glaſs be directed on mere air, it does not produce the ſmalleſt degree of heat, becauſe the air being tranſparent, a free paſſage is allowed to the ſolar rays. At the level of the ſea, the temperature correſponds to that of the ſurrounding ocean; but as we aſcend above that level, the temperature is gradually [illegible]; but [illegible] M. Bouguer "the lower term of congelation." The height of this varies according to the latitude of the [illegible] congelation," between the tropics, at an elevation of 15,577 [illegible] high: this height is called by M. Bouguer, "the upper term of congelation," and he fixes it under the equator at the [illegible] importance to adjuſt the height of both theſe terms. To this purpoſe, he obſerves, that under the equator the height of both is nearly conſtant; but under other latitudes it is variable both in ſummer and winter, according to the degree of heat which prevails on the ſurface of the earth. But as there is a mean annual temperature peculiar to each latitude, ſo there is a mean height for each of theſe terms peculiar to each latitude. And if we take the differences between the mean temperatures of every latitude and the point of congelation, it is evident that whatever proportion the difference under the equator bears to the height of either of the above terms, the ſame proportion will the difference peculiar to every other latitude bear to the height of thoſe terms. Thus, the mean heat of the equator being 84, the difference of this and 32 is 52; and the mean heat of lat. 28° being 72° 3′, the difference between this and 32 is 40,3. Then as 52 : 15577 :: 40.3 : [illegible]. In this manner Mr. Kirwan calculated the following table.

Lat.	Mean height of the Lower Term of Congelation.	Mean height of the Upper Term of Congelation.	Lat.	Mean height of the Lower Term of Congelation.	Mean height of the Upper Term of Congelation.
0°	15577	[illegible]	45	7658	[illegible]
5	[illegible]	[illegible]	50	[illegible]	[illegible]
10	15067	[illegible]	55	4912	[illegible]
15	[illegible]	[illegible]	60	[illegible]	[illegible]
20	[illegible]	[illegible]	65	2516	4676
25	13030	23423	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	20838	[illegible]	[illegible]	[illegible]
35	[illegible]	[illegible]	[illegible]	123	227
40	[illegible]	[illegible]			

In this manner, the height of both terms of congelation may be calculated in every latitude for every degree of heat obſerved at the ſurface of the earth, on which it evidently [illegible]: for [illegible] gelation muſt be alſo on the ſurface. Hence if the height of the lower term of congelation in any latitude be known, and alſo the general temperature at the ſurface of the earth, the decrement of heat at any lower height may be found. The heat is obſerved to decreaſe in aſcending into the atmoſphere nearly in an arithmetical progreſſion: and thus, [illegible] progreſſion as there are [illegible] of congelation, we muſt be able to determine [illegible]

ment at each term. Let L=the entire decrement or difference between the heat at the ſurface and 32°; D=the diſtance of the lower line of congelation, in feet; n=the number of terms $=\frac{D}{100}$; d=the firſt decrement $=\frac{L}{n}$; and R=the rank of any given term, whoſe decrement is required. Then the decrement at any given term is $=Rd$; and, ſubtracting this from the heat at the ſurface, we have the heat at that given height. The temperature at the upper term of congelation may be inveſtigated in the ſame manner, or that of any other height in the atmoſphere, except over mountains; for the air over mountains is generally warmer than air of the ſame height over the ſea or over plains.

Sometimes the temperature of the upper air is higher than that of the lower, particularly when a large maſs of vapour is condenſed by electrical agency; for no part of the heat given out by that cauſe being loſt by communication with air much colder, that which ſurrounds the condenſed vapour muſt be heated to a conſiderable degree. Air, rendered opake by clouds, tranſmits leſs, and abſorbs more light, and is therefore more heated than clear air. Sometimes winds, in oppoſite directions and different temperatures, flow at different heights, the uppermoſt being often the warmeſt; all which circumſtances, eſpecially in cloudy weather, render all calculations of the height of the terms of congelation on any particular day precarious, though when they regard a particular month or ſeaſon, they may be ſufficiently exact.

With regard to the effect of elevation on the temperature of the atmoſphere, we may obſerve, that as heat is propagated through the atmoſphere, chiefly by contact and communication with the earth, lofty mountains of limited ſurface cannot warm it to any conſiderable degree, as they receive the ſun's rays more obliquely, and communicating leſs with the common maſs of the earth, are leſs heated than plains. Hence it happens that the ſteepeſt mountains are always the coldeſt. Indeed, the coldneſs of the atmoſphere on the tops of mountains has been aſcribed, by M. Lambert and M. De Luc, to the greater rarity of the igneous fluid, or elementary fire, in ſuch elevated ſituations, than on the plains. M. Lambert is of opinion, that it is rarefied above by the action of the air, and that it is condenſed below by its own weight. Without abſolutely deciding the queſtion, he ſeems inclined to admit the identity of fire and light. M. De Luc compares elementary fire to a continuous fluid, whoſe parts are condenſed by being mutually compreſſed: and though he denies that fire and light are the ſame, yet he ſuppoſes that light puts into motion the igneous fluid contained in bodies, and that it acts with greater force near the earth than at a diſtance from its ſurface, by means of this fluid, which he calls an heavy and elaſtic one, by being more condenſed there than at a greater height. M. Bouguer has demonſtrated, by ſimple and obvious principles and facts, that in order to account for the diminution of heat on mountains, it is unneceſſary to recur to dubious hypotheſis. In his account of what was experienced on the mountains of Peru, he ſays, "it was proper, in order to explain this ſubject, to inſiſt on the ſhort duration of the ſun's rays, which cannot ſtrike the different ſides of mountains but for a few hours, and even this not always. A horizontal plain, when the ſun is clear, is expoſed at mid-day to the perpendicular and undiminiſhed action of theſe rays, while they fall but obliquely on a plain not much inclined, or on the ſides of a high pile of ſteep rocks. But let us conceive for a moment an inſulated point, half the height of the atmoſphere, at a diſtance from all mountains as well as from the clouds which float in the air. The more a medium is tranſparent, the leſs heat it ought to receive by the immediate action of the ſun. The free paſſage which a very tranſparent body allows to the rays of light, ſhews that its ſmall particles are hardly touched by them. Indeed what impreſſion could they make on it, when they paſs through almoſt without obſtruction? Light, when it conſiſts of parallel rays, does not, by paſſing through a foot of free atmoſpheric air, near the earth, loſe an hundred thouſandth part of its force. From this we may judge how few rays are weakened, or can act on this fluid, in their paſſage through a ſtratum of the diameter, not of an inch or line, but of a particle. Yet the ſubtilty and tranſparency are ſtill greater at great heights, as was obvious on the Cordilleras, when we looked at diſtant objects. Laſtly, the groſſer air is heated below by the contact or neighbourhood of bodies of greater denſity than itſelf, which it ſurrounds, and on which it reſts; and the heat may be communicated by little and little to a certain diſtance. The inferior parts of the atmoſphere by this means contract daily a very conſiderable degree of heat, and may receive it in proportion to its denſity or bulk. But it is evident that the ſame thing cannot happen at the diſtance of a league and an half or two leagues above the ſurface of the earth, although the light there may be ſomething more active. The air and the wind therefore muſt at this height be extremely cold, and colder in proportion to the elevation."

This theory is adopted by Sauſſure, who has ſuperadded the following fact to prove, that the force of the ſun's rays, conſidered abſtractedly and independently of any extrinſic ſource of cold, is no leſs powerful on mountains than on plains; viz. that the power of burning lenſes and mirrors is the ſame at all heights. For aſcertaining this fact, he procured a burning glaſs, ſo weak in its effect, that at Geneva it would juſt ſet fire to tinder. This glaſs was carried to the ſummit of mount Saleve, 3000 feet high, and it there produced the ſame effect, and even with greater eaſe. Hence he concluded, that the principal ſource of cold on the tops of mountains is their being perpetually ſurrounded by an atmoſphere, which cannot be much heated by the rays of the ſun, on account of its tranſparency, or by their reflection from the earth, by reaſon of its diſtance; but he wiſhed alſo to know, whether the direct ſolar rays had the ſame power on the top of a high mountain as on the plain below, whilſt the body on which they acted was placed in ſuch a manner as to be unaffected by the ſurrounding air. With this view he inſtituted a ſet of experiments, from which he deduced the following concluſions; viz. that a difference of 777 toiſes in height diminiſhes the heat which the rays of the ſun are able to communicate to a body expoſed to the external air, 14° of the thermometer; that it diminiſhes the heat of a body partially expoſed, only 6°; and that it augments by 1° the heat of a third body completely defended from the air. Hence it appears, that the atmoſphere counteracts the operation of the ſolar rays in producing heat, by a power which is exerted at all diſtances, from the ſurface to the higher regions. From the experiments of M. Pictet, to this purpoſe, it is inferred, that even in places expoſed to the rays of the ſun, the heat at five feet from the ground is greater only by 1° or 2° than at fifty feet above the ſurface, although the ground was at that time 15° or 20° warmer than the air immediately in contact with it. This difference, however, ſmall as it is, does not obtain in higher regions; for if it did, the cold on the top of the mountain of Saleve, 3000 feet above the lake of Geneva, would be 60° greater than at the foot of it; whereas it really is only 10°. In the night the caſe is reverſed; for the ſtratum of air, at

five

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five feet from the ground, was found by M. Pictet to be colder than that at 50. Besides, different trees are found to poſſeſs very different and variable degrees of cold, without any regard to the altitude or depreſſion of their ſituation. In 1780, Dr. Wilſon of Glaſgow (Phil. Tranſ. for 1780, p. 467.; and for 1781, p. 361.) found [illegible] to the ſurface of the ground; ſo that the thermometer, when laid on the ſurface of the ſnow and hoar-froſt, ſunk many degrees lower than one ſuſpended twenty-four feet above it. Hence it has been concluded, that ſnow, falling from the higher regions of the atmoſphere, is generally colder than the lower air.

With reſpect to the preciſe effect of elevation, Mr. Kirwan found it to be nearly as follows: when the elevation is moderate and gradual, ſuch as that of the interior parts of moſt countries very diſtant from the ſea, its effects are ſo blended with thoſe of diſtance from the ſtandard ocean, that the ſame allowance in the diminution of temperature is to be made for both. By a gradual elevation, he means ſuch as riſes at a leſs rate than ſix feet per mile, counting from the neareſt conſiderable ſea. If the elevation proceeds at a greater rate, then for every 200 feet of elevation, the annual temperature of the ſtandard muſt be diminiſhed in that latitude, as follows:

If the elevation be at the rate of

6 feet per mile - - - -	$\frac{1}{4}$ of a degree.
7 feet - - - -	$\frac{1}{3}$
13 feet - - - -	$\frac{1}{2}$
15 feet, or upwards - -	$\frac{1}{1}$

For every 50 miles diſtance from the ſtandard ocean, the mean annual temperature in different latitudes muſt be depreſſed or raiſed, nearly at the following rate:

From lat. 70° to lat 35° cooled. - -	$\frac{1}{4}$ of a degree.
35° - - -	$\frac{1}{4}$
30° - - -	0
25° warmed - -	$\frac{1}{4}$
20° - - -	$\frac{1}{2}$
10° - - -	1°

See on this ſubject Kirwan's Eſtimate of the Temperature of different Latitudes, 1787, paſſim.

It has been obſerved, that in clear weather, though the ſurface of the earth be then moſt liable to be heated by the ſun, yet after ſun-ſet, and during the night, the air is coldeſt near the ground, and particularly in the vallies. The experiments made on this ſubject for a whole year, by Mr. James Six, may be ſeen in theſe venty-eighth volume of the Philoſophical Tranſactions, but our limits will not allow our reciting them. The concluſions deduced from them are theſe: that a greater diminution of heat frequently takes place near the earth in the night time, than at any altitude in the atmoſphere within the limits of the writer's inquiry; that is, 220 feet from the ground; and that at ſuch times the greateſt degrees of cold are always met with neareſt the ſurface of the earth. This is a conſtant operation of nature, under certain circumſtances of the atmoſphere, and occurs at all ſeaſons of the year; and this difference never happens in any conſiderable degree, except when the air is ſtill, and the ſky perfectly unclouded. The refrigeration was not at all impeded, but rather promoted, by the moiſteſt vapour, as dews and fogs. In very ſevere froſts, when the air frequently depoſits a quantity of frozen vapour, it is commonly found greateſt; but the exceſs of heat, which in the day was found in the loweſt ſtation in ſummer, was diminiſhed in winter almoſt to nothing. The fact of the mercury's ſinking in a thermometer, included in a receiver, when the air begins to be rarefied, has been uſually attributed, not to any degree of cold thus produced, but to the ſudden expanſion of

[illegible] the bulb of the thermometer, in conſequence of the removal of the [illegible]. But from the experiments of Dr. Darwin (ſee Philoſ. Tranſ. vol. 78. p. 43. &c.) it appears, that [illegible] and conſequently [illegible]. This ingenious author mentions a curious phenomenon obſerved in the [illegible] of Etna [illegible] the Citizen [illegible]. In the [illegible] is [illegible] out with great vehemence, and in conſequence of its previous [illegible] vol 52. From this phenomenon, as well as from his experiments, Dr. [illegible] concluding, that in all circumſtances where air is mechanically expanded, it becomes capable of attracting the fluid matter of heat from other bodies in contact with it. (See Caloric.) Now (ſays he), as the vaſt region of air which ſurrounds our globe is perpetually moving along its ſurface, climbing up the ſides of mountains, and deſcending into the vallies; as it paſſes along, it muſt be perpetually varying its degree of heat, according to the elevation of the country it traverſes; for, in riſing to the ſummits of mountains, it becomes expanded, having ſo much of the preſſure of the ſuperincumbent air taken away; and when thus expanded, it attracts or abſorbs heat from the mountains in contiguity with it; and, when it deſcends into the valleys, and [illegible] heat it has acquired to the bodies it becomes in contact with. The ſame thing muſt happen in reſpect to the higher regions of the atmoſphere, which are regions of perpetual froſt, as has lately been diſcovered by the aerial navigators. When large diſtricts of air, from the lower parts of the atmoſphere, are raiſed two or three miles high, they become ſo much expanded by the great diminution of the preſſure over them, and thence become ſo cold, that hail or ſnow is produced by the precipitation of the vapour: and as there is, in theſe high regions of the atmoſphere, nothing elſe for the expanded air to acquire heat from after it has parted with its vapour, the ſame degree of cold continues, till the air, on deſcending to the earth, acquires its former ſtate of condenſation and of warmth.

The Andes, almoſt under the line, reſts its baſe on burning ſands; about its middle height is a moſt pleaſant and temperate climate covering an extenſive plain, on which is built the city of Quito; while its forehead is encircled with eternal ſnow, perhaps coeval with the mountain. Yet, according to the accounts of Don Ulloa, theſe three diſcordant climates ſeldom encroach much on each other's territories. The hot winds below, if they aſcend, become cooled by their expanſion; and hence they cannot affect the ſnow upon the ſummit; and the cold winds, that ſweep the ſummit, become condenſed as they deſcend, and of temperate warmth before they reach the fertile plains of Quito.

The temperature of the atmoſphere, and the viciſſitudes of its heat and cold, are ſubject to a variety of irregularities, which no theory that has yet been propoſed is altogether ſufficient to explain. For other obſervations on this ſubject, ſee the articles Clouds, Cold, Congelation, Evaporation, Hail, Heat, Hygrometer, Meteorology, Rain, Snow, Winds, Water, &c.

Atmoſphere, City of the. [illegible] various, that it would require a very minute and [illegible]

their ſtate of eggs and ſeeds to their fulleſt maturity, owe the [illegible] atmoſphere that ſurrounds them. How much it conduces to the [illegible] compoſe it, and to the convenience and comfort of man[illegible] an intercourſe of ſociety and commerce with diſtant nations, and by affording thoſe reflections and refractions of light [illegible] which it would be almoſt ſuperfluous to mention. See AIR, and the ſeveral articles to which we have already referred.

ATMOSPHERE, *Method of weighing the*. See ATMOSTATION.

ATMOSPHERE *of the Sun, Moon, Planets, and Comets*. See the ſeveral articles.

ATMOSPHERE *of ſolid or conſiſtent Bodies*, is a kind of ſphere formed by the effluvia, or minute corpuſcles emitted from them. Mr. Boyle endeavours to ſhew that all bodies, even the hardeſt and moſt coherent, as gems, &c. have their atmoſpheres. See GEM.

ATMOSPHERE, in *Electricity*, denotes that medium which was conceived to be diffuſed over the ſurface of electrified bodies, and to conſiſt of effluvia iſſuing from them: whereby other bodies immerged in it become endued with an electricity contrary to that of the body to which the atmoſphere belongs. This was firſt taken notice of at a very early period in the hiſtory of this ſcience, by Otto Guericke, and afterwards by the academicians *del Cimento*, who contrived to render the electric atmoſphere viſible, by means of ſmoke attracted by, and uniting itſelf to a piece of amber, and gently riſing from it, and vaniſhing as the amber cooled. But Dr. Franklin exhibited this electric atmoſphere with great advantage, by dropping roſin on hot iron plates held under bodies electrified, from which the ſmoke roſe and encompaſſed the bodies, giving them a very beautiful appearance. He made other obſervations on theſe atmoſpheres; he took notice that they and the air did not ſeem to exclude one another; that they were immoveably retained by the bodies from which they iſſued; and that the ſame body, in different circumſtances of dilatation and contraction, is capable of receiving or retaining more or leſs of the electric fluid on its ſurface. However, the theory of electrical atmoſpheres was not ſufficiently explained and underſtood for a conſiderable time; and the inveſtigation led to many very curious experiments and obſervations. Mr. Canton took the lead, and was followed by Dr. Franklin; Meſſ. Wilcke and Epinus proſecuted the inquiry, and completed the diſcovery. The experiments of the two former gentlemen prepared the way for the concluſion that was afterwards drawn from them by the latter, though they retained the common opinion of electric atmoſpheres, and endeavoured to explain the phenomena by it. The concluſion was, that the electric fluid, when there is a redundancy of it in any body, repels [illegible] other body, when they are brought within the ſphere of each other's influence, and drives it into the remote parts of the body, or quite out of it, if there be any outlet for that purpoſe.

By atmoſphere, Mr. [illegible] is to be underſtood than the ſphere of action belonging to any body, or the neighbouring air electrified by it. Sig. Beccaria [illegible] other atmoſphere than the electricity communicated to the neighbouring air, and which goes with the air, and not with the electrified bodies. And Mr. Canton likewiſe, having relinquiſhed the opinion that electrical atmoſpheres were compoſed of effluvia from excited or electrified bodies, maintained that they only reſult from an alteration in the ſtate of the electric fluid contained in, or belonging to the air ſurrounding theſe bodies to a certain diſtance; for inſtance, that excited glaſs repels the electric fluid from it, and conſequently beyond that diſtance makes it more denſe; whereas excited wax attracts the electric fluid exiſting in the air nearer to it, making it rarer than it was before. In the courſe of experiments that were performed on this occaſion, Meſſ. Wilcke and Epinus ſucceeded in charging a plate of air, by ſuſpending large boards of wood covered with tin, with the flat ſides parallel to one another, and at [illegible] inches diſtance; [illegible] upon electrifying one of the boards [illegible], the other was always negative; and a ſhock was produced by forming a communication between the upper and lower plates. Beccaria has largely conſidered the ſubject of electric atmoſpheres, in his Artificial Electricity, p. 179, &c. Eng. edit. Dr. Prieſtley's Hiſt. of Electricity, vol. ii. ſect. 5. Cavallo's Electricity, vol. i. p. 241. vol. iii. p. 282. See CONDENSER, and CONDUCTOR, *Leaning*; and *Experiments in* ELECTRICITY.

ATMOSPHERE, *Magnetic*, denotes the ſphere within which the virtue of the magnet, &c. acts.

ATMOSPHERICAL *Logarithms*. See LOGARITHMIC.

ATNAH, or *Carrier Indians*, in *Geography*, a tribe of Indians in the north-weſt continent of America, inhabiting the banks of the Columbia river, ſouth of the Nagailer Indians, about N. lat. 52°, and W. long. 122°. The Atnah language, of which Mr. Mackenzie obtained ſome ſpecimens, has no affinity to any with which he was acquainted. Mackenzie's Journal of a Voyage through the N. W. Continent of America, p. 258.

ATOM, formed of the privative α, and $\tau\epsilon\mu\nu\omega$, *I divide*, in *Philoſophy*, a part or particle of matter, ſo minute as to be indiviſible.

Atoms are properly the *minima naturæ*, the laſt or ultimate particles into which bodies are diviſible; and are conceived as the firſt rudiments, or component parts of all phyſical magnitude; or the pre-exiſtent and incorruptible matter whereof bodies were formed.

The notion of atoms ariſes hence, that matter is not diviſible *in infinitum*. And hence the Peripatetics are led to deny the reality of atoms, together with that of mathematical points: an atom, ſay they, either has parts, or it has none; if it hath none, it is a mere mathematical point; if it hath, then do theſe parts alſo conſiſt of others, and ſo on to infinity.

But this is to recede from the genuine character of atoms, which are not eſteemed indiviſible, becauſe of their want of bigneſs, or parts (for all phyſical magnitude muſt have three dimenſions, length, breadth, and thickneſs, and all extenſion is diviſible); but they are indiviſible on account of their ſolidity, hardneſs, and impenetrability, which preclude all diviſion

ſion, and leave no vacancy for the admiſſion of any foreign force to ſeparate or diſunite them.

As atoms are the firſt matter, it is [illegible] be indiſſoluble, in order to their being [illegible] Hence Newton aſſumes it as a poſſible thing, [illegible] able, in order to the [illegible] in the Opticks, and Boyle [illegible] for [illegible] this purpoſe [illegible] nature, laws, [illegible] that God in the beginning created matter in ſolid, maſſive, hard, impenetrable, moveable particles, incomparably harder than any of the [illegible] never to wear or break in pieces; no ordinary power being able to divide what God made one at the creation, while theſe particles continue entire, they may compoſe bodies of one and the ſame texture in all ages; but if they ſhould wear away, or break in pieces, the nature of things depending [illegible] Solidity.

Hence the ancients were alſo led to maintain atoms eternal: becauſe what is immutable, muſt be eternal. [illegible] motion to their atoms: and farther obſerving that atoms thus falling perpendicularly, could not join or unite together; they [illegible] furniſhed them with certain hooked parts, in order to enable them to catch and hang the better together.—And from a caſual and fortuitous jumble of theſe atoms, they ſuppoſed the whole univerſe to be formed.

Atomaria, in *Conchology*, a ſpecies of [illegible], about half an inch in length. This ſhell is oblong, ſnowy-white, dotted with brown, and at each end two duſky marks. Martini, Gmel. &c.

Atomaria, in *Entomology*, a ſpecies of [illegible], Fabr.), found in Europe. It is greyiſh, with an ovate abdomen; wings brown, crowded with white dots. Gmelin.

Atomaria, a ſpecies of Phryganea found in Germany. The wings are pale-grey with numerous black dots.

Atomaria, a ſpecies of Phalæna (*Geometra*) that inhabits Europe. The wings are entirely yelloviſh, ſtreaked and ſpeckled with brown. Gmelin, &c. This is Phalæna pennata of Scopoli, and Phalæna artemiſiaria. Phalæna glarearia of Wien. Schmetterl. is ſuppoſed to be a variety of this ſpecies by Gmelin. The larva from which this moth is produced is ſmooth and greyiſh, with numerous ferruginous interrupted lines, and two tubercles on the poſterior part; feeds on centaurea ſcabioſa.

Atomaria, a ſpecies of Notonecta, about the ſize of a louſe, and inhabits the river Volchova in Ruſſia. It is white; above and wing-caſes pale-greyiſh; wings milky. Pallas, It.

Atomaria, a ſpecies of Silpha. (*Sphæridium* Fabr.) This inſect is ſmooth and black; wing-caſes marked with [illegible]; [illegible]. [illegible] Europe.

Atomaria, a ſpecies of [illegible] that inhabits the cape of Good Hope. In ſize and appearance this inſect reſembles S. farinoſus. It is powdered with white; thorax canaliculated and black: wing-caſes brown; abdomen white, with lateral black dots.

Atomaria, a [illegible] Europe. This [illegible]: [illegible] ces ſmooth, finely punctated, and ſprinkled with ſpecks of [illegible]; [illegible] n. 380. Lin. Another curculio atomarius occurs in Linn. Muſ. Lesk. p. 89, 399, and which does not ſeem to differ [illegible] ſpecifically from the [illegible]: C. [illegible] Europe. It is apterous, black, and glabrous; wing-caſes rather ſmooth, with minute, ſcattered, confluent drops of a purple colour; margin purple. Muſ. Leſk.

[illegible] brown. Fabricius.

[illegible] ſpeckled with ferruginous; two ferruginous dots in the [illegible] Europe.

Atomical Philosophy, denotes the doctrine of atoms; or a method of accounting for the origin and formation of all things, from the ſuppoſition of atoms, endued with gravity and motion.

[illegible] of it by Dr. Cudworth (Intellectual Syſtem, b. i. c. i. vol. i. p. 7. Birch's ed.), ſuppoſes "that body is nothing elſe but [illegible] fore, that nothing is to be attributed to it, but what is included in the nature and idea of it, viz. more or leſs magnitude, with diviſibility into parts, figure and poſition, together with motion or reſt, but ſo as that no part of body can ever move itſelf, but is always moved by ſomething elſe. And conſequently it ſuppoſes, that there is no need of any thing elſe beſides the ſimple elements of magnitude, figure, ſite, and [illegible], and therefore, not of any ſubſtantial forms, diſtinct from the [illegible] dies without, beſides the reſults or aggregates of thoſe ſimple elements, and the diſpoſition of the inſenſible parts of bodies in reſpect of figure, ſite, and motion; nor of any intentional ſpecies or ſhews, propagated from the objects to our ſenſes; nor laſtly, of any other kind of motion or action really diſtinct from local motion, ſuch as generation and alteration, they being neither intelligible as modes of extended ſubſtance, nor any ways neceſſary. Foraſmuch as the forms and qualities of bodies may well be conceived to be nothing but the reſult of thoſe ſimple elements of magnitude, figure, ſite, and motion, variouſly combined together in the ſame manner as ſyllables and words, in great variety, reſult from the different combinations and conjunctions of a few letters, or the ſimple elements of ſpeech; and the corporeal part of ſenſation, and particularly that of viſion, may be ſolved only by local motion of bodies, that is, either by corporeal effluvia [illegible] tinually from the ſurface of the objects, or rather, as the later and more refined atomiſts conceived, by preſſure made from the object to the eye, by means of light in the medium [illegible] ſaſa; the ſenſe taking cognizance of the object by the ſubtle interpoſed medium, that is tenſe, and ſtretched, (thruſting every way from it upon the optic nerves), doth by that as it were by a ſtaff touch it. Again, generation and corruption may be ſufficiently explained by concretion and ſecretion, or local motion, without ſubſtantial forms and qualities. And, laſtly, thoſe ſenſible ideas of light and colours, heat and cold, ſweet and bitter, as they are diſtinct things from the figure, ſite, and motion of the inſenſible parts of bodies, ſeem plainly to be nothing elſe but our own fancies, paſſions, and ſenſations, however they be vulgarly miſtaken for qualities in the bodies without us."

As to the origin and hiſtory of this atomical [illegible]

Dr. Cudworth obſerves, that though adopted by Epicurus, it has been commonly attributed to Democritus, who was prior both to Ariſtotle and Plato; but Laertius repreſents Leucippus, who was ſomewhat ſenior to Democritus, as the firſt inventor of it. Ariſtotle, who often mentions this philoſophy, commonly aſcribes it to Leucippus and Democritus jointly. Plato refers its original to Protagoras, who was an auditor of Democritus. "However", ſays the learned Cudworth (ubi ſupra p. 12.), "we are of opinion, that neither Democritus, nor Protagoras, nor Leucippus, was the firſt inventor of this philoſophy; and our reaſon is, becauſe they were all three of them atheiſts (though Protagoras alone was baniſhed for that crime by the Athenians); and we cannot think that any atheiſts could be the inventors of it; much leſs that it was the genuine ſpawn and brood of atheiſm itſelf, as ſome conceit, becauſe however theſe atheiſts adopted it for themſelves, endeavouring to ſerve their turns of it, yet if rightly underſtood, it is the moſt effectual engine againſt atheiſm that can be." This learned writer alleges alſo hiſtorical probability for the opinion that this philoſophy was much more ancient than either Democritus or Leucippus. To this purpoſe he obſerves, that Poſidonius, as we learn from Empiricus and Strabo, avowed it for an old tradition, that the firſt inventor of this atomical philoſophy was one Moſchus, a Phœnician, who according to Strabo, lived before the Trojan war, and who has been ſuppoſed by ſome perſons to be the ſame with Moſes the Jewiſh lawgiver. See MOSCHUS.

Dr. Cudworth further maintains, that Pythagoras, who is thought to have converſed at Sidon with the Jewiſh philoſophers, prieſts, and poets, that were the ſucceſſors of Moſes, to have borrowed many things from the Jews, and to have tranſlated them into his philoſophy, was not unacquainted with the atomical phyſiology; and he therefore concludes, that the philoſophy of Democritus was Pythagorean; and the philoſophy of Pythagoras, Democritical or atomical. Accordingly, he alleges the authority of Ecphantus, a famous Pythagorean, and other teſtimonies, to prove that the Monads of Pythagoras were nothing elſe but corporeal atoms. In order to reconcile Ariſtotle with himſelf, and to preſerve the credit of Laertius, both of whom aſcribe this philoſophy to Democritus and Leucippus, as its firſt authors, Cudworth ſuggeſts, that although the atomical phyſiology was in uſe long before Democritus and Leucippus, yet theſe two with their confederate atheiſts, of whom Protagoras ſeems to have been one, were undoubtedly the firſt "that ever made this phyſiology to be a complete and entire philoſophy by itſelf, ſo as to derive the original of all things in the whole univerſe from ſenſeleſs atoms, that had nothing but figure and motion, together with vacuum, and made up ſuch a ſyſtem of it, as from whence it would follow there could not be any God, not ſo much as a corporeal one." The atomical philoſophy, according to this learned writer, exiſted before and without atheiſm; and Democritus and Leucippus are to be regarded as the firſt inventors or founders of the atomical philoſophy "atheized and adulterated." Conſequently, there have been two ſorts of atomiſts in the world; the one atheiſtical, the other religious. The firſt and moſt ancient atomiſts, holding incorporeal ſubſtance, uſed that phyſiology in a way of ſubordination to theology and metaphyſics. The others, allowing no other ſubſtance but body, made ſenſeleſs atoms and figures, without any mind and underſtanding, (i. e. without any God) to be the original of all things; which latter is that, that was vulgarly known by the name of atomical philoſophy, of which Democritus and Leucippus were the ſource. Dr. Cudworth has ſhewn, by a variety of citations from ancient writers, that the atomiſts before Democritus did generally join theology and incorporealiſm with their atomical phyſiology; and he has alſo proved by the moſt concluſive reaſoning, that atheiſm, ſo far from being a natural and neceſſary appendage to atomiſm, is totally diſtinct from it; that there is, neither in reaſon nor in fact, any inconſiſtency betwixt the atomical phyſiology and theology; and that there is, on the contrary, a moſt natual cognition or alliance between them. Ubi ſupra, p. 27, &c. The atomic philoſophy of Democritus and Leucippus was cultivated and improved by Epicurus, though he would not acknowledge that he had borrowed his hypotheſis from any; and from him it obtained the denomination of the Epicurean philoſophy. See the articles DEMOCRITUS, LEUCIPPUS, EPICURUS, and EPICUREAN *Philoſophy*. See alſo COSMOGONY.

The opinion of Dr. Cudworth with reſpect to the antiquity of the atomic philoſophy has been conteſted by ſome later writers. The learned biſhop Warburton, in his "Divine Legation of Moſes," admits it as a ſettled point, that Democritus and Leucippus were the authors of this phyſiology: and Brucker (Hiſt. Philoſ. by Enfield, vol. i. p. 60.) thinks, that the ſingle evidence of Poſidonius, the ſtoic, who lived ſo many ages after the time of Moſchus, to whom Cicero allows little credit, and of whoſe authority Strabo and Sextus Empiricus, who refer to him, intimate ſome ſuſpicion, is too feeble to ſupport the whole weight of this opinion. But the circumſtance, ſays this writer, which moſt of all invalidates it, is, that the method of philoſophizing by hypotheſis or ſyſtem, which was followed by the Greek philoſophers, was inconſiſtent with the genius and character of the barbaric philoſophy, which conſiſted in ſimple aſſertion, and relied entirely upon traditional authority. He adds, that the part of the hiſtory of Pythagoras which relates to this ſubject, has been involved in obſcurity by the later Platoniſts; and that neither the doctrine of monads, nor any of thoſe ſyſtems which are ſaid to have been derived from Moſchus, are the ſame with the atomic doctrine of Epicurus. He therefore concludes, that, whatever credit the corpuſcular ſyſtem may derive from other ſources, it has no claim to be conſidered as the ancient doctrine of the Phœnicians. We incline however to admit the teſtimonies and arguments of Dr. Cudworth; and with the diſtinction which he has adopted between the atomic philoſophy derived from tradition before the time of Democritus and Leucippus, and that ſyſtem of materialiſm and atheiſm connected with it by their ſpeculations, and with this reproach annexed to it tranſmitted to Epicurus and his followers, by whom it was again modified, it ſeems moſt probable, that the atomic philoſophy was not firſt invented by theſe ſpeculative philoſophers, but derived by tradition from Phœnicia or Egypt. The atomic philoſophy has been revived by ſome moderns, and particularly by Gaſſendi and others, who, rejecting the eternity of atoms and their fortuitous motion, have made it a very intelligible and rational ſyſtem. It is now eſpouſed and adhered to by a great part of the philoſophical world, under the denomination of the CORPUSCULAR *philoſophy*; which ſee. It is the philoſophy of Newton, Locke, and all their followers; and it claims regard, among other conſiderations, from its being the genuine philoſophy of the firſt and moſt ancient atomiſts. The ſcholaſtic divines among the Mahometans, who are very orthodox as to the creation of the world by God, do alſo admit both atoms and a vacuum; but their atoms are different from thoſe of Leucippus, for they have no magnitude and are all like one another: and they ſuppoſe, as that philoſopher ought to have done, that every atom of a living body is alive, that every atom of a ſenſitive body is endued

dued with ſenſe, and that the underſtanding reſides in an atom; though they differ as to the ſoul and knowledge, whether they conſiſt in a ſingle atom, or a collection of ſeveral. Maimon. in More Nevochim. c. 73.

The atomic ſyſtem, adopted by modern philoſophers, and extended by Le Sage and De Luc to great ſubtleties, ſuppoſes that matter fills its ſpace merely by its exiſtence; that it is abſolutely impenetrable; that its diviſion can be carried to a certain length only, ending in atoms, which, though extended, are not further diviſible; that there are empty interſtices between the atoms; that the particles of elaſtic fluids, as air, vapours, caloric, &c. do not touch each other, and conſequently they form diſcrete fluids, as they are called; and that the rarity or denſity of a body depends ſolely on the quantity of empty interſtices, in a certain volume of ſpace occupied by the matter conſtituting that body. In theſe reſpects, this ſyſtem is oppoſed to that denominated the dynamic ſyſtem, illuſtrated by Kant in his "Metaphyſical Elements of Natural Philoſophy." See DYNAMIC *Syſtem*.

A late writer has diſtinguiſhed between *common*, and *philoſophic atomiſts*. Under the former appellation he comprehends thoſe who think with the vulgar, not only that matter exiſts externally, but that it really poſſeſſes all thoſe properties which ſtrike the ſenſes; ſuch as cold, heat, colour, ſound, &c. Under the general name of philoſophic atomiſts, he compriſes all thoſe philoſophers, who admit the eſſential properties of matter, ſuch as extenſion, impenetrability, cohéſion and mobility, and who reject the real or external exiſtence of thoſe properties that are called ſenſible qualities. Theſe latter atomiſts he further diſtributes into two claſſes: viz. *ſimple*, and *mixed*: ſimple or pure atomiſts acknowledge extenſion and impenetrability alone, and the attributes neceſſarily ariſing from theſe, vis inertiæ and cohéſion. According to them, matter is merely paſſive, endued with no internal powers; and cohéſion, though not neceſſarily contained in the idea of matter, is eſſential to the idea of extenſion; ſo that all changes are effected by powers foreign to matter: in *nature*, the power of God: in *creatures*, the powers of the ſoul. Mixed atomiſts, or Dynamiſts, place powers in matter itſelf, which in their opinion belong to it, and inhere in it in ſuch a manner that they are independent of ſpiritual ſubſtance, and are either formed in bodies, or ſuperadded as attributes of material exiſtences. Of this kind are gravity, elaſticity, irritability, attraction, repulſion, &c. Theſe powers operate according to the organization of bodies. To atomiſts of each claſs this writer oppoſes the *Idealiſts*, who entertain the ſame opinions concerning the primary qualities of bodies, which are held by atomiſts concerning the ſecondary. As the latter maintain that no light can exiſt without being ſeen, or ſound without being heard, ſo the former aſſert that neither impenetrability nor extenſion can have place independently of our conceptions. This opinion, which ſeems to have been countenanced by Plato, is fully developed in the ſyſtem of Berkeley. Malebranche is placed by this writer among the Idealiſts, as his mathematical points, conſtituent of extenſion, vaniſh into nothing when we attempt to analyſe them. Locke, by ſuppoſing that matter may be made capable of thought, approaches to the Dynamiſts. Leibnitz and Wolf may be deemed Idealiſts, ſince, in reality, they allow of no material exiſtence out of the mind; for although the monads are the occaſion of our ideas, yet theſe ideas have nothing in common with the object. Kant, who derives no ſenſations from the attention of the ſoul to real exiſtences, though he acknowledges that our ideas are in ſome other manner excited, by ſomething exiſting out of the mind, is placed alſo under the claſs of Idealiſts; as, according to him, all our obſervations and determinations are founded on appearances. Of Dr. Prieſtley this anonymous writer remarks, that, although he makes the ſoul material, he makes matter ſpiritual: and therefore he is ranked with the mixed atomiſts. See account of Prize Diſſertations, by Taylor's Theological Society, vol. x. in Monthly Review Enlarged. vol. iii. p. 483, &c.

ATOMOS, in Entomology, a ſpecies of Cancer found in ſtanding water in Europe. It is brown; head, four, with a ſingle facing; legs four on, with two claſps on each ſide between the fourth and fifth pair.

ATOMUS, a ſpecies of ICHNEUMON, varied with pale and brown. This inſect, Gmelin informs us, inhabits Upſal; is ſmaller than a mi[illegible] except [illegible].

ATONEMENT, in Theology, is a term that has been variouſly explained and applied by divines of different opinions. However, there are three principal ſenſes, in which, with ſubordinate modifications, the term is commonly underſtood. The firſt is, that which has been adopted by thoſe who are commonly called Calviniſts; and it ſuppoſes, that the death and ſufferings of Jeſus Chriſt, partaking of the divine and human nature in one perſon, being with reſpect to the former equal to the Father, were ſuch, conſidered in their degree and value, as to be a proper equivalent for the penalty annexed by the divine law to the tranſgreſſion of thoſe of the elect who are penitent and believing. Divine juſtice, it is ſaid, required its victim, either in the ſinner or his ſubſtitute; Jeſus became the ſurety; he paid the debt, and ſatisfied the demand. Others, who have not eſpouſed the doctrine of the proper deity of Chriſt in the ſenſe of the Trinitarians, or who have not contended for an abſolute and ſtrict equivalent to the demerit and conſequent puniſhment of tranſgreſſion, have expreſſed their notion of this doctrine in a manner ſomewhat different. Accordingly, Dr. Watts, in his "Redeemer and Sanctifier" (ſee his works, vol. iii. p. 742.), explains his ſentiments in the following manner. "By atonement for ſin, I do not mean any ſuch thing as ſhall in a proper and literal ſenſe appeaſe the wrath of God, the offended governor, which is ſuppoſed to be kindled againſt his ſinful creatures, and ſhall incline his heart to mercy, which was before determined upon vengeance; for though this doctrine may be ſo repreſented ſometimes after the manner of men, yet this is an idea or ſuppoſition in many reſpects inconſiſtent with the attributes and actions of the bleſſed God, and with the doctrine of the New Teſtament. In that book God repreſents himſelf as rich in mercy, and for this reaſon he pitied ſinful creatures who had broken his law, and had deſerved to die, before he had received any atonement; and therefore God himſelf provided and ſent his own ſon to become a ſacrifice of atonement, and a ranſom for them; he appointed him to be a ſurety for us, the juſt for the unjuſt, and to ſuffer death in the room and ſtead of ſinners. By the words "atonement," or "propitiation," I mean therefore ſome toilſome or painful thing done or ſuffered, or both, by Jeſus Chriſt the ſon of God, in the room and ſtead of [illegible] puniſhment on account of their ſins; and this by the wiſe and righteous appointment of God, the univerſal governor, ſhall excuſe the penitent offender from the puniſhment that was due, and obtain his pardon, becauſe it ſhall give a recompence to the authority of the divine lawgiver for the affront which was put upon him by the ſins of men, and ſhall make ſome reparation of honour to his holy law which was broken. And this is not only intended to manifeſt the evil nature and the deſert of ſin, together with [illegible]

hatred of it; but it shall also answer the demand and design of the threatening by such actual pain or punishment, though it is laid on the surety instead of the offender; and thereby secure the law from being broken, in time to come, as effectually as if the offenders themselves had been punished. Such a price, purchase, or punishment, are the humiliation and sufferings of Jesus Christ, his labours and [illegible]; [illegible] from this view that the language of expiation or atonement, of propitiation and ransom, is so often used. See 1 Pet. i. 23. 2 Cor. v. 21. Gal. iii. 13. "Now by these appointed sufferings of the Son of God, in the room and stead of [illegible], there is [illegible] made to the [illegible] of the world for the violation of his law, and a glorious way made for the exercise of mercy in the pardoning of the sinner, and that without any imputation of reflection upon the holiness of God's nature and conduct, or any suspicion of the justice of his government, as if he would connive at sin: for he declares and declares, that in passing by the sins of his people in former ages, and in pardoning and justifying [illegible] who believe in Christ, he will manifest his justice and right conduct by requiring such a sacrifice with by sin shall be punished, though the sinner be spared." See Rom. iii. 24—26. To this purpose, Whitby in Heb. v. 3.) observes, that Christ, after he became our surety, was not, nor could be delivered from those sorrows which were the punishment of our sins; he being as our expiatory sacrifice, not only on the occasion of our sins, but in our stead, to bear the punishment of our iniquity. (See SATISFACTION.) In the sense above explained, the death and sufferings of Christ were properly VICARIOUS. The advocates for this opinion have sometimes asserted, without reserve or qualification, that the necessity of an atonement arose from the immutable nature, and the indispensible demands of divine justice; and that God *could not*, in consistence with his moral attributes, have pardoned sin without receiving a plenary satisfaction; that this satisfaction or atonement *could not* have been given by any other being but his own everlasting and equal Son; and that even he *could not* have effected this great and ultimate object of his mediatorial office, unless our sins had been imputed to him in the same degree as his merits are imputed to us. (See IMPUTATION.) On the other hand, those who have carried Calvinism to the extreme in other points, have nevertheless maintained, that punitive justice was not essential to the divine nature, and that God might have pardoned sin by virtue of his own absolute authority, independently of an atonement. Dr. Owen, however, has opposed this tenet in a Latin tract, intitled, "Diatriba de justitia divina."

"Christ's death," says the learned biblical writer, Dr. Clarke (Sermons vol. viii. p. 366.), "was *truly* and *properly*, in the strictest meaning of the word, an expiatory sacrifice. For if sinners, by having diminished the honour, and despised the authority of God's laws, were become liable to the justice and vengeance of God; if the Son of God in our nature, by vindicating the honour of God's laws, hath discharged this obligation, and obtained remission for us; and if the obtaining this remission was by the shedding of his blood, which is called "the price of our redemption" (1 Cor. vi. 20); it follows, that the wrath of God was appeased by the death of Christ, and that God was graciously pleased to accept this vicarious suffering of his Son, in the stead of the punishment that was due to the sinner in his own person; which is the express and most proper notion of an expiatory sacrifice." To the same purpose this excellent writer observes in another place (vol. v. p. 203.), that "Christ hath vindicated the honour of God's laws, by taking upon himself the punishment of their sins who repent, and embrace the terms of the gospel. He condescended to be made sin for us, i.e. to be made a sacrifice for our sins, that we through that expiation might become subjects capable of the mercy of God. He took upon him our nature, and was clothed in flesh, *partly* indeed that he might preach the will of God to mankind in a nearer and more condescending conversation with them; but, *principally*, that he who in the form of God could not suffer, might become capable of suffering by being made in the likeness to man. He led a most innocent and spotless life, that he might indeed set us an example, that we should follow his steps; but *chiefly*, because, as it was required that the typical sacrifices under the law should be whole and without blemish, so it was necessary, that he who was to be the real expiatory sacrifice for the sins of others, should have none that needed expiation of his own.—He suffered a shameful and ignominious death upon the cross, that he might indeed give us an example of patience and readiness to suffer; but the *principal* design of it was, that he might put away sin by the sacrifice of himself, and obtain eternal redemption for us through faith in his blood. His resurrection was the demonstration of this sacrifice's being accepted by God; and his ascension into heaven was in order to plead the merits of his sufferings before God, and intercede for those who, according to the terms of the gospel-covenant, should be capable of receiving the gracious benefits purchased by his death." Similar sentiments of the doctrine of atonement are largely illustrated in a treatise, by Mr. M. Tomkins, who was an avowed Arian with regard to the Trinity, intitled, "Jesus Christ, the Mediator between God and Man;" of which a second edition was printed in London, in 1761. This writer, having produced several passages of scripture, that speak of Christ's death as a sacrifice, and which declare him to be constituted an high-priest, and having established, as he conceives, beyond all reasonable doubt, the literal sense of those scriptures, proceeds to consider what was the notion of expiatory sacrifices, and of the priestly office under the law of Moses. (See SACRIFICE.) These sacrifices, he shews, were intended to make atonement for the person who offered them; i.e. according to his statement they were, by divine appointment, of avail to free him from the guilt he had contracted, and to prevent the punishment to which he was liable. See Numb. viii. 19. xvi. 46. These sacrifices he considers as a proper expiation, or a real propitiation; not that they were the cause of a merciful disposition in God, and in that sense rendered him propitious who was before implacable; but they were appointments for procuring pardon, and the priests by offering them obtained from the mercy of God those blessings of which they otherwise must have been deprived. Hence he infers, that the effects attributed to the blood of Christ correspond with such effects of these legal sacrifices, and that his acting as our high-priest answers to the office of the high-priest under the law. See Heb. viii. ix. 8. 23. x. 1. He proceeds to shew, that our pardon and acceptance with God, and our freedom of access, are represented, in the New Testament, as the fruit of the suffering of Christ not merely as an act of obedience, but as a sacrifice for sin, as a demonstration of God's displeasure against it, and of his regard to the righteous sanction of the original law, which denounced death to the transgressors of it. With this view, when God resolves to shew mercy to sinners, he also determines that his only begotten son, not indeed without his consent, shall suffer death, the penalty which the original law had denounced against transgressors. Thus Christ, by suffering death, prevented or warded off those effects or consequences of sin, which would otherwise have come upon mankind; and accordingly his death and

his

his mediation are very justly represented as the means of procuring for us the blessings of which we are made partakers. See Heb. ix. 12. 1 Cor. vi. 20. viii. 23. Rev. v. 9. This representation of the matter gave rise to the term satisfaction, which has been generally used by writers in treating of this subject. (See SATISFACTION.) The author having stated his notion of the death of Christ as an atonement for sin, obviates the objections that have been urged against the opinion he has adopted. But we must refer for further particulars to the author's treatise, p. 105, &c. See also Chapman's Eusebius, vol. ii. ch. iv, v, vi.

The *second* explanation of the term atonement, which has sometimes been called the Arminian scheme, supposes that the sufferings of Jesus Christ were inconceivably severe; and that the object of them was to exhibit the evil and demerit of sin, and the displeasure of God against it, who would not even forgive a sincere penitent, without thus manifesting his hatred of wickedness. This coincides, in a degree, with the illustration of this doctrine already given; it has been denominated the moderate doctrine, and has been adopted, with certain modifications, by many divines and others.

A *third* hypothesis relating to this subject is that of the learned Dr. John Taylor (see his "Scripture Doctrine of Atonement examined, &c. and also his "Key to the Apostolic Writings," prefixed to his "Paraphrase, &c. on the Epistle to the Romans," ch. viii.), who supposes, "that the scriptures represent the death of Christ as an act of obedience so acceptable to God, that, as the reward of it, he thought fit to grant unto mankind, corrupt and wicked, the forgiveness of sin (*absolutely*, in relation to antecedent blessings; and *upon condition of repentance*, in relation to eternal life), and to erect a new dispensation furnished with all proper means to draw us from sin unto God, and to bring us to the possession of immortality. The blood of Christ, says this writer, or that by which he has bought or redeemed us, is his love and goodness to men, and his obedience to God, exercised indeed through the whole of his state of humiliation in this world, but most eminently exhibited in his death. It is his complete and spotless righteousness, his humility, goodness, and obedience unto death, which makes his blood precious in the best and highest sense, and gives his cross all its worth and efficacy. Obedience was the sacrifice which he offered unto God for us." "It was his righteousness, or righteous, kind, and benevolent action, his obedient death, or the sacrifice of his love and obedience, which made *atonement* for the sin of the world; so far, and in this sense, that God, on account of his goodness and perfect obedience, so highly pleasing unto him, thought fit to grant unto mankind, whom he might in strict justice have destroyed for their general corruption and wickedness (John, iii. 17.), the forgiveness of sins, not imputing unto them their trespasses (2 Cor. v. 19.) or those sins which were past, or which they had already committed (Rom. iii. 25.), and for which they deserved to fall under the dreadful effects of God's wrath. And not only did he forgive former trespasses to all the *living* and to all the penitent and obedient *dead*, but further he erected a glorious and perfect dispensation of grace, exceeding any which had gone before it in means, promises, and prospects; at the head of which he set his Son, our lord Jesus Christ, invested with universal power in heaven and on earth, constituting him king and governor over the new body, which he designed to form, captain of our salvation, the high-priest of our profession, the mediator and surety of the new covenant, to negotiate and manage all affairs relating to our present instruction and sanctification, to raise all the dead out of their graves, and to put the [illegible] at the last day, [illegible] according to this author, must the perfect righteousness, or all means of reformation, cannot be atoned or forgiven. Grace or favour, through the atonement of Christ, may be so far shewn to such, as to allow them space and means to repent; but [illegible] the divine goodness and patience, can receive the benefit of eternal [illegible] through the atonement of Christ. The wisdom, as well as the grace of this dispensation, are illustrated, when we consider, that pardon in the gospel is raised to a very high degree; and [illegible] able, not only to exempt from punishment, but also to gain a new and glorious state of being in eternal life, which is a grant of favour extended far beyond the natural value of repentance. Besides, the grant of remission of sin, and of other blessings of the gospel, through the blood of Christ, has a strong and direct tendency to promote our sanctification, and to render us penitent and obedient; and therefore this constitution must be acquiesced in as perfectly wise and beneficent." Dr. Taylor, in examining the notion of atonement above stated and considered as the satisfying divine justice, by another's suffering the punishment due to the criminal's sin in his stead, adduces a variety of passages pertaining to this subject, and those more especially in which the Hebrew word כפר, by which, or its derivatives, atonement is expressed in the Old Testament: and though he discards the notions of the imputation of our sins to Christ, his suffering in our stead the punishment due to us, or his paying an equivalent to divine justice, yet he concludes his examination with inferring from it, that the sacrifice of Christ was, truly and properly, in the highest degree, and far beyond any other, piacular and expiatory, to make atonement for, or to take away sin: not only to give us an example; not only to assure us of remission; or to procure our Lord a commission to publish the forgiveness of sin; but moreover to obtain that forgiveness by doing what God in his wisdom and goodness judged fit and expedient to be done in order to the forgiveness of sin; and without which he did not think it fit or expedient to grant the forgiveness of sin." The truly excellent bishop Butler, in delivering his sentiments on this subject (Analogy, &c. pt. ii. c. 5.), observes, "that some have endeavoured to explain the efficacy of what Christ has done and suffered for us beyond what the scripture has authorized; others, probably, because they could not explain it, have been for taking it away, and confining his office as redeemer of the world to his instruction, example, and government of the church. Whether the [illegible] that he taught the efficacy of repentance, but rendered it of the efficacy which it is by what he did and suffered for us; that he obtained for us the benefit of having our repentance [illegible] it had this particular efficacy, there are not wanting persons who [illegible] the scriptures have explained it. It is our wisdom thankfully to accept the benefit, without disputing how it was procured." To the same purpose, Dr. Price, who formed [illegible]

pre-exiſtent dignity; and that, after having paſſed through human life, enduring all its ſorrows, he delivered himſelf up to death, and thus acquired the power of delivering us from death. By offering himſelf a ſacrifice on the croſs, he vindicated the honour of thoſe laws which ſinners had broken, and procured for them favour to them conſiſtent with the honour and intereſt of God's government; and by his reſurrection from the dead, he proved the efficacy and acceptableneſs of his ſacrifice. In a word, Chriſt not only declared, but obtained the forgiveneſs of repentance to pardon; and he procured by his interceſſion, not only the *earneſt*, but the *actual poſſeſſion* of our future immortality;"—"on which account we owe them to him, as well as primarily to God." This author has declined the uſe of the terms *ſatisfaction* and *mediation*, becauſe they do not occur in ſcripture; but others have alleged, that though the literal expreſſions do not occur, the phraſeology of the ſacred writers warrants the uſe of them.

Among other writers who have totally rejected the doctrine of atonement according to either of the explanations above given of it, we may mention Dr. Prieſtley, who reckons it in the claſs of the corruptions of Chriſtianity. See Hiſtory of the Corruptions of Chriſtianity, vol. ii. p. 152, &c. In all the books of ſcripture, ſays this writer, we no where find the principle on which the doctrine of atonement is founded, which is a diſplay, on the part of God, of juſtice and of his abhorrence of ſin, ſo that God could not pardon it without an adequate ſatisfaction being made to his juſtice, and the honour of his laws and government. Admitting the popular doctrine of atonement, the whole of the Old Teſtament, as he conceives, is a moſt unaccountable book, and the religion it exhibits is defective in the moſt eſſential article. The Jews in our Saviour's time, it is ſaid, had certainly no idea of this doctrine; for if they had, they would have expected a ſuffering, and not a triumphant Meſſiah. And it is alleged, that our Lord and his apoſtles are ſilent with regard to it. This author undertakes to explain the ſenſe in which Chriſt is repreſented as a ſacrifice, and other figurative interpretations of it, independently of this doctrine. He proceeds to examine the ſentiments of the Apoſtolical fathers, and though he allows that ſingle expreſſions occur in their writings which ſeem to favour the doctrine of atonement, yet the general ſtrain ſhews, as he apprehends, that they had no proper idea of it. It is alſo argued, that this doctrine is not enumerated as an article of Chriſtian faith in any ancient ſummary of Chriſtian doctrine. To the too literal interpretation of the figurative language of ſcripture, Dr. Prieſtley aſcribes that advance towards the doctrine of atonement, which was obſerved in the third and fourth centuries. Grotius ſhews (Opera, vol. iv. p. 347.) that this doctrine is maintained by Theodorus Abucara, a Greek writer of the ninth century; but in the Latin church it does not ſeem to have been fixed in the eleventh century, although there are obvious and indiſputable references to it in the writings of Anſelm, and alſo in Theophilus, a Greek writer cited by Grotius. Wickliffe evidently believed the abſolute neceſſity of the death of Chriſt in order to the forgiveneſs of ſin, and after the reformation by Luther, the doctrine of ſatisfaction, or atonement for ſin was reduced to a regular ſyſtem grounded on certain principles, and purſued to its proper extent. It was unequivocally avowed in the confeſſion of faith preſented to Charles V. at Augſburg, in 1530; in the Helvetic confeſſion of the year 1536; and at the ſynod of Dort, in 1618. It is now the doctrine of the eſtabliſhed churches of England and Scotland; and it is very generally retained, at leaſt in ſome qualified ſenſe, by divines and others, both Trinitarian and Arian. Socinus diſcarded it, and his followers have almoſt univerſally exploded it. We obſerve, that though the word atonement frequently occurs in the Old Teſtament, we meet with it but once in the New Teſtament; and in other places the ſame original word, καταλλαγη, is rendered reconciliation. As for thoſe who reject the generally received doctrine of the atonement, they maintain, that the great object of our Lord's miſſion was to teach the doctrine of a reſurrection to a future immortal life, and that hence aroſe the peculiar neceſſity and utility of his own death and reſurrection as a proof of his doctrine. See Expiation, Lustration, Propitiation, Sacrifice, and Satisfaction.

Atonement, *Day of*. See *Feaſt of* Expiation.

ATONIA, ἀτονία, in *Medicine*, a term which ſignifies a want of tone, firmneſs, or ſtrength, in the muſcular fibre; in other words, a relaxation thereof; from α privative and τεινω, *tendo*, *I ſtretch*, or *extend*. This condition takes place either partially or generally in moſt forms of chronic diſeaſes, and in the convaleſcent period of acute diſeaſes. The remedies are the Peruvian bark, bitters, chalybeates, the ſulphuric acid, cold bathing, country air, and exerciſe, with a mild and nouriſhing diet.

ATONICS, in *Grammar*, denote words unaccented. See Accent.

ATOOI, or Attowai, in *Geography*, the moſt northern and the largeſt of the weſt group of the Sandwich iſlands, being about 300 miles in circumference; containing, according to the ſtatement in the third volume of Captain Cook's voyage, about 54,000 inhabitants. It has a good road and anchoring place on the ſouth-weſt ſide of the iſland, called Wymoa. It is obſerved, in the account of Portlock's and Dixon's Voyage to the north-weſt coaſt of America, that the eaſt ſide of the iſland riſes gradually from the ſea, till it terminates in high land, near the centre of the iſland. The height of the moſt elevated land or mountain, according to Marchand (ubi infra. p. 16.), is 1216 toiſes. The hills are clothed to the ſummit with lofty trees, exhibiting a beautiful verdure. The land next the ſhore on the eaſt ſide is uncultivated and deſtitute of inhabitants; but to the weſtward it is generally cultivated, and houſes are ſcattered along the ſhore. The domeſtic animals on this iſland are hogs, dogs, and fowls. Its principal vegetable productions are yams, ſweet potatoes, the ſugar cane, and a ſweet root called by the natives, tee. Some trees were found about fifteen feet high, with ſpreading branches, a ſmooth bark, and a nut reſembling a walnut; others about nine feet high, with bloſſoms of a beautiful pink colour; and a variety with nuts, like our horſe cheſnuts, which are uſed by the natives as ſubſtitutes for candles, and give an excellent light. The iſland affords a ſupply of freſh water. In Marchand's Voyage (vol. ii. p. 80.), we have an account of two Engliſh ſailors, who had been carried off from an Engliſh brig by the natives of this iſland, and who confirmed the report of captain Cook concerning the natives of the Sandwich iſlands, that theſe iſlanders are cannibals, and eat their priſoners. The relation, however, is diſputed; and it is ſuggeſted, that the natives of theſe iſlands cut in pieces the bodies of their dead enemies, burn their fleſh, and preſerve their bones as trophies for perpetuating the memory of their exploits. Thus, it is ſaid, they dealt with the body of the unfortunate captain Cook. In the voyage of Vancouver, who viſited this iſland in 1792, we are informed, that the proſtitution of the women is here carried to the moſt wanton exceſs. Vol. i. p. 171. N. lat. 22°. E. long. 200° 30'. See Sandwich *Iſlands*.

ATOTOTL, in *Ornithology*, a name under which Seba deſcribes

describes the purple creeper, or *Certhia purpurea* of Gmel. avis virginiana phœnicea de Atototl dicta. Seba Muſ. i. t. 72. See Purpurea Certhia.

ATOUGUIA, in *Geography*, a ſmall town of Portugal, in the province of Eſtremadura, ſeated on the ſea-coaſt near the iſle oppoſite to the rocks called Farilhões, defended by a caſtle, and containing about 1500 inhabitants; two miles and an half eaſt of Peniche.

ATOUNI, a large tribe of Arabs on the E. of the Pharan of Sues, and from thence go up between the Red Sea and the mountains that bound the eaſt part of the valley of Egypt. See Howadat.

ATOYAQUE, a deep and large river of America, in Mexico.

ATRA, in *Conchology*, a ſpecies of Patella, deſcribed by Schroet. The ſhell is black and thick; within white; bottom with a ſpecious brown ſpot, and bordered with a horſe-ſhoe ſhaped band of white. Shell an inch and a quarter in length. The country is unknown.

Atra, a ſpecies of Helix, about two inches in length, and conſiſting of ſeven whorls. The ſhell is turreted, black, and entirely [illegible] whorls rather convex; aperture oblong-ovate. Gmel. Syſt.

Atra, in *Zoology*, a ſpecies of Limax (*Marginata*) that inhabits Denmark and [illegible] cylindrical and incurvated; [illegible]. The head is of this ſubject [illegible]; and the back, with a yellow band; [illegible] black; [illegible].

Atra, a ſpecies of Phalæna (*Bombyx*), entirely of a ſooty-black colour, and without ſpots. This is *Bombyx hirtaria* of Fabricius, and *Tinea* [illegible] of Wien Schmetterl. The larva is black and hairy, with a ſanguineous dorſal line; it ſecretes itſelf within a follicle compoſed of dried leaves and ſtraws. The pupa is ferruginous brown.

Atra, a ſpecies of Cicada (*Cercopis* Fabr.) of a large ſize, that is found in South America. It is black, with a marginal ſanguineous ſtripe on both ſides of the wing-caſes. Fabricius, &c.

Atra, a ſpecies of Podura, very common in Europe. It is globoſe, brown, and ſhining; antennæ long, and of many joints. Faun. Suec. Linn. Act. Stockh. 1743.

Atra, a ſpecies of Pimelia (*Hiſpida* Fabr.) of a black colour, with ſtriated wing-caſes. Gmel. Fabr. &c. This is *Pyrochroa (nigra)* nitida, corpore ovato, thorace convexo, antennis pedibuſque fuſcis, of Degeer. Inhabits Europe.

Atra, a ſpecies of Buprestis, that inhabits Germany, and in ſome reſpects reſembles *Buprestis viridis*. The wing-caſes are entire, ſomewhat linear and punctated; thorax deflexed; body black and elongated. Fabricius.

Atra, a ſpecies of Lampyris (*Lycus* Fabr.) of a deep black colour; thorax orbicular, and with the wing-caſes red; an impreſſed black ſpot on the back. This is a native of Europe. Muſ. Leſk. Linn.

Atra, a ſpecies of Cantharis, the body of which is entirely of a deep black. Fabricius. A native of the north of Europe.

Atra, a ſpecies of Necydalis, of a black colour, with all the thighs clubbed. Inhabits the ſouth of Europe. Fabricius. The thigh in one ſex ſimple.

Atra, a ſpecies of Leptura, the body of which is totally black. Fabricius. The legs of this kind are ſometimes ferruginous. Poda calls it *Leptura atripes*, and Geoffroy, *Stenocorus totus niger*. Inhabits the ſouth of Europe.

Atra, a ſpecies of Curculio, of an oblong form, and black colour, with rufous antennæ. A native of Europe, and ſuppoſed to be a variety of C. *chloropus*. Gmel. Fabr. &c.

Atra, a ſpecies of Hister, the body of which is entirely deep black. Schr. der Berl. &c. Gmel. Fabricius [illegible]; [illegible]; [illegible];

were a quick pulfe, head-ach, delirium, ſtomp, intenſe third, inward heat, and an uncommon fœtor in his breath. A lady aged thirty, unhappily addicted to habits which have a peculiarly pernicious effect upon the liver, after a coſtipation of the belly during ſix days, was ſeized with a violent and inceſſant vomiting of black and viſcid bile. The infuſion ſome limonades, warmed with the tincture of Columbo, ſoon checked her retching, and operating by ſtool, prevented the return of her vomiting. The matter diſcharged in both theſe caſes bore not the leaſt reſemblance to grumous blood. Dr. Percival adds, that he has ſeveral times obſerved the febrile ſymptoms in children, which are aſcribed to dentition, relieved by thick pitchy ſtool; and that he recollects three caſes of the diſeaſe called acute aſthma by Dr. Millar, in which the paroxyſms ſeemed to be critically terminated by a ſimilar evacuation. Whether, in theſe inſtances, the black bile was the cauſe or the effect of the diſeaſe, cannot (he obſerves) with certainty be determined; but the former appears to him to be the more probable opinion. Percival's Eſſays, Medical, Philoſophical, and Experimental, vol. i. p. 342. 4th edit. This view of the ſubject is very ſatisfactory; but as an evacuant, peculiarly adapted to this diſorder, we would ſuggeſt the employment of calomel. Black bile was ſuppoſed by the ancients to conſtitute a peculiar temperament, which they termed the atrabiliary or melancholic temperament. See Temperaments.

The diſeaſe termed Melæna, or morbus niger, in which there is a dark-coloured bloody diſcharge, unaccompanied by griping pains and acute fever, ſeems to be a ſpecies of diarrhœa. (See Melæna.) Before we cloſe this article, we would obſerve, that black or pitchy ſtools may be occaſioned either by diſcoloured bile, or by the effuſion of venous blood into the inteſtinal canal. An experienced practitioner will ſeldom be at a loſs to diſtinguiſh the difference; but if any doubt ariſe, recourſe muſt be had to chemical analyſis.

ATRACES, in *Ancient Geography*, a people of Europe, in that part of Greece called Ætolia. Their country was watered by the river Atrax, whence their name.

ATRACTYLIS, in *Botany* (from ἄτρακτος, fuſus, *a ſpindle*.), diſtaff-thiſtle, Lin. Gen. 930. Reich. 1009. Schreb. 1259. Claſs, *ſyngeneſia polygamia æqualis*. Nat. Ord. *compoſitæ*. Gen. Char. *Cal. outer* many-leaved, linear, large, roughened, permanent, confining the common one; *common* ovate, imbricate; the ſcales oblong, very many, lanceolate, converging, unarmed. *Cor. compound* radiate; corollules hermaphrodite, numerous, tubular on the diſk; herm. ligulate in the ray: *proper* of the diſk funnel-form, five cleft; of the ray, ligulate, flat, five-toothed. *Stam.* filaments five, capillary, very ſhort; anther cylindric, tubular. *Piſt.* of the diſk; germ very ſhort; ſtyle filiform, the length of the ſtamens. *Stigma* bifid; of the ray very like that of the diſk, but obſcure and withered. *Per.* none; calyx converging. *Seeds* turbinate, compreſſed; down plumoſe. *Rec.* villoſe, flat.

Eſſ. Gen. Char. *Cor.* radiated; *corollules* of the ray five-toothed.

Species, 1. A. *gummifera*, gummy rooted atractylis. "Flowers ſtemleſs." From the root which is perennial, iſſue many narrow deeply ſinuated leaves, armed with ſpines on their edges. Theſe lie cloſe to the ground, and between them the flower is ſituated; it is white at the border, but yellow at the diſk. A native of Italy. The root abounds with a gummy matter, which has occaſioned it to be chewed for the ſame purpoſes as maſtich. 2. A. *humilis*, dwarf atractylis, Cavan. Hiſp. 40. t. 54. f. Barr. rar. 1127. t. 592. "Leaves ſmooth-ſinuated; flower radiated, fenced with an expanding involucre; ſtem herbaceous." Stems nearly a foot high; leaves indented, ſpinous at the edges; flowers purple, in heads on the branches; root biennial. A native of France and Spain, flowering in June. Cavanille's deſcription of this plant differs from the above. 3. A. *cancellata*, netted atractylis. "Involucres latticed, bellying, linear, toothed; calyxes ovate; flowers floſculous." Annual, eight or nine inches high, producing two or three ſlender branches, each terminated by a head of flowers like thoſe of the thiſtle, with an involucre compoſed of ſeveral narrow leaves, armed with ſpines on their ſides, and curiouſly netted over, which keeps off the flies; florets purple. A native of the ſouth of Europe. It was cultivated here in the time of Parkinſon. 4. A. *lancea*; lance-leaved atractylis. "Involucres pinnate, leaves lanceolate, ciliate, ſmooth." Stem a foot high, flexuoſe, branching; leaves alternate, acute, ſeſſile, erect; flowers on the branches terminal, ſolitary, ſubſeſſile. It differs from the third in having ſmooth leaves, and a leafy ſtem. 5. A. *ovata*; ovate-leaved atractylis. "Involucres pinnate, leaves ovate, ciliate ſmooth." Stem ſimple, ſtreaked, ſcarcely a foot high; leaves alternate, petioled, acute, nerved, pale underneath; petioles with ciliate edges; flowers terminating, ſolitary. Both theſe laſt are natives of Japan. 6. A. *oppoſitifolia*; oppoſite-leaved atractylis. "Leaves oppoſite." Leaves and calyxes tomentoſe underneath. Receptacle with hair-like chaff. In the ligulate flōrets the anthers are effete, and there is neither ſtyle nor ſtigma. A native of the cape of Good Hope. 7. A. *purpurata*; purple-flowered atractylis, Smith. Ic. ined. 3. 65. "Leaves haſtate, runcinate." Stem round, woolly; leaves crowded, a ſpan in length, acute, irregularly toothed, veined, tomentoſe underneath; peduncles longer than the leaves, branched, angular, rugged, woolly, covered at top with linear acute ſcales; flowers large, erect, ſpecious, purple; receptacle naked. Found by Mutis in New Grenada. 8. A. *Mexicana*; Mexican atractylis. Smith. Icon. ined. 66. "Leaves oblong, quite entire." Stem ſhrubby; branches ſimple, leafy, without ſpines, covered with a downy ſubſtance; leaves alternate, lanceolate, acuminate, with netted veins; beneath very white, tomentoſe; petioles keeled, tomentoſe; flower terminating, nodding, purple, ſupported by two or three bracte-ſhaped leaflets; receptacle with very ſhort chaffs. Found by Mutis in Mexico.

Propagation and Culture. "1, 2, 3. are propagated by ſeeds, which muſt be obtained from the countries in which they grow naturally: theſe ſhould be ſown on a border of light earth, in a warm ſituation, early in April, and when the plants come up, and are fit to tranſplant, they ſhould be thinned, and thoſe which are drawn out may be tranſplanted, leaving the others two feet aſunder; after which, the only culture they require is, to keep them clear from weeds in ſummer, and in winter to cover the roots with ſome old tanner's bark to prevent the froſt from penetrating the ground. The other ſpecies are yet ſtrangers to European gardens; and whenever they are introduced, will require the protection of a green-houſe or ſtove." See Martyn's Miller's Dict.

Atractylis. See Carthamus.

ATRA *Dies*, in *Antiquity*, denotes a fatal day, whereon the Romans received ſome memorable defeat. The word literally imports a *black day*; a denomination taken from the colour, which is the emblem of death, and mourning. Whence the Thracians had a cuſtom of marking all their happy days with white ſtones, or calculi, and their unhappy days with black ones, which they caſt, at the cloſe of each

day,

A T R

day, into an urn. At the perſon's death, the ſtones were taken out, and from a compariſon of the number of each complexion, a judgment was made of the felicity or infelicity of his courſe of life.

The *dies atræ*, or *atri*, were afterwards denominated *poſtridie*, and *poſteri*. Such, in particular, was the day when the tribunes were defeated by the Gauls, at the river Allia and burnt the city; alſo that on which the battle of Cannæ was fought; and ſeveral others marked in the Roman calendar, as *atræ*, or *unfortunate*.

ATRAGENE, in *Botany*, a family of plants reſembling Clematis, but without a nectary. Lin. g. 695. Schreb. 929. Gærtn. 71. Juſſ. 232. Claſs, *polyandria polygynia*. Nat. Ord. *multiſiliquæ*. *Ranunculaceæ*. Juſſ. Gen. Char. *Cal.* perianth four-leaved; leaflets oval, ſpreading, obtuſe, deciduous. *Cor.* petals twelve (in A. capenſis about twenty), linear, very narrow at the baſe, obtuſe, ſpreading. *Stam.* filaments very many, very ſhort (outer petal-like, two anthered); anthers oblong, acuminate, ſhorter than the calyx. *Piſt.* germs numerous, oblong; ſtyles villoſe, permanent; ſtigma ſimple, the length of the anthers. *Per.* none. *Seeds* numerous, ending in a hairy tail (capſules feather-tailed).

Eſſ. Gen. Char. *Cal.* four-leaved. *Pet.* twelve. *Seeds*, tailed.

Species, 1. A. *japonica*, japoneſe atragene. "Erect, leaves oppoſite, triternate; leaflets ovate, gaſhed." Stem angular, ſtreaked, ſubdichotomous, villoſe, two feet high; leaflets acute, toothed, very thinly villoſe; petiole ſtem-claſping; flowers from the diviſions of the ſtem, few, on elongated one-flowered filiform peduncles; petals more than twenty, purple within, white-tomentoſe without. Were it not for the number of its petals it would belong to the anemone. A native of Japan. 2. A. *alpina*. Alpine atragene, Jacq. Auſt. 3. t. 241. Clematis Sibirica, Mill. fig. t. 284. "Leaves doubly ternate, ſerrate, outer petals four-fold." Stems ſlender, weak, covered with brown thin bark; leaflets two inches long, of a deep green colour; peduncles naked, three or four inches long, one-flowered; calyx yelloviſh, white within. This plant is differently deſcribed by ſeveral botaniſts, and Jacquin aſſerts that the Auſtrian plant is ſpecifically different from the Alpine. A native of the High Alps of Switzerland, &c. 3. A. *capenſis*, Cape atragene. "Leaves ternate; leaflets gaſhed, toothed, outer petals five-fold." Scape ſimple, ſix or ſeven inches long; involucre in the middle of the ſcape, compoſed of ſwelling, ovate, villoſe, foliaceous ſtipules; leaves wedge-ſhaped, trifid, acute, naked; petals about twenty, white, the ſix lower ones broader, villoſe underneath, purpliſh. A native of the cape of Good Hope. 4. A. *tenuifolia*, fine-leaved atragene. "Leaves doubly pinnate; pinnules linear, entire." Found at the Cape by Thunberg. 5. A. *zeylanica*, Ceyloneſe atragene. "Tendrils two-leaved." Cauleſcent, ſcandent; leaves oppoſite, compound, conjugate; leaflets ovate, entire, or ſometimes with a ſingle tooth, three nerved, on very ſhort footſtalks: panicle terminal, compoſed of a twice trifid peduncle, bearing commonly nine flowers; petals twice the length of the calyx, purpliſh. A native of Ceylon.

Propagation and Culture. The ſecond ſpecies may be increaſed by cuttings or layers in the ſame manner as Clematis. In a ſtrong ſoil, and trained againſt a wall, it will riſe to the height of ſix or eight feet. The flowers appear early, and if the ſeaſon prove favourable, they make a handſome appearance; but as this plant is apt to put out leaves very early in the ſpring, it is frequently nipped by the froſts. The other ſpecies have not yet been cultivated in England. See Martyn's Miller's Dict.

ATRALIS, in *Entomology*, a ſpecies of Phalæna (Geometra). Body of a black colour, [illegible]. Dan. Phalæna funebris Act. nidroſ. and phalæna guttalis, Wien, Schmetterl, &c.

ATRAMENTA. See Inks.

ATRAMENTATA, in *Entomology*, a ſpecies of Phalæna [illegible] wings, [illegible].

ATRAMITE, [illegible] the inhabitants of [illegible] about [illegible] of Arabia [illegible].

ATRANI, in *Geography*, a town of Naples, in the Principato Citra, ſituate between two cliffs, joined together by buildings. Along with [illegible] and Scala, two epiſcopal cities, or rather ſtraggling villages, on the mountain tops. It is not far from the city of Amalfi.

ATRAPHANA, in *Entomology*, a ſpecies of Cassidocephalus, about the ſize of C. quadripunctatus. It is black, with three red ſpots; wing-caſes teſtaceous, with three black ſpots; ſhanks rufous. Fabr. This is *chryſomela atraphaxidis* of Pallas, and inhabits Siberia.

ATRAPHAXIS, in *Botany*, an exotic plant, reſembling polygonum. Lin. g. 449. Schreb. 612. Gaertn. t. 119. Juſſ. 82. Claſs, *hexandria digynia*. Nat. Order, *holoraceæ*. *Polygoneæ*. Juſſ. Gen. Char. *Cal.* perianth two-leaved; leaflets oppoſite, lanceolate, coloured, permanent. *Cor.* petals two, roundiſh, ſinuate, larger than the calyx, permanent. *Stam.* filaments ſix, capillary, the length of the calyx; anthers roundiſh. *Piſt.* germ compreſſed; ſtyle none; ſtigmas two, capitate. *Per.* none; calyx cloſed, including the ſeed. *Seed* one, roundiſh, compreſſed. *Obſ.* A. undulata has a four-parted calyx, and no corolla.

Eſſ. Gen. Char. *Cal.* two-leaved. *Pet.* two, ſinuate; ſtigmas capitate. *Seed*, one.

Species, 1. A. *ſpinoſa*, prickly-branched atraphaxis. L'Herit. Stirp. Nov. 27. t. 14. "Branches ſpiny." It riſes four or five feet high, ſending out many weak lateral branches, armed with ſpines, and furniſhed with ſmall ſpear-ſhaped ſmooth leaves, of an aſh-colour. Flowers at the ends of the ſhoots in cluſters, each conſiſting of two white petals tinged with purple, [illegible] a white herbaceous colour. L'Heritier has deſcribed this plant very particularly, vide l. c. It is a native of Armenia, Siberia, and Perſia, flowering in Auguſt. Cultivated by Miller in 1759. 2. A. *undulata*, waved-leaved atraphaxis. Dill. Elth. 36. t. 32. f. 36. (called arbuſcula africana, &c.) "Without ſpines." Stems about a foot long; leaves ovate, obtuſe, waved at the edges, alternate, longer than the internodes. Flowers in oblong ſpikes, at the ends of the ſtem and branches, furniſhed with ſhort bractes. Calyx yellow, involving the fruit. The flowers are commonly quadrifid, but ſometimes they are ſix-parted, with eight ſtamens. Several authors make this to be a ſpecies of polygonum, while others would unite the two genera.

Propagation and Culture. "The ſeeds of theſe plants not ripening in England, they are propagated by cuttings during any of the ſummer months. In winter they muſt be forced [illegible] are planted in the open air." See Martyn's Miller's Dict.

ATRARIA, in *Entomology*, a ſpecies of Phalæna that inhabits Carolina, and is called by Garden, the black fiſh. The body is black, and the fins ſpotted with whitiſh. Gmelin. The [illegible] is delineated, [illegible]

rior ciliated; lateral line ſtraight; dorſal fins lineated with white.

ATRATA, in *Conchology*, a ſpecies of PATELLA. This ſhell is rather convex, narrow, white, lacerated with red; outſide ſpotted with black, with elevated, convex, unequal ſtriæ; aperture at the vertex oblong, bordered with chefnut. Schroet. This ſhell is about three quarters of an inch in length, with a crenated margin, and the vertical aperture ſurrounded with a reddiſh ring within.

ATRATA, a ſpecies of NERITA, found in the Atlantic, American, and ſouth ſeas. Shell deep, black, globoſe, very thinly ſtriated above; both lips white; exterior one very finely ſulcated, and ſomewhat toothed within; inner one concave, rugoſe, and tuberculated. Chemnitz.

ATRATA, in *Entomology*, a ſpecies of SCOLIA that inhabits America. It is hairy and black; wings ferruginous, and black at the tip. Fabricius.

ATRATA, a ſpecies of TIPULA. The wings are ſubfuſcous; marginal dot and body black; firſt ſegment of the abdomen and legs rufous. Fn. Suec. Linn. This is *tipula ichneumonea* of Degeer. Inhabits Europe. The abdomen of the female is recurved, ſubulate, and very pointed.

ATRATA, a ſpecies of MUSCA (*Rhagio* Fabr.) that inhabits Italy. It is black, and without ſpots; wings hyaline, with a black marginal ſpot. Fabr. Gmel.

ATRATA, a ſpecies of MUTILLA that is found in Africa. It is black; thorax rufous above; abdomen blue, with two white bands. Fabricius. This is mutilla atra, abdomine faſcia albâ, thorace immaculato of Linn. Syſt. Nat. It is hairy, and has browniſh wings.

ATRATA a ſpecies of FORMICA, with four ſpines on the thorax; head depreſſed and marginated, with two ſpines on each ſide. This is *formica quadridens* of Degeer, and *tapiiai* of Marcgrave Braſ. 252. It inhabits South America; is black, with an obtuſe head; jaws very ſhort; petiole of the abdomen bituberculated.

ATRATA, a ſpecies of TENTHREDO, of a black colour; back with a yellow-green band, and three curves of the ſame colour. Inhabits England. Forſter's Nov. Inſ.

ATRATA, a ſpecies of PHRYGANEA that inhabits Siberia. It is black; wings whitiſh, with many ſpots, and two bands of black. Lepechin.

ATRATA, a ſpecies of PHALÆNA (*Geometra*). The firſt wings whitiſh, and black at the baſe, with a broad black ſtripe; ſecond pair browniſh, with two white undulated ſtreaks. Linn. &c.

ATRATA, a ſpecies of CICADA found in China, and deſcribed in Donovan's Inſects of China, under the name of *cicada atrata*, great black Chineſe frog-hopper. The colour is black, with white wings, black at the baſe, and veined with yellowiſh brown. This is ſuppoſed from its being extremely common in China, to be the ſpecies of Cicada obſerved by ſir George Staunton, in the route of the Britiſh embaſſy to the court of Pekin, and noticed in his work under the trivial name of the noiſy cicada. "The muſic emitted by a ſpecies of cicada," ſays that writer, "was not of the vocal kind, but produced by the motion of two flaps or lamellæ, which cover the abdomen, or belly of the inſect. It is the ſignal of invitation from the male of that ſpecies to allure the female, which latter is quite unprovided with theſe organs of courtſhip."—On this ſubject it is remarked, in the Hiſtory of Chineſe Inſects referred to above, that theſe organs of ſound are by no means peculiar to the individual ſpecies ſir George deſcribes; all the males in that ſection of Linnæan cicadæ which Fabricius calls *tettigonia*, are furniſhed with ſuch lamellæ, and emit a ſound in like manner; and the males of thoſe ſpecies included in the other ſections of that genus are certainly furniſhed with them alſo, although in ſome kinds they are very ſmall, and in a few inſtances not viſible to the naked eye. Theſe organs will be noticed more particularly in ſpeaking of the genus cicada.

ATRATA, a ſpecies of MELOE. (*Mylabris* Fabr.) It is of a deep gloſſy black, with a yellow-waved band near the apex. Is found near the Caſpian ſea. Pallas.

ATRATA, a ſpecies of LYTTA, the body of which is entirely brown and immaculate. Fabricius. Inhabits Barbary.

ATRATA, a ſpecies of SILPHA. It is black; wing-caſes punctated, with three elevated lines; thorax entire. A native of Europe.

ATRATA, a ſpecies of CICINDELA (*Elaphrus* Fabricius), deſcribed by Pallas as being entirely deep black and opake. Pall. It. 1 App. n. 42. A native of Siberia; in form and ſize reſembles Cicindela germanica, and it is conjectured by Gmelin may not properly belong to the Elaphrus genus.

ATRATA, a ſpecies of CHRYSOMELA, deſcribed by Geoffroy as a native of France. This kind is black, with wings of a blood-red colour. Gmel.

ATRATA, a ſpecies of CASSIDA, about the ſize of caſſida nebuloſa, or rather ſmaller. It is black, with the ſhield of the head ſanguineous in front. Found in Auſtria.

ATRATA, in *Ornithology*, a ſpecies of TANAGRA that is entirely black and ſhining. This is *cardinalis atra* of Linn. Syſt. Nat., and *black tanager* of Latham. Is a native of India, and has the back gloſſed with ſhining blue. About the ſize of a thruſh.

ATRATA, a ſpecies of MOTACILLA, called by Latham the *black red-tail*. This bird is ſix inches in length; colour black; crown lead-colour; quill feathers black; exterior margins of the ſecondaries rufous; the two middle ones black. Gmelin. Its country is unknown.

ATRATO, in *Geography*, a conſiderable river of America, which runs into the gulf of Mexico, near Carthagena.

ATRATORIUS, in *Entomology*, a ſpecies of ICHNEUMON, with the ſcutel white; thorax without ſpots; three laſt ſegments of the abdomen edged with white; legs rufous. A native of Germany.

ATRATUS, HUGH, in *Biography*, born at Eveſham, in Worceſterſhire, made ſuch proficiency in philoſophy, mathematics, and medicine, that he was eſteemed the phœnix of his age. He was invited to Rome by pope Nicholas III. and addicting himſelf to the church, in 1281, he was advanced to the cardinalate. He died of the plague in 1287. The works attributed to him are, "Canones medicinales, ſuper Opus Febrium Iſaaci Opuſculum." "De Genealogiis Humanis." Eloy.

ATRATUS, in *Conchology*, a ſpecies of TURBO, of a blackiſh colour, with double alternate black and cinereous moniliform belts of granulations; and a ſingle tooth on the pillar lip. About the ſize of a nut, and inhabits the Nicobar iſlands. Gmelin.

ATRATUS, a ſpecies of MUREX of a deep black; whorls tranſverſely ſtriated with tubercles; pillar with a ſingle plait; tail ſtraight, Born.; whorls of the ſpire ten in number; lip crenulated.

ATRATUS, in *Entomology*, a ſpecies of TENEBRIO. (*Stenus* Fabr.) It is a native of Egypt, and is entirely black and gloſſy. Gmel. Fabr. &c. The wing-caſes are united, and the anterior legs bidentated.

ATRATUS, a ſpecies of CURCULIO found at the cape of Good Hope. It is glabrous, ſhining-black; wing-caſes ſtriated

ſtriated, with impreſſed dots on the interſtices. Sparrm. nov. act. Stockh. 1785.

Atratus, a ſpecies of Cryptocephalus. (*Crioceris* Fabr.) It inhabits Tranquebar; is pale with the wing-caſes entirely margined with deep black. Gmel. &c.

Atratus, a ſpecies of Cerambyx (*Prionus* Fabr.) that inhabits Ceylon. The thorax is bidentated on each ſide; body black; antennæ moderate, with ſerrated ſpines in front. Gmelin, &c.

Atratus, an European ſpecies of Carabus, of a black colour, with orbicular thorax, pale wing-caſes, varied with black; antennæ and legs ferruginous-brown. Muſ. Leſk. Linn.

Atratus, a ſpecies of Tenebrio found in Egypt; it is entirely black and glabrous. Gmel. The wing-caſes are united, and the anterior legs bidentated.

Atratus, a ſpecies of Cimex, of an oblong form (*Oblongus* Sect.) and entirely of a deep black. Geoffroy. Inhabits France.

Atratus, a ſpecies of Hemorobius found in Africa. The wings are whitiſh; firſt pair ſpotted with black; body black. This is a large inſect, and inhabits Africa; the thorax is hairy, and the abdomen cylindrical. Fabricius.

Atratus, a ſpecies of Ichneumon that inhabits Europe. It is black; abdomen ferruginous, with the four extreme ſegments black; legs rufous; antennæ ferruginous, annulated with brown, and tipped with black. A native of Europe. Muſ. Leſk. Linn. *Obſ.* In Gmelin's ſubdiviſion of the ichneumon genus, this inſect belongs to that family which has the ſcutel and thorax of the ſame colour, and the antennæ annulated or banded. Another ſpecies occurs under the ſame ſpecific name, which belongs to that family in which the ſcutel and thorax are of one colour, and the antennæ black. This is a large inſect, and inhabits America. It is black; head, legs, and ſtreak on the tail, yellow; ſting very long. Fabricius. The mandibles and ſtreak between the eyes are black; wings duſky; ſting thrice the lengh of the body.

Atratus, in *Natural Hiſtory*, a ſpecies of Echinus that inhabits India. It is hemiſpherical-oval, and rather depreſſed, with very ſhort, obtuſe, truncated ſpines; the marginal ones clubbed and depreſſed. Gmelin. This is *cidaris violacea* of Klein, and *violette egel-mæder* of Phelſ. Zee-eg. p. 30. The form of this kind is rather orbicular, cinereous inclining to violet; ſpaces ten, very finely granulated, with a row of larger tubercles, in the larger ones diſpoſed in a quincunx order, and a double row in the ſmaller ones; avenues brown, excavated, granulated, with four rows of pores; ſpines violet, ſome of them clubbed, ſome angulated at the tip, and ſome cylindrical.

ATREBATII, or Attrebatii, in *Ancient Geography*, a people of Britain, ſituated next to the Bibroci, in part of Berkſhire and part of Oxfordſhire. According to Camden they inhabited Berkſhire; but Baxter ſays that their country was Oxfordſhire. They occupied, as it is ſaid, nearly the whole of the weſtern parts of Berkſhire, from the river Lodden on the ſouth-eaſt, the banks of the Thames on the north-weſt and weſt, and the hills of Eaſt Ilſley, Lamborn, and Aſhbury on the ſouth. The Atrebatii were one of thoſe Belgic colonies which had come out of Gaul into Britain, and there retained their ancient name: for they were a tribe of the Belgæ, who inhabited the country which is now called Artois. They are mentioned by Cæſar among the nations which compoſed the Belgic confederacy againſt him; and the quota of troops which they engaged to furniſh on that occaſion was 15,000. Comius of Arras was a king or chieftain among the Atrebatii in Gaul in Cæſar's time; and he ſeems to have poſſeſſed ſome authority, or at leaſt ſome influence, over our Atrebatii in Britain; for he was deputed by Cæſar to perſuade them to ſubmiſſion. Hence it is probable that this colony of the Atrebatii had not been ſettled in Britain very long before that time. Theſe were among thoſe Britiſh tribes which ſubmitted to Cæſar; nor do we hear of any remarkable reſiſtance which they made againſt the Romans at their next invaſion under Claudius. It is probable, that before this ſecond invaſion they had been ſubdued by ſome of the neighbouring ſtates, perhaps by the powerful nation of the Cattivellauni, which will account for their being ſo little mentioned in hiſtory. Calliva Attrebatum, mentioned in Antonine's Itinerary, and called by Ptolemy, Calcua, ſeems to have been the capital of the Atrebatii; though our antiquaries differ in their ſentiments concerning the ſituation of this ancient city; ſome, with Horſley, placing it at Silcheſter in Hampſhire, near the confines of Berkſhire; Stukeley, at Farnham; and moſt others, with Camden and Baxter, placing it at Wallingford in Berkſhire. It has been doubted, whether the country of the Bibroci and Atrebatii was within the Roman province called Britannia Prima, or in that called Flavia Cæſarienſis; but it ſeems moſt probable that it was in the laſt of theſe provinces. Henry's Hiſt. vol. i. p. 248. vol. ii. p. 413. See Ancalites.

ATRELLA, in *Entomology*, a ſpecies of Phalæna (*Tinea*) that inhabits Italy. The wings and body are black and bronzed; apex of the poſterior ones, and the tail teſtaceous.

ATRESIA, from α, and $\tau\varepsilon\tilde{\iota}\rho\omega$; whence $\tau\varepsilon\tilde{\iota}\varrho\alpha\omega$, *to perforate*; in *Surgery*, imperforation, or the ſtate of thoſe perſons who want ſome natural aperture.

ATRETI, thoſe perſons of either ſex, in whom the *anus*, or genitals, are imperforate, or cloſe, whether naturally, or occaſioned by ſome accident or diſeaſe, as the growth of ſome fleſhy excreſcence, or a membrane which ſtops the orifice.

ATRI, in *Geography*, a town of Italy, in the kingdom of Naples, and province of Abruzzo Ultra; nine miles eaſt of Teramo. See Adria.

ATRIB, a village of Egypt, on the right bank of the Damietta branch of the Nile. A little below it runs a large canal, which empties itſelf into the lake Menzale, towards the eaſtern part of it. The cottages that compoſe this village, cover the ruins of the ancient *Atribis*, which, according to Ammianus Marcellinus, was one of the moſt conſiderable towns in Egypt. But no remains of its former extent and grandeur now exiſt.

ATRIBUNIE, a river that runs through the weſtern part of the iſland of St. Domingo, and empties itſelf into the ſea.

ATRICAPILLA, in *Ornithology*, a ſpecies of Emberiza, of a reddiſh brown above, beneath cinereous; chin white; crown yellow; forehead, and ſtripe through the eyes black. This is *emberiza atricapilla* of Gmelin, and *black crowned bunting* of Latham. It inhabits the Sandwich iſles. There is a variety of this bird in which the breaſt is waved with black; and alſo another bird correſponding with the firſt in ſome reſpects, but in which the crown is not yellow; this is ſuppoſed to be the female.

The black-crowned bunting is ſeven inches in length; upper part of the plumage reddiſh brown, and each feather marked longitudinally with a duſky colour; coverts and quills edged with a paler colour; the throat, breaſt, and belly are aſh-colour; the laſt marked along the middle with yellowiſh buff; tail brown; legs brown; claws duſky. Lath.

ATRICAPILLA, a ſpecies of MUSCICAPA, called by Engliſh naturaliſts the *cold-finch* and *pied fly-catcher*. The colour is black; beneath, ſpot on the front, and another on the wings, white; outer web of the exterior tail feather white. Kramer, Gmelin, &c. This is motacilla remigibus extimo dimidiato extrorſum albo of Linn. Fn. Suec. rubetra anglicana of Briſſon, ficedula atricapilla ſe mutans Aldr. Orn. 2. p. 758. le tarquet d'Angleterre of Buffon, cold-finch of Willughby, and pied fly-catcher of Pennant and Latham.

The length of this bird is four inches and three quarters; bill black; irides hazel; general colours black and white; the upper part of the body, wings, and tail black; upper tail coverts intermixed with black and white, and ſometimes entirely black; legs of the ſame colour. Female brown in thoſe parts where the male is black, and deſtitute of the white ſpot on the forehead. This bird inhabits Europe. In England it is rare, and chiefly found in Yorkſhire, Lancaſhire, and Derbyſhire. Vide Lath. Gen. Syn.—Donov. Brit. Birds, &c.

Of this ſpecies there are two or three varieties; the firſt, *muſcicapa nigra*, and *le gobe-mouche noir* of Briſſon Orn. a bird about five inches and a half in length, and differing from the laſt in having a mixture of grey on the upper parts, the thighs mixed brown and white, and the three outermoſt tail feathers white on the margin. The other is *motacilla nigra torquata* of Cramer, and *le gobe-mouche noir à collier* of Buffon: this is like the firſt kind, but has the white on the neck paſſing entirely round, and forming a collar. It is met with in Lorraine and Brie, where it arrives in the middle of April. The principal food of this bird is flies. A third kind, called by Linnæus *muſcicapa variegata*, inhabits India; this is about the ſize of the white wagtail; general colour brown; forehead, ſides of the head, and underparts white; and a line of white extending alſo from the ſhoulders to the middle of the back; outer feathers white at the tip.

ATRICAPILLA, a ſpecies of MOTACILLA, well known in England by the name of *black-cap*, and in France by that of *la fauvette à tête noir*. It is ſpecifically deſcribed as being teſtaceous, cinereous beneath; cap duſky or black. Linn. &c. The length is five inches and a quarter; bill brown; top of the head black; upper parts of the body greeniſh, aſh-colour; ſides of the head and under parts grey, becoming almoſt white near the vent; quills and tail cinereous brown; the two middle tail feathers rather ſhorter than the reſt; legs lead colour; claws black. The female differs in having the head of a ferruginous cheſnut colour inſtead of black.

This bird inhabits Italy, and other parts of Europe to the northward of that country, and is not unfrequent in England during the ſummer months; it arrives here in the ſpring, and retires in September. In Italy it builds twice a year, according to Olina, with us only once; the neſt is generally placed in ſome low buſh, and is compoſed of dried ſtalks, mixed with a little wool, and green moſs; the inſide is lined with the fibres of plants, and thinly covered with horſe-hair; the eggs are five in number, of a pale reddiſh-brown colour, mottled, and ſprinkled with a few larger dark ſpots. It feeds on inſects, but not excluſively on them, as it will eat the fruits of ſpurge, laurel, and ivy. The ſong of this bird is amazingly fine, and in ſome particulars reſembles that of the nightingale; emulating in delightful ſweetneſs and melody the note of that charming ſongſtreſs, and being only deficient in that wild variety and extent of modulation, for which the nightingale is ſo much admired. The black-cap is from this circumſtance called by ſome the mock-nightingale.

Dr. Latham deſcribes three varieties of this ſpecies of warbler; one in which the body is entirely variegated with black and white only; *curruca albo et nigro varia* of Briſſon, *ficedula varia* of Aldrovandus, and firſt variety of Gmelin.—Another, a bird ſomewhat larger, having the upper parts almoſt black, with a white throat, and ſides almoſt grey; this is *curruca ſupra fere nigricans, gula alba* of Gmelin, the ſecond variety of that author, and *petite columbaude* of Buffon.—And the third variety is *fauvette verdatre de la Louſiane* of Buffon, and *curruca ſubtus griſea, gula ſupercilioſque albis* of Gmelin; the under parts of this is greyiſh; the throat, and ſtreak above the eye white; the hind part of the neck deep aſh-colour; ſides and back pale brown, tinged with green; wings and tail blackiſh.

ATICAPILLUS, in *Entomology*, a ſpecies of TURDUS, of a brown colour, with a black head; belly and rump rufous; and a black ſpot on the wing. Gmelin. This is *merle à tête noire du cap de Bon Eſpérance* of Buffon. It inhabits the cape of Good Hope; and is about nine inches in length; the belly is ſtriated with brown; tail cuneated, the feathers pale at the tips.

ATRICAPILLUS, a ſpecies of CARABUS, of the winged kind. The thorax is rufous; wing-caſes teſtaceous and obtuſe; head black. Fabricius. *Obſ.* Gmelin deſcribes it as being yellow, with a black head and very obtuſe wing-caſes.

ATRICAPILLUS, a ſpecies of STAPHYLINUS that is found in England. The thorax is rufous; wing-caſes fuſcous, with a dot at the baſe and poſterior margin white. Fabricius.

ATRICAPILLUS, in *Ornithology*, a ſpecies of LANIUS that inhabits Surinam, and is called by ſome the Surinam ſhrike. The tail is wedge-formed, and with the crown, neck, ſhoulders, and wings, black; body above mouſe-colour; beneath of a bluiſh aſh-colour. Merrem Beytr. &c. The length of this bird is five inches; wings ſhort; margins of the wing-coverts and ſecondary quill-feathers white; all the tail-feathers, except the two middle ones, tipped with white.

ATRICAPILLUS, a ſpecies of PSITTACUS called by Briſſon *ara Moluccenſis varia*. It is a native of the Molucca iſles, and about fourteen inches in length; colour above blue; chin, throat, and breaſt red; belly and vent green; crown black; neck green and red. Gmelin. The wings and upper tail-coverts are blue, lower green, varied with red; tail green above, beneath red, edged with black. Klein calls this *pſittacus capite nigro, collari viridi*, and Buffon *grande perruche à bandeau noir*.

ATRICAPILLUS, a ſpecies of CHARADRIUS, called by Latham the *black-crowned plover*. Above it is cinereous brown, beneath white; bill and legs red; crown black, encircled with white; neck and breaſt cinereous, and terminating in a tranſverſe duſky ſtreak. Inhabits New York. Gmelin. The front is black; bill black at the apex; baſe of the tail white, blackiſh near the extremity, tips white.

ATRICAPILLUS, a ſpecies of PARUS, found in North America, and called the *Canada titmouſe* by Pennant and Latham. The cap and throat are black; body cinereous, and white beneath. Briſſon calls this *parus atricapillus canadenſis*, and Buffon *meſange à tête noire de Canada*. The length of this bird is four inches and a half; it feeds on worms and inſects, and bears cold with remarkable perſeverance. The upper tail-coverts are whitiſh; greater wing-coverts brown, edged with grey; quill feathers brown, with the exterior edges grey, and the inner ones whitiſh; middle tail-feathers cinereous; lateral ones brown, with grey margins; legs and claws blackiſh. Gmelin, &c.

ATRICES, or ATTRICES, in *Surgery*, ſmall tubercles about

about the anus, which ſometimes diſappear, and then return again, at leaſt while in their early ſtate.

The atrices are ranked in the number of *ex lyſenata* or *fici*. Some authors alſo give the denomination *atrices* to a kind of latent wounds in the extremity of the rectum, which however do not perforate the ſame.

ATRICILLA, in *Ornithology*, a ſpecies of LARUS or gull, called by Willughby Baltner's great aſh-coloured ſea-mew; and in the Arctic Zoology of Pennant and Gen. Syn. of Latham, the laughing-gull. Buff. names it gavia ridibunda, and Buff. mouette rieuſe. This bird is very common about the ſhores of America, and places contiguous. Its food is fiſh and marine worms; and it is ſpecifically diſtinguiſhed from the reſt of the gull tribe by being of a hoary grey colour, with a blackiſh head, red bill, and black legs. Oedm. Nov. Act. Stockh. &c.

ATRICILLA, in *Entomology*, a ſpecies of CHRYSOMELA, of a black colour, with the thorax, wing-caſes, and ſhanks of the legs teſtaceous. Linn. Faun. Suec. Fabricius deſcribes it as chryſomela ſaltatoria nigra, thorace-elytriſque cinereis. Spec. Inſ. *Chryſomela melanocephala* of Degeer is ſuppoſed to be a variety of this ſpecies, by Gmelin. Inhabits Europe, and is found on various plants.

ATRICILLOIDES, in *Ornithology*, a ſpecies of LARUS, that inhabits Siberia, about the ſalt lakes. The colour is reddiſh white, with the head, orbits, and neck black; back and wings cinereous; legs ſcarlet. Falck. It. 3. p. 355.

ATRIENSES, in *Antiquity*, a kind of ſervants or officers, in the great families at Rome, who had the care and inſpection of the atria, and the things lodged therein.

Theſe are otherwiſe called atriarii, though ſome make a diſtinction between atrienſes and atriarii; ſuggeſting that the latter were an inferior order of ſervants, perhaps aſſiſtants of the atrienſes, and employed in the more ſervile offices of the atrium, as to attend at the door, ſweep the area, &c.

The atrienſes are repreſented as ſervants of authority and command over the reſt; they acted as procurators, or agents of their maſter, in ſelling his goods, &c. To their care was committed the ſtatues and images of the maſter's anceſtors, &c. which were placed round the atrium; and which they carried in proceſſion at funerals, &c.

In the villas, or country-houſes, the atrienſes had the care of the other furniture and utenſils, particularly thoſe of metal, which they were to keep bright from ruſt. Other things they were to hang from time to time in the ſun, to keep them dry, &c. They were clothed in a ſhort white linen habit, to diſtinguiſh them, and prevent their loitering from home.

ATRIP, in *Nautical Language*, is applied either to the anchor or ſails. The anchor is atrip, when it is drawn out of the ground in a perpendicular direction, either by the cable or buoy-rope. The top-ſails are atrip, when they are hoiſted up to the maſt-head, or their utmoſt extent.

ATRIPALDA, in *Geography*, a ſmall town of Naples, in the Principato Ultra, built upon the ruins of the ancient Abellinum Marſicum, and ſtanding upon an eminence compoſed of ſtrata of ſoft coloured tufa. The inhabitants are ſuppoſed to have retired from it in the middle ages, and to have founded the preſent city of Avellino, as more convenient for traffic. Atripalda carries on ſome trade in paper, cloth, and hard-ware. This town was firſt held in fee by the Montforts; it was afterwards granted by Ferdinand I. to George Caſtriot, or Scanderberg, prince of Epirus, as a reward for his timely aſſiſtance in 1460; and it now gives the title of duke to the prince of Avellino's eldeſt ſon.

ATRIPLEX, in *Botany*, the plant called Orache or Arache. Linn. g. 1153. Schreb. 1577. Gærtn. 75. Juſſ. 85. Claſs, *[illegible]*. Nat. Order, *holeraceæ*. *Atriplices* Juſſ. Gen. Char. Hermaphrodite flower. *Cal.* ſcale five-leaved, concave, permanent; diviſions ovate, obtuſe, membranaceous at the edge. *Cor.* none. *Stam.* filaments five, ſubulate, oppoſite to the leaves of the calyx, and longer than them; anthers roundiſh, twin. *Pyſt.* germ orbicular, ſtyle two-parted, ſhort; ſtigmas reflex. *Per.* none. *Calyx*, cloſed, pentagonal, with the angles compreſſed, deciduous. *Seed*, one, orbicular, depreſſed. Female flower on the ſame plant. *Cal.* perianth two-leaved; leaflets flat, erect, ovate, acute, larger, compreſſed. *Cor.* none. *Pyſt.* germ compreſſed; ſtyle two-parted; ſtigmas reflex, acute. *Per.* none; valves of the calyx very large, cordate, including the ſeed between them. *Seed*, one, orbicular, compreſſed.

Eſſ. Gen. Char. Herm. *Cal.* five-leaved. *Cor.* none. *Stam.* five. *Style*, two-parted. *Seed*, one-depreſſed. Female. *Cal.* two-leaved. *Cor.* none. *Stam.* none. *Style*, two-parted. *Seed*, one, compreſſed.

Species, 1. A. *halimus*, tall, ſhrubby orache, or Spaniſh ſea-purſlane. "Stem ſhrubby; leaves deltoid, entire." Root perennial, woody, branched. The whole ſhrub is white; ſtems from four to ſix inches high or more, dividing into woody brittle branches; leaves ſcattered on long footſtalks; flowers ſmall, purpliſh, at the ends of the branches. It grows in hedges near the ſea about Nice, alſo in Spain, Portugal, Sicily, &c. According to Parkinſon it was cultivated here in 1640. 2. A. *portulacoides*, dwarf ſhrubby orache, or common ſea-purſlane. Hudſ. With. Lightf. Eng. Bot. 4. t. 261. "Stem ſhrubby; leaves obovate." A low underſhrub; leaves narrow, whitiſh; branches angular, reclining, glaucous; flowers in cluſtered ſpikes terminal, yellow. It grows near the ſea in ſalt marſhes, flowering in July and Auguſt. 3. A. *glauca*. "Stem undershrubby procumbent; leaves ovate, ſeſſile, quite entire; the lower ones ſubdentate." Stem three or four feet long, with declining branches; leaves thickiſh, of a ſilvery glaucous colour; flowers yellow at the axils of the upper branches. A native of France and Spain. 4. A. *roſea*. Villars Dauph. 2. 565. "Stem herbaceous; leaves hoary, ſerrated; fruit quadrangular, toothed." Stem erect, ſomewhat angular, white, ſmooth, branched, a foot and a half high; leaves alternate, ſubſeſſile, rhomb-heart-ſhaped, ſinuate-toothed, covered with a farinaceous white powder; flowers in cloſe cluſters, axillary; valves of the fruit hoary and finely notched. A native of the ſouth of Europe. Annual. 5. A. *ſiberica*, Siberian orache. "Stem herbaceous; leaves deltoid angular, calyxes of the fruit muricated on the outſide." This is of the ſame ſize as the A. hortenſis. The fruit is tomentoſe at the baſe, and muricate on the outſide; the leaves are ſilvery beneath, and the flowers white. A native of Siberia. Annual. 6. A. *tartarica*, Tartarian orache. Hudſ. 443. n. 2. β. "Stem herbaceous; leaves deltoid, ſinuate-toothed, waved, alternate." According to Linnæus, this riſes five or ſix feet high. Mr. Hudſon conſiders it as a variety of the laciniata produced by cultivation. 7. A. *hortenſis*, garden orache. Gmel. Sib. 3. 71. Gærtn. Fruct. 1. 362. "Stem erect, herbaceous; leaves triangular." Root annual; ſtem above three feet high; leaves thick, pale, and variable in their ſhape; valves of the calyx ovate-cordate, ſtreaked, entire. A native of Tartary, and cultivated by Gerard in 1596. It was formerly cultivated as a culinary herb, being uſed as ſpinage, and it is ſtill eaten by the French. There are ſome varieties of it which depend wholly upon colour. 8. A. *laciniata*, jagged ſea orache. Hudſ. With. Lightf. Eng. Bot. 3. 165. "Stem herba-

ceous; leaves deltoid, toothed, filvery underneath." The whole plant is covered with a fkin that peels off, and is of a grey hoary colour; ftem two feet high, branched; leaves except the loweft alternate, and filvered with little plates; lower ones deltoid; upper deltoid-lanceolate, below entire at the edge, above variouſly jagged; hermaphrodite flowers in ſeſſile cluſters at the top of the ſtalks, females axillary and twin. It grows on our and other European ſea-coaſts, flowering in July and Auguſt. Annual. 9. A. *haſtata*, broad-leaved wild orache, vulg. Fat-hen. Martyn's Mill. Dict. "Stem herbaceous; valves of the calyx in the female flowers large, deltoid, ſinuated." Dr. Smith ſays, "all our botaniſts had taken the A. patula, or common orache, for the A. haſtata of Linnæus, till his herbarium diſcovered it to be his patula. The real haſtata proves a very different plant, having the valves of the female calyx, when in fruit, very large, membranous, reticulated, with veins, and bordered with long ſetaceous teeth." The above two ſpecies however bear ſo cloſe a reſemblance to each other according to Haller, that he doubts if they really be diſtinct ſpecies. A common weed in cultivated grounds, gardens, and dunghills, flowering from June till Auguſt. 10. A. *patula*, ſpreading halberd-leaved orache. Eng. Bot. 13. t. 136. A. haſtata. Hudſ. 443. With. 274. Curt. Lond. 2. 66. "Stem herbaceous, ſpreading; leaves triangular-lanceolate, ſomewhat halberd-ſhaped; calyx of the fruit more or leſs tuberculated at the ſides." Smith. Eng. Bot. It grows everywhere, on dunghills, waſte or cultivated land; root annual, fibrous; ſtem with long, ſpreading, numerous branches; leaves alternate, on ſtalks mealy beneath; the lower ones haſtate, deeply and irregularly toothed; the upper narrow, lanceolate, moſtly entire; cluſters of flowers terminal, and axillary, long, interrupted, a little leafy; valves of the female calyx, which alone ſeems to ripen its ſeed, triangular, acute, toothed about the lateral angles, and ſtudded in the middle with tubercles. By the ſea-ſide the whole plant is procumbent, more fleſhy, reddiſh, and all the leaves ſomewhat entire. Smith. l. c. 11. A. *littoralis*, graſs-leaved ſea orache. Hudſ. 444. With. 275. Eng. Bot. 10. t. 702. "Stem herbaceous, erect; leaves all linear, entire, or toothed; calyx of the female flowers muricated, ſinuated." Stem erect, angular, with leafy branches; leaves alternate, on footſtalks, flat, linear, having their margins entire, or more commonly ſet with ſmall ſcattered teeth, mealy underneath; ſpikes terminal, denſe, obtuſe; valves of the female flowers become much enlarged, ovate, deeply and irregularly ſinuated, and furniſhed with large pointed tubercles. Found on the eaſtern and ſouthern coaſts of this kingdom, in a muddy ſoil, flowering in Auguſt and September. 12. A. *pedunculata*, pedunculated ſea-orache. Hudſ. 444. With. 1146. Eng. Bot. 4. 232. "Stem herbaceous, with divaricating branches; leaves lanceolate, obtuſe, undivided; fruit of the female flowers peduncled." The pedunculated fruit, even, without the zigzag, angular ſtem, ſufficiently diſtinguiſhes this ſpecies from all its congeners. The ſtem is ſix or eight inches high, with remarkably glaucous leaves. It grows on the ſalt marſhes near Yarmouth, and was found by Dr. Smith on the muddy ſhore of the river Ouſe, juſt below Lynn. Annual. 13. A. *marina*, ſerrated ſea-orache. Lightf. 637. "Stem herbaceous, erect; leaves linear ſerrate." Mr. Hudſon's A. ſerrata is certainly a variety of A. littoralis, and we are diſpoſed to conſider this as the ſame plant. 14. A. *albicans*, white orache. "Stem ſhrubby, erect; leaves haſtate, entire, acute; ſpikes terminating." A native of the Cape; diſcovered by Maſſon, and introduced by him into the Kew garden in 1774.

Propagation and Culture. 1, 2, 3. may be increaſed by cuttings planted in any of the ſummer months, on a ſhady border; where, if they be daily watered, they will be in a ſtate to tranſplant the Michaelmas following. N° 7. muſt be ſown for uſe in the ſpring, or at Michaelmas, ſoon after the ſeeds are ripe, which is better. Theſe plants require no other care, but to hoe them when they are about an inch high; to cut them down where they are too thick, leaving them about four inches aſunder, and to clear them from weeds. When the plants are about four inches high, it will be proper to hoe them a ſecond time, and if this be well performed in dry weather, the ground will remain clean until the plant is fit for uſe. Where it is ſown on a rich ſoil, and the plants are allowed a proper diſtance, the leaves will be very large and in that the excellence of the herb conſiſts. Unleſs it be eaten when young, the ſtalks become tough and good for nothing. The ſeeds will ripen in Auguſt, when the plants may be cut or pulled up and laid on a cloth to dry; after which the ſeeds may be beaten out and put in bags to dry. Moſt of the other ſorts, ſo far from being cultivated in gardens, are to be rooted out from them as rank weeds. Martyn's Miller's Dict.

ATRIPLEX. See ATRAPHAXIS, AXYRIS, BLITUM, CHENOPODIUM, and GALENIA.

ATRIPLICIS, in *Entomology*, a ſpecies of SCARABÆUS (*Melolontha*.) This inſect is oblong, villoſe, pale; future and apex of the wing-caſes black; ſhield of the head reflected. A native of Barbary, and feeds on the atriplex halmifolia; in ſize and appearance reſembles S. ruficornis.

ATRIPLICIS, a ſpecies of CURCULIO that is found on the ſhores of Norway. It is long and black; thorax ſhining; wing-caſes ſtriated and obtuſe. Gmelin.

ATRIPLICIS, a ſpecies of PHALÆNA (*Noctua*). The firſt wings are clouded with brown, with a yellow bifid mark in the middle. Fn. Sv. Fabr. &c. The larva is naked, reddiſh, dotted with white, and marked along the back with a brown line. Pupa, naked and brown.

ATRIPLICIS, a ſpecies of APHIS that infeſts the atriplex hortenſis. The body is gloſſy black, plaited at the ſides; ſhanks pale; tail obtuſe. Fabr. &c.

ATRIROSTRIS, a ſpecies of CURCULIO. It is cinereous, with the ſnout arched and black. Inhabits Leipzick. Paykull.

ATRIUM, in *Ancient Architecture*, one of the interior diviſions of the ancient Roman houſes. Aulus Gellius tells us, that even in his time many learned perſons confounded together the terms atrium and veſtibulum. Cecilius Gallus teaches us, that the veſtibulum was not a part of the interior of the houſe, but only a large receſs at the principal entrance, perhaps analogous to the modern loggias of the Italians. Cicero, in a letter to Atticus, ſeems to expreſs the ſame thing, when he ſays, that in paſſing through the ſacred ſtreet, when he was purſued by aſſaſſins, he took refuge in the veſtibulum of Tatius. "Seceſſi in veſtibulum Caii Tatii Domionis." From the time of Aulus Gellius, the ſame uncertainty of the exact meaning of theſe words continued, and they became almoſt ſynonymous. It muſt be ſtill more difficult at the preſent time, to aſſign to the atrium its true ſituation and uſe.

Martial places the coloſſus of Nero in the atrium, and Suetonius in the veſtibulum; from whence it reſults that one of them muſt have employed one of theſe terms improperly. Vitruvius even ſometimes employs the word atrium for cavædium. Virgil by this verſe, "apparet domus intus et atria longa pateſcunt," gives us to underſtand, that the atrium was an interior part of buildings; and it appears

certain,

certain, that this was a particular place in private houſes, palaces, and temples.

From the deſcription which Vitruvius gives us of it, it appears to have been an oblong room, having its breadth divided into three parts by two rows of columns. He gives rules for placing theſe columns according to the general proportion of the atrium.

The atrium was ſituated after the cavædium which was what we commonly call the court, and immediately before the tublinum. It was in the atrium that the Romans placed the ſtatues of their anceſtors, and it was alſo ſometimes uſed as an eating room, though they had alſo other places deſtined for the purpoſes of the table. This is proved by Virgil, who in deſcribing the place where they made their repaſt, ſays,

" Crateras magnos ſtatuunt et vina coronant,
Fit ſtrepitus tectis vocemque per ampla volutant.
Atria dependent lychni laquearibus aureis."

It follows from this, that we muſt conſider the atrium as one of the interior parts of the houſe, in which it differed from the veſtibulum, and that it was covered, which diſtinguiſhes it ſtill more from the cavædium or the impluvium.

Some temples had alſo an atrium: of this number was the temple of Veſta, and that of Liberty. It was in the latter (ſays Titus Livius) that they depoſited the hoſtages of the Tarentines. It appears that it was a covered ſemicircular court, if we may judge from the ancient marble plan of Rome, which is preſerved in the capitol, on which we ſtill read theſe words " atrium libertatis."

If we may believe the hiſtorians, the uſe and form of the atrium were borrowed from the Etruſcans, and this appellation comes from the city of Atria, or Adria, which gives name to the Atriatic or Adriatic ſea, and where this ſort of porticoes was much uſed.

Feſtus ſays " atrium proprie eſt genus edificii dictum atrium, quia id genus edificii primum atria in Etruria ſit inſtitutum." Varro de ling. Lat. l. 4. " atrium appellatum ab atriaticis Tuſcis: illinc enim exemplum ſumptum.

ATRIUM, in *Eccleſiaſtical Antiquity*, denotes an open place or court, before a church, making part of what was called the narthex, or ante-temple.

The atrium, in the ancient churches, was a large area, or ſquare plat of ground, ſurrounded with a portico or cloyſter, ſituate between the porch or veſtible of the church, and the body of the church.

Some have miſtakenly confounded the atrium with the porch or veſtible, from which it was diſtinct; others with the narthex, of which it was only a part.

The atrium was the manſion of thoſe who were not ſuffered to enter farther into the church. More particularly, it was the place where the firſt claſs of penitents ſtood, to beg the prayers of the faithful, as they went into the church.

ATRIUM is alſo uſed, in the *Canon Law*, for the cemetery, or church-yard.

In this ſenſe we find a law, prohibiting buildings to be raiſed in *atrio eccleſiæ*, except for the clergy; which the gloſſary explains thus: id eſt in *cæmeterio*, which includes the ſpace of forty paces round a large church, or three round a little church or chapel.

ATROPA, in *Botany*, (from Atropos, the third fate, who was ſuppoſed to cut the thread of life) *deadly nightſhade*, Lin. g. 249. Schreb. 335. Juſſ. 125. Gærtn. t. 131. Claſs, *pentandria monogynia*. Nat. Ord. *luridæ*. *Solaneæ*. Juſſ. Gen. Char. *Cal.* perianth one-leafed, five-parted, gibbous; diviſions acute, permanent. *Cor.* one-petalled, bell-ſhaped; tube very ſhort; border ventricoſe, ovate, longer than the calyx; mouth ſmall, five-cleft, ſpreading; diviſions ſubequal. *Stam.* Filaments five, ſubulate from the baſe of the corolla, and of the ſame length with it, converging at the baſe, above diverging outwards, bowed; anthers thickiſh, riſing. *Piſt.* germ ſemiovate; ſtyle ſubform, the length of the ſtamens, inclined. *Stigma* headed, riſing tranſverſely, oblong. *Per.* berry globular, ſitting on a large calyx, two celled. *Receptacle* fleſhy, convex on both ſides, reniform. *Seeds*, very many, reniform.

Eſſ. Gen. Char. *Cor.* bell-ſhaped. *Stam.* diſtant. *Berry* globular, two-celled.

Species, 1. A. *Mandragora*, mandrake, Woodv. Med. Bot. t. 225. " Stemleſs, ſcapes one-flowered." Root perennial, large, tapering, three or four feet long, externally brown, internally whitiſh. From the crown of the root ariſes a circle of leaves, which are large, ovate, ſinuated; veined, they ſit cloſe to the root, and are of a deep green colour, and fetid ſmell; among theſe ariſe three or four ſhort ſlender ſcapes, each ſupporting a ſingle flower of an herbaceous white colour; fruit a globular ſoft berry of a yellowiſh colour, and about the ſize of a nutmeg. A native of the ſouth of Europe. It was cultivated here, according to Turner, in 1562. The ſuperſtitious and abſurd ſtories related of the mandrake would not now for a moment impoſe on the moſt credulous and ignorant. The ſuppoſed reſemblance of ſome of the roots to the human form, the danger of taking them out of the ground, as well as their ſurpriſing effects, ſeem to have been the invention of charlatanical knavery and impoſture. Boerhaave uſed the leaves as a cataplaſm with ſucceſs in caſes of indurated tumours, and Hoffberg experienced the like effects from the roots in glandular ſwellings; the latter alſo found that three grains of the root given internally had a conſiderable narcotic effect in mitigating arthritic pains. See Woodv. l. c. 2. A. *belladonna*, deadly nightſhade, Hudſ. 93. With. 252. Smith. Brit. 255. Curt. Lond. 5. t. 16. Woodv. Med. Bot. t. 1. Eng. Bot. 592. " Stem herbaceous; leaves ovate, entire." Root perennial, thick, fleſhy, creeping; ſtalks herbaceous, annual, erect, firm, three feet high, round, branched, leafy, ſubpubeſcent; leaves lateral, two together, of an unequal ſize, petioled, ovate, acute, entire, ſmoothiſh, and of a dull green colour; peduncles lateral, ſubaxillary, ſolitary, one-flowered, nodding; flowers of a dirty violet colour; calyx rather pubeſcent, viſcous; anthers large, white; berry depreſſed, furrowed; when ripe of a ſhining black colour, and abounding with a purple juice. It grows in waſte-ground and gloomy lanes, &c. This plant has been long known as a very ſtrong poiſon of the narcotic kind; the berries, which are ſaid to be leſs powerfully ſo than the leaves, have produced many inſtances of their fatal effects, particularly upon children, who are readily tempted to eat this fruit by its alluring appearance and ſweet taſte. Whether theſe berries eaten in different ſtates of maturity renders them more or leſs deleterious, has not been aſcertained; but we are told that in ſome inſtances, one berry, or even half of one, has produced a fatal effect: while Haller informs us, that he has ſeen a fellow-ſtudent of his eat more than three or four without ſuffering any inconvenience from them. The ſymptoms produced by this poiſon are vertigo, delirium, great thirſt, painful deglutition, and retching, followed by furor, ſtridor dentium, and convulſions; the eye-lids are drawn down, the uvea dilated and immoveable, the face becomes red and tumid, and ſpaſms affect the mouth and jaw; the ſenſibility and irritability of the body ſuffer ſuch great diminution, that large and repeated doſes of the ſtrongeſt emetics produce no ſenſible effect;

effect; the pulſe is ſmall, hard, quick; and ſubſultus tendinum, riſus ſardonius, and coma, cloſe the fatal ſcene. Vinegar liberally drank has been found moſt efficacious in obviating the effects of this poiſon. On opening the bodies of thoſe poiſoned by this plant, inflammation and eroſions of the ſtomach and inteſtines have been diſcovered. A ſimilar effect was produced in the ſtomach of a horſe, at the Veterinary College, from a large doſe of opium, viz. three ounces. The leaves of the belladonna were firſt uſed externally to diſcuſs ſchirrous and cancerous tumours, and as an application to ill-conditioned ulcers, and their good effects in this way at length induced phyſicians to employ them internally for the ſame diſorders, and we find a conſiderable number of well-authenticated facts, which prove them to have been of important ſervice. Dr. Cullen ſays, "I have had a cancer of the lip entirely cured by belladonna; a ſchirroſity in a woman's breaſt entirely diſcuſſed by the uſe of it; a ſore a little below the eye, which had put on a cancerous appearance, was much mended by the internal uſe of this plant; but the patient having learned ſomewhat of the poiſonous nature of the medicine, refuſed to continue the uſe of it, upon which the ſore again ſpread, and was painful; but upon a return to the uſe of belladonna, it was again mended to a conſiderable degree; when the ſame fears again returning, the uſe of it was again laid aſide, and with the ſame conſequence." The root is much leſs powerful than the leaves. See Woodv. l. c. and Murray App. Med. 3 A. *phyſaloides*, Peruvian deadly night-ſhade. "Stem herbaceous; leaves ſinuate-angular; calyxes cloſed, acute-angular." Root annual, fibrous; ſtem ſpreading, two feet high; leaves alternate, ſmooth, oblong, running down the footſtalk; peduncles ſubaxillary, ſolitary, naked, one-flowered; calyx ovate, deeply five-parted; leaflets ſagittate-ovate; corolla bell-ſhaped, ſlightly five-lobed, blue, with a white eye, having five blue ſpots; berry about the ſize of a cherry, with five ſharp angles, and incloſed in a ventricoſe bladder. A native of Peru. Cultivated by Miller. 4. A. *ſolanacea*. "Stem ſhrubby; peduncles ſolitary; corollas bell-ſhaped; leaves ſubovate." Six feet high, ſomewhat branched and angular; leaves alternate, uſually many from the buds, petioled, entire, naked; peduncles axillary, one-flowered, filiform, the length of the leaves; flowers pendulous. A native of the cape of Good Hope. 5. A. *arboreſcens*, tree atropa, belladonna fruteſcens, &c. Plum. 46. f. 1. "Stem ſhrubby; peduncles crowded; corollas revolute; leaves oblong." A ſmall tree or ſhrub. Leaves alternate, in tufts towards the ends of the branches, lanceolate-ovate, acute, entire, nerved, of a dark colour; flowers peduncled, heaped, white, fragrant, nodding; peduncles numerous, one-flowered, whitiſh; corolla ſomewhat bell-ſhaped, narrow at the bottom, ſwelling at top; filaments twice as long as the corolla. This ſpecies is often tetrandrious. A native of South America and Jamaica. 6. A. *fruteſcens*, ſhrubby atropa. "Stem ſhrubby; peduncles crowded; leaves cordate ovate, obtuſe." Six or eight feet high; leaves alternate, roundiſh; flowers come out between the leaves on ſhort peduncles, and reſemble thoſe of belladonna, but much ſmaller, and of a dirty yellow colour. A native of Spain. Cultivated by Miller in 1739. 7. A. *herbacea*, herbaceous atropa, Mill. Dict. n. 3. "Stem herbaceous; leaves ovate, nerved, with waved edges." Root perennial; ſtems channelled, about two feet high, dividing into two or three branches; leaves four inches long and three broad, having ſeveral tranſverſe prominent ribs on the under ſide; flowers white, bell-ſhaped. The ſeeds were ſent to Mr. Miller from Campeachy. 8. A. *procumbens*, wheel-flowered atropa, Cavan. Hiſp. p. 80. t. 72. "Stem procumbent, herbaceous; leaves twin, unequal, ovate, ſmooth; flowers in umbels." Root annual; ſtem grooved, much branched, three feet high; leaves ſharp-ovate, running down the petiole, ſmooth, entire, one-nerved, glaucous beneath; common peduncle, ſolitary, ſcarcely an inch in length; rays of the umbel from two to five; corolla herbaceous, yellow, wheel-ſhaped, which ſufficiently diſtinguiſhes it from all its congeners. A native of Mexico.

Propagation and Culture. 1. Mandrake is propagated by ſeeds, as ſoon as they are ripe, when they are to be ſown upon a bed of light earth, and occaſionally refreſhed with water. In Auguſt they muſt be taken up very carefully and tranſplanted into the places where they are to remain, obſerving that the ſoil be light and deep, for the roots run far down, and will grow to a large ſize in a few years if not interrupted by gravel or chalk, or rotted in winter by wet ſoil. The plant ſhould alſo have a warm ſituation. The root will remain ſound above fifty years, and continue to be as vigorous as a young plant Deadly nightſhade may be propagated both by its roots and by its ſeeds; it requires a ſhady ſituation. If the ſeeds of the third ſpecies be permitted to ſcatter, the plants will come up the following ſpring, and may then be tranſplanted into the borders of the pleaſure garden, where they will grow to a large ſize. Species 4th, &c. may be propagated by ſeeds, which ſhould be ſown in a hot-bed in the ſpring; and when fit to be removed, they ſhould be each put into a ſeparate ſmall pot filled with loamy earth, and ſhaded until they take root. The 4th and 6th may be placed with other hardy exotic plants in a ſheltered ſituation, and in October they muſt be removed into the green-houſe. The 5th, 7th, and 8th, muſt be kept in the bark-ſtove, The 7th may be increaſed by parting the roots. See Martyn's Miller's Dict.

ATROPATENE, or ATROPASIA, in *Ancient Geography*, a country of Aſia, occupying the north-weſt part of Media, and lying between mount Taurus and the Caſpian ſea. It is ſaid to have taken its name from one Atropatus, who, being governor of this province in the time of Darius, the laſt Perſian monarch, oppoſed Alexander the Great, and upon the deſtruction of the Perſian monarchy, ſeized this part of Media, and tranſmitted it to his poſterity, who held it as ſovereigns to the time of Strabo. (Geog. lib. xi. p. 523.) It was a cold, barren, and inhoſpitable country, and on that account allotted by Shalmanezer for the reſidence of many captive Iſraelites, after the conqueſt of their kingdom. Its inhabitants, according to Polybius (l. v. p. 402.), were good ſoldiers; and we learn from Strabo, that its kings could bring into the field 40,000 foot and 20,000 horſe. The metropolis of Atropatene was Gaza.

ATROPHY (ἀτροφία from α, *privative*, and τρέφω, *nutrio*), in *Medicine*, a defect of nouriſhment, and conſequent emaciation. It differs from phthiſis, by being unaccompanied with cough, and purulent expectoration; and from tabes, by the abſence of hectic fever. This diſtinction, however, of ſyſtematic writers, between tabes and atrophy is not altogether ſo ſatisfactory as could be wiſhed; ſince atrophy in its advanced ſtage is often attended with a ſymptomatic fever reſembling the hectic. In the fourth volume of his Firſt Lines of the Practice of Phyſic, Dr. Cullen has candidly acknowledged that he was not ſatisfied with his arrangement of the ſeveral ſpecies of atrophia and tabes. He even expreſſes a doubt, whether the diſtinction attempted in Noſology, between the two diſeaſes, will properly apply; being of opinion that there are certain affections of the ſame nature, which ſometimes appear with, and ſometimes without fever.

fever. If, however, in compliance with syſtem, the diſtinction is to be made, we would reſtrict the term tabes to emaciations proceeding either from glandular and viſceral obſtruction, or from purulency and ulceration. If this be done, the third ſpecies of tabes in Cullen's Noſology will rank under atrophy; of which we ſhall then have ſix ſpecies placed in the following order; viz. Atrophia inanitorum; A. famelicorum; A. debilium; A. cachochymica; A. venenata; A. á compreſſione ductûs thoracici. The cauſes which induce the firſt-mentioned ſpecies, are long-continued and profuſe evacuations; ſuch as an immoderate flow of ſaliva, profuſe perſpirations, diabetes, fluor albus, ſeminal emiſſions, abuſe of venery, continuing to ſuckle too often or too long in the caſe of nurſes, &c. &c.; chronic diarrhœa and rejection of the food ſoon after being ſwallowed, are among other cauſes enumerated by practical writers: of theſe two, the firſt brings on that emaciation which is commonly known under the name of maraſmus; the latter (viz. vomiting), when it ariſes from a ſcirrhoſity of one of the orifices of the ſtomach, or other organic diſeaſe of that viſcus, we would rather refer to the cauſes which produce tabes. When the vomiting depends upon mere irritability, without injured organiſation, it will then give riſe to atrophy. The moſt frequent form under which the atrophia famelicorum appears, is, that which is deſcribed by medical writers under the name of tabes dorſalis. It is occaſioned by a loſs and forced ſecretion of the ſeminal fluid, and happens to thoſe who are too much addicted to venery, to thoſe who inflame their imaginations with laſcivious ideas, and eſpecially to youths who indulge themſelves in the obſcene and baneful practice of onaniſm. This diſeaſe was well known to the ancients, and is deſcribed in the collection of writings attributed to Hippocrates. (περὶ νουσων, lib. ii.) With the frequent emiſſions of ſemen there is a pain in the back and loins, coſtiveneſs, head-ach, giddineſs, and dimneſs of ſight; oppreſſion of the breath, hurry of the ſpirits, reſtleſs nights, laſſitude, paleneſs of the countenance, waſting of the fleſh, pains of the joints, tremors, and in ſome inſtances palſy, with a failing of the memory and dejection of mind. In ſetting about the cure we muſt firſt remove the exciting cauſes, by forbidding venereal intercourſe, and reſtraining manual pollution (manuſtupratio.) The ſoft downy bed muſt be exchanged for a hard one, and early riſing enjoined. The patient muſt abſtain from ſtrong wines, eſpecially white wines, hot liquors, and ſeaſoned food, and take to a plain, mild, nutritious diet, of which milk and its preparations ſhould conſtitute the chief part. Sago, tapioca, animal jellies, and eggs, will alſo be proper. The common cold-bath or ſea-bathing ſhould be employed, with daily exerciſe on horſe-back; and beſides the free uſe of cow's milk, aſſes milk ſhould be taken at leaſt once a day. The proper medicines will be the Peruvian bark, the lichen iſlandicus, the infuſion of the red roſe, the infuſion of catechu, and chalybeates; or if the laſt-named metallic preparations prove too ſtimulant, the zincum vitriolatum. In ſome of theſe caſes, mild opiates, or the cicuta, may alſo be given with advantage. Coſtiveneſs ſhould be prevented by occaſional doſes of the electuarium ſennæ, or oleum ricini, or magneſia and rhubarb. (See Tiſſot on Onaniſm.) The ſame means will be equally ſuited to moſt of the other varieties of *atrophia inanitorum*. When it is occaſioned by profuſe perſpirations, the ſulphuric acid ſhould be given with the other tonics; and when the urinary evacuation is exceſſive, the ſame remedies as in diabetes; which ſee. When this diſorder occurs in nurſes giving too much ſuck, the aſtringent vegetable ſubſtances (the Peruvian bark excepted) and metallic ſalts above mentioned will not be proper; a more liberal uſe of fermented liquor and animal food ſhould be allowed, and the infant ſhould be weaned. When it proceeds from a diarrhœa, opiates may be given more freely, joined with teſtaceous powders, and ſmall doſes of ipecacuanha. When it is occaſioned by the food being rejected from the ſtomach ſhortly after it is ſwallowed, the peculiar conſtitution of that organ, on which the vomiting depends, muſt be aſcertained and remedied if poſſible. In ſuch caſe, glyſters of milk and animal jellies ſhould be adminiſtered once or twice every day, until the diſpoſition to inverted action is removed.

A. *famelicorum*. This occurs in infants at the breaſt, not being ſupplied with a ſufficiency of milk. It is known by the daily emaciation of the infant, conſtant cries, and wakefulneſs, its eagerneſs to ſuck, and its tranquillity and diſpoſition to ſleep after being put to the breaſt. It happens when the mother's or nurſe's milk is either deficient in quantity, or poor and watery in its quality. It may be remedied in part by putting the mother upon a generous diet, and ſupplying the infant with nouriſhment by the ſpoon; but the moſt effectual method is to reſort to a nurſe capable of affording a healthier and more abundant ſtream of milk.

A. *debilium*. To this ſpecies belong the nervous atrophy, and the emaciation which accompanies old age. It depends upon a debility of the organs of digeſtion and nutrition. In the firſt inſtance, it is ſometimes the conſequence of cloſe application to buſineſs or ſtudy, and exceſſive anxiety, grief, a longing after one's native country or a beloved object, with other depreſſing paſſions. In theſe caſes, a removal from the ſcene of ſtudy or buſineſs, and from the ſource of anxiety, regular exerciſe and proper recreations, will form the baſis of the cure. At the ſame time, bitters, chalybeates, and opiates, ſhould not be omitted. (Morton de Atrophia, ſeu Phthiſi nervoſa.) When the diſorder is the conſequence of old age, much relief cannot be expected. In that caſe, little more can be done than to render the diet as nutritious as poſſible.

A. *cacochymica*. When the emaciation in this ſpecies is connected with a ſcorbutic acrimony, the remedies proper for correcting the ſame muſt be employed; ſuch as ſubacid fruits, freſh malt liquor, &c. all ſalted meats being ſtrictly avoided. When it is connected with a ſyphilitic acrimony, the cure ſhould be attempted by mercurials, opiates, and the guaiacum and ſarſaparilla decoctions, with the warm bath. When it occcurs in a ricketty conſtitution, the ſame treatment as in *rachitis* will be proper. (See Rickets.) If this ſpecies (the A. *cacochymica*) is accompanied with ſcorbutic or ſyphilitic ſores, it ſhould be referred to tabes.

A. *venenata*. This happens when the concoctive powers are impaired or deſtroyed by vegetable or mineral poiſons. Among the vegetable poiſons which prove the cauſe of atrophy, may be mentioned the abuſe of green tea in women, and the chewing of tobacco in men. In like manner the opium-eaters in the Levant and other parts of the eaſt are afflicted with atrophy. Alcoholic ſpirits extracted from vegetable ſubſtances undergoing fermentation, which produces the ſame effect, is alcohol, or brandy, rum, &c. Among the mineral poiſons which have been obſerved to cauſe this diſeaſe, may be mentioned lead and arſenic. The remedies in this ſpecies of atrophy muſt be varied according to the kind of poiſon by which it was produced. (See Poiſon.) In the Noſological Syſtem of Dr. Cullen, this ſpecies of emaciation is ranked under tabes; but as it is not accompanied either with glandular obſtruction, or with purulency or ulceration, we have conceived it to belong to the preſent genus, and have accordingly introduced it here.

The laſt ſpecies we have to notice is the A. *à compreſſione ductus thoracici*. This takes place when the thoracic duct is ſo compreſſed by a tumor or other mechanical cauſe, that the tranſmiſſion of the chyle through it is either partially or wholly intercepted. In the latter caſe it is irremediable. Fortunately this ſpecies of atrophy is of very rare occurrence. See Morton's Phthſiologia; and Hoffman de Atrophia, Suppl. II. 1. Cullen's Practice of Phyſic, vol. iv.

ATROPICA, in *Entomology*, a ſpecies of MANTIS deſcribed by Pallas. It is a native of the iſland of Java; on the thorax are four ſpines; wing-caſes ſhort and mucronate at the baſe.

ATROPOS, a ſpecies of SPHINX, with yellow poſterior wings faſciated with brown, and yellow abdomen with black rings. Varieties of this ſpecies differing in ſize, colour, and ſome peculiarities of the marks on the anterior wings, are found in Egypt, India, the cape of Good Hope, America, and Europe. It is the largeſt of the European inſects of the lepidopterous tribe, and is certainly a beautiful creature. In England this kind is rare, and is called the death's head hawk-moth, from certain characteriſtic and very ſingular marks on the thorax, by which the figure of a human ſkull is ſtrongly depicted. Theſe inſects for this reaſon have generally been regarded as an ominous preſage of ſome approaching calamity by the peaſantry in moſt countries where they have appeared by chance; and Linnæus has himſelf named it after one of the three fates of the heathen mythology. The larva feeds on the jaſmine, potatoe, and elder; is ſolitary, yellow, with oblique, blue, green, and black lateral ſtripes, and a reflected tail; pupa reddiſh. Vide Donov. Brit. Inſ. 9. t. 289. Linnæus in Amœnit. Acad. names this inſect *caput mortuum*; and Geoffroy in Hiſt. des Inſectes, *le ſphinx à tête de mort*.

ATROPOS, is alſo a ſpecies of MUSCA, about half an inch in length, that inhabits Auſtria. It is rather downy; thorax whitiſh with three black ſpots; abdomen black, with interrupted yellow bands, and margin of the ſegments of the ſame colour. Schrank Beylr.

ATROPOS, in *Mythology*, one of the Parcæ or Fates, whoſe office it was to cut the thread of life.

ATROPOS, in *Zoology*, a ſpecies of COLUBER, deſcribed by Linnæus in Muſ. Ad. Fr. & Gmel. Syſt. Nat. as having 131 abdominal plates, and 22 ſubcaudal ſcales. It is a native of America, and deemed an extremely poiſonous ſerpent; the colour hoary grey, with a quadruple ſeries of brown ocellated ſpots, each with a white iris or margin. The head is heart-ſhaped, gibbous, with four and ſometimes more black ſpots; and the ſcales are lanceolate. Gmel. It is *cobra atropos* of Laur. Amph.

Dr. Shaw obſerves that this ſpecies is of a thick and ſhort form, ſcarcely exceeding fifteen or ſixteen inches in length; the head is large and viperine, marked with four or five large duſky ſpots, and covered with ſmall ſcales; the remainder of the animal of a pale brown, marked all along the upper part by four rows of very large, alternate, round, black ſpots bordered with white; the abdomen aſh-colour, and tail very ſhort, meaſuring about a ninth part of its whole length; the ſcales on all the upper parts are of a ſlightly ſharpened form, and carinated. Gen. Zool. v. 3. p. 2. 404.

ATRO-VIOLESCENS, in *Entomology*, a ſpecies of CHRYSOMELA, once taken in the month of September, in the county of Norfolk. It is ovate, violaceous-black; wing-caſes ſtriated; legs pitchy-black. Marſh. Ent. Brit.

ATROVIRENS, in *Zoology*, a ſpecies of COLUBER, deſcribed by the count de Cepede under the title of "la coleuvre verte et jaune;" and by Dr. Shaw, under that of *coluber atrovirens*, C. atrovirens, flavo maculatus, abdomine flavo, lateribus nigro punctato. Black-green ſnake, ſpeckled with yellow; the abdomen yellow, with a row of black ſpecks down each ſide. French ſnake.

"This ſeems," ſays Dr. Shaw, "to be the ſpecies figured by Aldrovandus, under the name of *anguis Æſculapii niger*, and which appears to have been ſo little attended to by modern naturaliſts, as to have been generally confounded with the ringed ſnake (C. natrix), till it was again brought to notice by Monſ. Daubenton, and afterwards by the count de Cepede, who has accurately deſcribed it, and who informs us that it is very frequent in ſome of the provinces of France, being found in woods and moiſt ſhady places; in its general ſize and appearance it reſembles the ringed ſnake or natrix, but differs in colour, being of an extremely dark or blackiſh green, ſo as to appear black on a curſory view, the ſides being marked by numerous rays of yellow ſpecks of different forms, ſome oblong and ſome ſquare, and which form ſomewhat more decided or diſtinctly marked ſtripes towards the head; the eyes and edges of the mouth are bordered with yellow ſcales; the abdomen is alſo yellow, each ſcutum being marked on each ſide by a black ſpeck. This ſnake is an animal of a perfectly harmleſs nature, and like the ringed ſnake, is capable of being tamed to a conſiderable degree."—"On the approach of winter, it retires, like the latter, into ſubterraneous retreats, and paſſes that ſeaſon in a ſtate of torpidity, from which it recovers in the ſpring, when it caſts its ſkin, and appears in its higheſt beauty."

ATROX, in *Zoology*, a kind of COLUBER, which according to Linnæus is ſpecifically characteriſed by having 169 abdominal plates, and 69 ſubcaudal ſcales. Amoen. Acad. This creature is a native of Aſia, and is about a foot and a half in length; the colour hoary; ſcales carinated; beneath marked with dark brown, tranſverſe, alternate ſpots; head depreſſed, compreſſed, angulated, and covered with minute ſcales. Gmelin makes "dipſas indica" of Laur. Amph. a variety of this ſpecies. Dr. Shaw deſcribes it in his Gen. Zool. as being the "grey brown ſnake, with tranſverſe linear whitiſh ſtripes, and duſky abdomen, with white tranſverſe variegations; and names it the *fierce ſnake*. This author alſo notices one error of Linnæus reſpecting this ſpecies that deſerves particular remark. "In the Muſeum Adolphi Friderici, p. 33." ſays he, "this ſpecies is, by a miſtake, inſcribed *angulatus*, while the figure on plate 22 of that work, repreſents the body marked by ſeveral diſtant, narrow, tranſverſe whitiſh bands reaching to the abdomen, which is ſpotted with ſmall, round, white ſpecks; the duſky tranſverſe ſpots appearing only beneath the tail; the general colour of the abdomen, however, in this ſnake is rather deep brown or blackiſh, beautifully variegated or marbled by numerous narrow tranſverſe bands, accompanied here and there with ſmall ſpots; the tail is remarkably ſhort and ſlender. In the Syſtema Naturæ a miſtaken reference appears to be made to a figure in Seba repreſenting a very different ſpecies. The C. *atrox* is a poiſonous ſnake, and is a native of the iſland of Ceylon."

ATSCHARES, in *Geography*, a tribe of the MANDSHURES, who inhabited the banks of the middle Amoor, in Siberia, before it was taken poſſeſſion of by the Ruſſians. They then ſubſiſted in a ſtate of independence; but they were afterwards removed, by order of the Chineſe government, from the Amoor farther towards China.

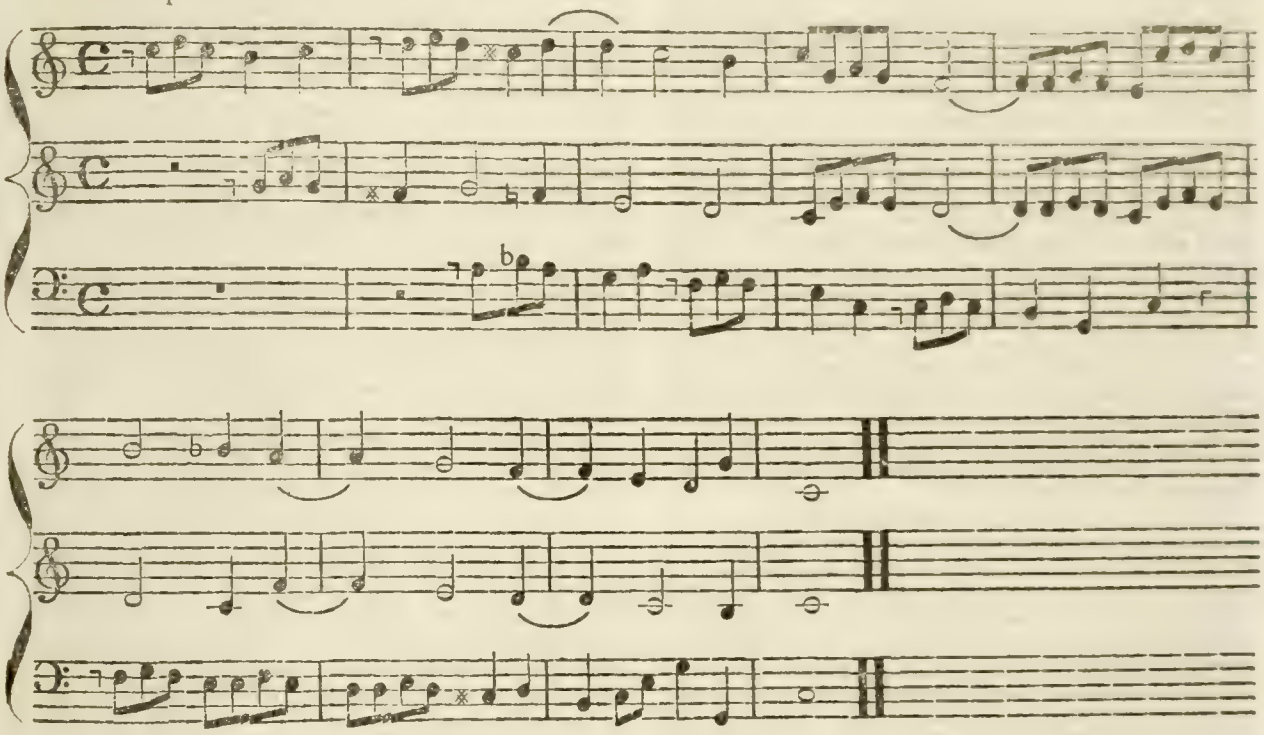
ATTACAMA, in *Geography*, one of the fourteen juriſdictions belonging to the archbiſhopric of Plata, in the audience of Charcas, in South America. It is the weſtern boundary of the audience, extending to the South ſea; and

and the principal town, called alſo *Atacama*, is no leſs than 120 leagues from Plata. Its juriſdiction is of a conſiderable extent, and a great part of it very fruitful; but intermixed with ſome deſerts, particularly towards the ſouth, where it divides the kingdoms of Peru and Chili. On the coaſt in this province there is annually a very large fiſhery of Tolo, a fiſh common in the South ſea, with which a very great trade is carried on with the inland provinces, this being the chief food in Lent and other days of abſtinence. There is a great deſert of the ſame name, and a chain of mountains, which ſeparate Peru, on the north, from the province of Quito. The cold in theſe mountains is ſometimes ſo extremely ſevere, that thoſe who paſs it are occaſionally frozen to death. S. lat. 22°. W. long. 80° 30'.

ATTACANA, in *Ancient Geography*, a town of Aſia, in greater Armenia. Ptolemy.

ATTACCO, in *Muſic*, is a kind of ſhort ſubject or point, not reſtricted to all the laws of regular fugue. Sometimes it is a ſection of the principal theme itſelf, treated rather as an imitation than a ſubject of regular fugue, and may be anſwered in any interval, at pleaſure.

Example.



ATTACHIAMENTA Bonorum, in *Law*, a diſtreſs taken upon goods or chattels, where a man is ſued for perſonal eſtate or debt, by the legal attachiators or bailiffs, as ſecurity to anſwer an action.

Attachiamenta de Spinis et Bosco, is a privilege granted to the officers of a foreſt to take to their own uſe thorns, bruſh, and wind-falls, within their own precincts.

ATTACHING, or Attachment, denotes the apprehending a perſon or thing, either by a precept or writ. The word is formed of the French *attacher*, *to faſten*, or *tie*; and that from the corrupt Latin *attachiare*, of *attexere*, *to weave to*; or rather, as others think, from the Celtic *tach*, *a nail*; and *tacha*, *to nail*; or the Saxon *tæcan*, *to take*.

Lambard makes this difference between an arreſt and an attachment; that an arreſt proceeds out of an inferior court by precept only, and an attachment out of a higher court, either by precept or writ; and that a precept to arreſt hath theſe formal words, *duci facias*, &c. and a writ of attachment theſe, "*præcipimus tibi quod attachies talem, & habeas eum coram nobis.*"

By this it appears, that he who arreſts carries the party arreſted to another higher perſon, to be diſpoſed of forthwith: whereas he that attaches keeps the party attached, and preſents him in court at the day aſſigned in the attachment.

There is this farther difference, that an arreſt lies only upon the body of a man; and an attachment ſometimes on his goods too; for a man may be attached by an hundred ſheep.

Moreover, attachment is a proceſs from a court of record, awarded by the juſtices at their diſcretion, on a bare ſuggeſtion, or on their own knowledge; and is properly grantable in caſes of contempts, againſt which all courts of record, but more eſpecially thoſe of Weſtminſter-hall, and [illegible] all the court of B. R. may proceed in a ſummary manner.

The contempts that are thus puniſhed, are either [illegible], which openly inſult or reſiſt the powers of the [illegible] the perſons of the judges who preſide there: or [illegible] *conſequential*, which, without ſuch groſs miſbehaviour or direct oppoſition, plainly tend to create an univerſal diſregard of their authority. The principal inſtances of either ſort that have been uſually puniſhable by attachments, are of the following kinds: 1. Thoſe committed by inferior judges and magiſtrates by acting unjuſtly, oppreſſively, or [illegible], in adminiſtering thoſe portions of juſtice which are [illegible] truſted

truſted to their diſtribution; or by diſobeying the king's writs iſſuing out of the ſuperior courts, by proceeding in a cauſe after it is put a ſtop to or removed by writ of prohibition, certiorari, error, ſuperſedeas, or the like. 2. Thoſe committed by ſheriffs, bailiffs, gaolers, and other officers of the court, by abuſing the proceſs of the law, or deceiving the parties, by any acts of oppreſſion, extortion, colluſive behaviour, or culpable neglect of duty. 3. Thoſe committed by attorneys and ſolicitors, who are alſo officers of the reſpective courts, by groſs inſtances of fraud and corruption, injuſtice to their clients, or other diſhoneſt practice. 4. Thoſe committed by jurymen in collateral matters relating to the diſcharge of their office; ſuch as making default when ſummoned, refuſing to be ſworn, or to give any verdict, eating or drinking without the leave of the court, and eſpecially at the coſt of either party; and other irregularities of a ſimilar kind; but not in the mere exerciſe of their judicial capacities, as by giving a falſe or erroneous verdict. 5. Thoſe committed by witneſſes; by making default when ſummoned, refuſing to be ſworn or examined, or prevaricating in their evidence when ſworn. 6. Thoſe committed by parties to any ſuit or proceeding before the court; as by diſobedience to any rule or order made in the progreſs of a cauſe; by non-payment of coſts awarded by the court upon a motion; or by non-obſervance of awards duly made by arbitrators and umpires, after having entered into a rule for ſubmitting to ſuch determination. 7. Thoſe committed by any other perſon under the degree of a peer; and even by peers themſelves, when enormous and accompanied with violence, ſuch as forcible reſcous, and the like; or when they import a diſobedience to the king's great prerogative writs of prohibition, habeas corpus, and the reſt.

Some of theſe contempts may ariſe in the face of the court; as by rude and contumelious behaviour; by obſtinacy, perverſeneſs, and prevarication; by breaking the peace, or any wilful diſturbance whatever: others, in the abſence of the party; as by diſobeying, or treating with diſreſpect, the king's writ, or the rules or proceſs of the court; by perverting ſuch writ to the purpoſes of private malice, extortion, or injuſtice; by ſpeaking or writing contemptuouſly of the court, or judges acting in their judicial capacity; by printing falſe accounts (or even true ones, without proper permiſſion) of cauſes then depending in judgment; and by any thing, in ſhort, that demonſtrates a groſs want of that regard and reſpect, which, when once courts are deprived of, degrade and deſtroy their authority among the people. The proceſs of attachment for theſe and ſimilar contempts muſt neceſſarily be as ancient as the laws themſelves; for laws, without a competent authority to ſecure their adminiſtration from diſobedience and contempt, would be vain and nugatory. This has accordingly been exerciſed as early as the annals of our law extend.

If the contempt be committed in the face of the court, the offender may be inſtantly apprehended and impriſoned, at the diſcretion of the judges, without any further proof or examination. But in matters at a diſtance, and of which the court cannot have ſo perfect a knowledge, unleſs by the confeſſion of the party, or the teſtimony of others, if the judges upon affidavit ſee ſufficient ground to ſuſpect that a contempt has been committed, they either make a rule on the ſuſpected party to ſhew cauſe why an attachment ſhould not iſſue againſt him; or in very flagrant inſtances of contempt, the attachment iſſues in the firſt inſtance; as it alſo does, if no ſufficient cauſe be ſhewn to diſcharge, and therefore the court confirms and makes abſolute the original rule. This proceſs of attachment is merely intended to bring the party into court; and, when there, he muſt either ſtand committed, or put in bail, in order to anſwer upon oath to ſuch interrogatories as ſhall be adminiſtered to him, for the better information of the court with reſpect to the circumſtances of the contempt. Theſe interrogatories are in the nature of a charge or accuſation, and muſt by the courſe of the court be exhibited within the firſt four days; and if any of the interrogatories is improper, the defendant may refuſe to anſwer it, and move the court to have it ſtruck out. If the party can clear himſelf upon oath, he is diſcharged; but, if perjured, may be proſecuted for the perjury. If he confeſſes the contempt, the court will proceed to correct him by fine or impriſonment, or both, and ſometimes by a corporal or infamous puniſhment. If the contempt be of ſuch a nature, that, when the fact is once acknowledged, the court can receive no farther information by interrogatories than it is already poſſeſſed of (as in the caſe of a reſcous), the defendant may be admitted to make ſuch ſimple acknowledgement, and receive his judgment, without anſwering to any interrogatories; but if he wilfully and obſtinately refuſes to anſwer, or anſwers in an evaſive manner, he is then clearly guilty of a high and repeated contempt, to be puniſhed at the diſcretion of the court. Blackſtone's Com. vol. iv.

The terrors of attachment in caſe of diſobedience on the part of unwilling witneſſes, as well as the compulſory proceſs for obtaining their attendance, are of excellent uſe in the thorough inveſtigation of truth: and upon the ſame principle, in the Athenian courts, the witneſſes who were ſummoned to attend the trial, had their choice of three things, either to ſwear to the truth of the fact in queſtion, to deny or abjure it, or elſe to pay a fine of a thouſand drachmas.

Attachment, *Writ of*, called alſo *Pone*, is a writ iſſuing out of the court of Common Pleas, and grounded on the non-appearance of the defendant at the return of the original writ; which commands the ſheriff to attach him, by taking gage, that is, certain of his goods, which he ſhall forfeit, if he doth not appear; or by making him find ſafe pledges or ſureties who ſhall be amerced in caſe of his non-appearance. This is the firſt and immediate proceſs, without any previous ſummons, upon actions of treſpaſs *vi et armis*, or for other injuries, which though not forcible, are yet treſpaſſes againſt the peace, as deceit and conſpiracy: where the evidence of the wrong requires a more ſpeedy remedy, and therefore the original writ commands the defendant to be at once attached, without any precedent warning. See Process.

Attachment *out of Chancery*, is a writ in the nature of a *capias*, directed to the ſheriff, and commanding him to attach, or take up the defendant, and bring him into court. It is had of courſe, upon an affidavit made that the defendant was ſerved with a *ſubpœna*, and appears not; or it iſſueth upon not performing ſome order or decree.

After the return of this attachment by the ſheriff, *quod non eſt inventus in balliva ſua*; another attachment, with proclamations, iſſues: which, beſides the ordinary form of attachment, directs the ſheriff that he cauſe proclamations to be made, throughout the county, to ſummon the defendant, upon his allegiance perſonally to appear and anſwer: and if this be alſo returned with *non eſt inventus*, and he ſtill ſtands out in contempt, a commiſſion of rebellion is awarded againſt him. See Commission *of Rebellion*.

Attachment, *Foreign*, is an attachment of goods or money found within a liberty or city, to ſatisfy ſome creditor within ſuch city or liberty.

Under the cuſtom of London, if a plaint be exhibited in the mayor's or the ſheriff's court (the proceeding in the former being the moſt advantageous) againſt *A*, and the proceſs be returned

returned *nihil*, and thereupon the plaintiff ſuggeſts that another perſon within London is indebted to *A*. the debtor ſhall be warned (whence he is called the *garniſhee*), and if he does not deny himſelf to be indebted to *A*, the debt ſhall be attached in his hands. The cuſtom of foreign attachment is ſaid to prevail in Exeter and other places. But a foreign attachment cannot be had when a ſuit is depending in any of the courts at Weſtminſter. Cro. Eliz. 691. And nothing is attachable, but for a certain and due debt; though by the cuſtom of London, money may be attached before due, as a debt, but not levied before due. Sid. 327. 1. Nelſ. Abr. 282, 283.

Foreign attachments in London, upon plaint of debt, are made after this manner: *A* oweth *B* 100l. and *C* is indebted to *A* 100l.; *B* enters an action againſt *A* of 100l. and by virtue of that action a ſerjeant attacheth 100l. in the hands of *C*, as the money of *A*, to the uſe of *B*, which is returned upon that action. Upon this the plaintiff is immediately to fee an attorney before the next court, or the defendant may then put in bail to the attachment, and nonſuit the plaintiff. Four court days muſt paſs before the plaintiff can cauſe *C*, the garniſhee, in whoſe hands the money was attached, to ſhew cauſe why *B* ſhould not condemn the 100l. attached in the hands of *C* as the money of *A* the defendant in the action (though not in the attachment) to the uſe of *B* the plaintiff; and the garniſhee *C* may appear in court by his attorney, wage his law, and plead that he hath no money in his hands of the defendant's, or other ſpecial matter; but the plaintiff may hinder his waging of law, by producing two ſufficient citizens to ſwear that the garniſhee had either money or goods, in his hands, of *A* at the time of the attachment, of which affidavit is to be made before the lord mayor, and being filed, may be pleaded by way of eſtoppel: then the plaintiff muſt put in bail, that if the defendant come within a year and a day into court, and he can diſcharge himſelf of the money condemned in court, and that he owed nothing to the plaintiff at the time in the plaint mentioned, the ſaid money ſhall be forthcoming, &c. If the garniſhee fail to appear by his attorney, being warned by the officer to come into court to ſhew cauſe as aforeſaid, he is taken by default for want of appearing, and judgment given againſt him for the goods, and money attached in his hands, and he is without remedy either at common law or in equity; for if taken in execution, he muſt pay the money condemned, though he hath not one penny, or go into priſon; but the garniſhee appearing to ſhew cauſe why the money or goods attached in his hands ought not to be condemned to the uſe of the plaintiff, having need an attorney, may plead as aforeſaid, that he hath no money nor goods in his hands, of the party's againſt whom the attachment is made; and it will then be tried by a jury, and judgment awarded, &c. but after trial, bail may be put in, whereby the attachment ſhall be diſſolved, but the garniſhee, &c. and his ſecurity will then be liable to what debt the plaintiff ſhall make out to be due, upon the action: and an attachment is never thoroughly perfected, till there is a bail, and ſatisfaction upon record. Privilege London.

But the original defendant muſt be ſummoned, and have notice: otherwiſe judgment againſt the garniſhee will be erroneous; and the money paid or levied in execution; or it will not diſcharge the debt from the garniſhee to the defendant (though it was allowed that the cuſtom of the city court is to give no notice). 3 Wilſ. 297. 2 Black. Rep. 834. See 1 Ld. Raym. 727. Where a foreign attachment is pleaded to an action, the cuſtom is to ſet forth that he who levied the plaint ſhall have execution of the debt owing by himſelf, and by which he was attached, if the plaintiff in the original action ſhall not diſprove it within a year and a day; now if the plaintiff in the action below doth not ſet forth ſuch condition in pleading, given by the court, it is wrong, becauſe he doth not bring his caſe within the cuſtom. Vide 2 Lutw. 985.

A ſum of money was to be paid at Michaelmas, and it was attached before that day: adjudged, that a foreign attachment cannot reach a debt before it is due; therefore, though the judgment on the attachment was after Michaelmas, yet the money being attached before it was due, it is for that reaſon void. Cro. Eliz. 184. For further matter, ſee Com. Dig. tit. Attachment.

Money due to an executor or adminiſtrator, as ſuch, cannot be attached. It would give a ſimple contract creditor priority over judgments. Fiſher v. Lane and others, 3 Wilſ. 297. Nor truſt money in the hands of the garniſhee. Doug. 383.

Debtor and creditor being both citizens of London, the debtor delivered ſeveral goods to the Exeter carrier then in London, to carry and deliver them at Exeter, and the creditor attached them in the hands of the carrier for the debt due to him from his debtor: adjudged, that the action ſhould be diſcharged, becauſe the carrier is privileged in his perſon and goods, and not only in the goods which are his own, but in thoſe of other men, of which he is in poſſeſſion, for he is anſwerable for them. 1 Leon. 189. See Jacob's Law Dict. by Tomlins, art. *Attachment*.

ATTACHMENT *of the Foreſt, or Woodmote*, is one of the four courts held in the foreſt. (See COURTS *of Foreſt*, &c.) The court of attachments ſeems ſo called, becauſe the verderors of the foreſt have therein no other authority, but to receive the attachments of offenders againſt vert and veniſon taken by the foreſters, to enrol them, and to certify them under their ſeals, to the court of juſtice-ſeat, or ſweinmote; for this court can only inquire of, but not convict offenders.

This attachment is by three means; by goods and chattels; by body, pledges, and mainprize; or by body only. Offenders may be attached by their bodies, if taken with the mainour (or *mainœuvre, a manu*), that is, in the very act of killing veniſon, or ſtealing wood, or preparing ſo to do, or by freſh and immediate purſuit after the act is done; otherwiſe, they muſt be attached by their goods. This court is held once in every forty days throughout the year; whence it is alſo denominated *forty days court*.

ATTACHMENT *of Privilege* is, by virtue of a man's privilege, to call another to that court whereto he himſelf belongs, and in reſpect whereof he is privileged to anſwer ſome action: or, it is a power to apprehend a man for injuring privileged. Corporation courts have ſometimes power by charter to iſſue attachments, and ſome courts-baron grant attachments of debt. Kitch. 79.

ATTACK, an attempt upon any perſon or thing; or the act of beginning a combat or diſpute.

ATTACK, in the *Military Art*, ſignifies an engagement having for its object the forcing of an entrenched poſt, or diſlodging an adverſe army from its lines, or a poſition calculated to impede the progreſs of an invading army.

War is naturally an offenſive operation. In the earlier ages we find it carried on by a ſeries of engagements conformly on the principle of attack, and unconnected with any of thoſe ſkilful manœuvres which the ready genius of mankind has ſince carried into execution for their mutual deſtruction. The ultimate object of a battle conſiſted in plundering, in caſe of ſucceſs, a ſmall tract of the enemy's country, and

in burning a few miſerable villages. Superiority of numbers generally inſured the advantage. The vanquiſhed were exterminated. The victors withdrew with their hard earned booty, diminiſhed in numbers, and exhauſted by fatigue.

The Greeks, who firſt brought the military art to ſome degree of perfection, were fully ſenſible of the advantages to be derived from the attack. Even at the famous plain of Marathon (vid. MARATHON), where, by the moſt moderate accounts, the Perſian army exceeded them ten times in number, they had the temerity to forſake a well-choſen poſition, and (Herodotus, l. vi. c. 112.) advance running to the onſet; a degree of raſhneſs, which, though in the inſtance before us crowned with the moſt glorious ſucceſs, can never find an excuſe in the eyes of military judgment. At the final engagement of Thermopylæ, the deſpair of Leonidas drove him to purſue a ſimilar conduct. (Herod. l. vii. c. 223.) The particular circumſtances of his ſituation, and the celebrity of his death, extenuate in part his conduct.

Among the Greeks, the Lacedæmonians alone advanced to battle in ſilence, and at a ſteady pace, regulated by the ſound of muſical inſtruments. (Thucyd. l. v. c. 70.) On the contrary, the other Grecian nations ruſhed forward with the utmoſt eagerneſs and velocity, claſhing their ſpears upon their bucklers, and, at the moment of the onſet, raiſing a loud ſhout, to aſtoniſh and terrify their enemies. This mode of attack was generally irreſiſtible, where only oppoſed by an undiſciplined and tumultuous aſſemblage of Aſiatics. Witneſs the battle of Cynaxa (vid. CYNAXA), where a phalanx of 13,000 Greeks diſperſed in an inſtant the almoſt innumerable forces of Artaxerxes Mnemon; and, if it had not been for the fatal temerity of Cyrus the younger, would infallibly have placed the crown of Perſia on his head. (Xenophon, Anab. l. i. c. 8.)

In engagements with every nation, the vigorous onſet of the Greeks was attended with ſplendid victory. Even in the declining ages of their monarchy, when the arbitrary ſway of Macedonian tyranny had extinguiſhed within their boſoms that ſpirit of liberty which glowed ſo fervently at Marathon and Platæa, their formidable phalanx was regarded with apprehenſion by Roman intrepidity; and in the famous and deciſive battle of Pydna (vid. PYDNA), the firmneſs and talents of a Paulus Emilius deſpaired of victory, till a happy and well-timed exertion of his ſuperior military abilities decided the doubtful conteſt. (Plut. in Æm. Paul.)

The Romans, thoſe great maſters in the art of war, were not ignorant of the advantages of acting offenſively, nor how to improve them. The impetus of their legion, a heavy and well-organized body of infantry, exceeded in effect that of the Macedonian phalanx; and no weight of armour, no exertion of courage, no reſolution, however daring, could preſerve the front of that army unbroken, which once experienced the terrible diſcharge of the Roman pilum.

In every age the ſyſtem of attack has been preferred by experienced generals (with ſome few exceptions, juſtified always by coincident circumſtances), to that of protracting a war by tedious and indeciſive manœuvres, and it has generally been attended with ſucceſs. Hannibal, Sylla, Alexander, Cæſar, the greateſt captains of antiquity, never ſuffered a favourable opportunity of engaging to eſcape them. Their attacks were general, violent, frequently unexpected, and rarely unattended with the moſt ample ſucceſs.

Of later days, we may reckon among the commanders, who, in their eagerneſs to engage an enemy, have ſometimes overleaped the bounds preſcribed to genius by modern tactics, a Condé, a Guſtavus, an Eugene, a Charles the Twelfth, and a Frederic the Great, whoſe rapid manœuvres frequently baffled the moſt acute obſervation of their antagoniſts, and the impetuoſity of whoſe attacks ſeldom gave time for effectual oppoſition.

It is ſcarcely neceſſary to inſiſt upon the manifeſt advantages an attacking army poſſeſſes over that which acts upon the defenſive. With numbers generally ſuperior, a confidence in their own ſtrength, and ſpirits which defy oppoſition, they rarely encounter an enemy able, or reſolute enough to repulſe them.

In the courſe of the late war, Europe has beheld with ſurprize the ſyſtem of attack, which before only affected a tract of country comparatively trifling, carried to an extent and a perfection truly aſtoniſhing. In 1794, armies acting offenſively, though in bodies widely diſtant, pierced, as if animated by the ſame ſoul, in all directions, from the frontiers of France to the left bank of the Rhine, and the centre of the Batavian territories. Two years after, at the ſame moment when Moreau was penetrating by the circle of Suabia, and along the Danube to the Auſtrian borders, the army of the Sombre and Meuſe advanced through Franconia, and Buonaparte fought his way through Italy to gain the ſummit of the Noric Alps. According to the new principle, ſucceſs in a general engagement, however complete, in no wiſe contributed to terminate the campaign. A battle gained only opened the road to new attacks. A town taken merely furniſhed materials for freſh ſieges. The armies rivalled each other in overcoming, with incredible expedition, obſtacles which formerly would have been deemed inſurmountable; and as long as any veſtige of an adverſe power remained to face them in the field, all ſucceſs was regarded as incomplete.

In the fluctuating campaign of 1799, the ſame ſyſtem was carried to a ſtill greater extent. The rocks and mountains of Switzerland furniſhed freſh ſubjects for plans of a nature ſtill more difficult, intricate, and complicated. The line of attack and defence was lengthened in an unexampled manner, and from the Zuyder Zee to the Adriatic formed but one vaſt field of battle, on which French, Auſtrians, Ruſſians, Helvetians, Dutch, Engliſh, and Italians, alternately deſtroyed each other; and ſtrove, with infinite viciſſitude of fortune, but finally with nearly equivalent ſucceſs, to gain a dear-bought advantage.

ATTACK, in *Beſieging*, ſignifies the operations carried on by the beſiegers, with mines, ſaps, trenches, batteries, &c. againſt an enemy's fortreſs. The rules of war naturally preſcribe the weakeſt ſide of the place as the point of attack. Nevertheleſs, prince Eugene thought proper to infringe upon them in the inſtance of the ſiege of Liſle, where, to favour the movements of the covering army, he directed his approaches againſt the ſtrongeſt part of the fortifications.

Two, or even three attacks, are formed in ſieges where diſpatch is neceſſary. In ſuch caſes, their communications ſhould be eaſy, carefully conſtructed, and induſtriouſly maintained.

ATTACK, *Falſe*, is an attack but faintly proſecuted, though ſufficiently ſerious to induce the enemy to divide his forces, and more eſpecially to weaken, if poſſible, that part of his poſition, or works, which is the object of the true aſſault.

ATTACOTTI, in *Ancient Hiſtory*, a ſavage people of Great Britain, mentioned by Ammianus Marcellinus (l. 27. c. 8.) and St. Jerom (tom. ii. p. 75.), as well as in the Notitia Imperii, whoſe ſituation is not preciſely aſcertained by antiquaries. Some have ſuppoſed that they inhabited Wales, and alledge, that their name was derived from the Britiſh words "at a coit, or coed," ſignifying amongſt woods. But it is probable, that they were ſeated ſomewhere further north

north than any part of Wales; for Ammianus Marcellinus repreſents them as allies and confederates of the Scots and Picts, and therefore they were probably their neighbours. Theſe enemies, and afterwards the ſoldiers, of Valentinian, are accuſed, by an eye-witneſs, of delighting in the taſte of human fleſh. When they hunted the woods for prey, it is ſaid by Jerom (ubi ſupra), that they attacked the ſhepherd, rather than his flock; and that they curiouſly ſelected the moſt delicate and brawny parts both of males and females, (paſtorum nates et fœminarum papillas), which they prepared for their horrid repaſts.

ATTAGEN, Attagas, in *Ornithology*, names given by Briſſ. and Buff. to the red or moor-game, or red grous, in Gmelin's arrangement the fourth variety of *tetrao lagopus*. Linn. & Gmel. Briſſ. alſo calls *tetrao umbellus* of Gmelin *attagen Penſylvanicus*.

ATTAINDER, in *Law*, is that ſtain or infamy which is incurred by a man who has committed felony, treaſon, or other crime, and who is capitally convicted for the ſame.

This, by the common law, is the immediate inſeparable conſequence of the ſentence of death that is pronounced. The law, in this caſe, ſets a note of infamy upon the criminal, puts him out of its protection, and takes no farther care of him than barely to ſee him executed. He is then called attaint, *attinctus*, ſtained or blackened. He is no longer of any credit or reputation; he cannot be a witneſs in any court; neither is he capable of performing the functions of another man: for, by an anticipation of his puniſhment, he is already dead in law. This is after "judgment;" for there is a great difference between a man "convicted," and "attainted;" though they are frequently, through inaccuracy, confounded together. After conviction only, a man is liable to none of theſe diſabilities; for, in the contemplation of law, there is ſtill a poſſibility of his innocence. Something may be offered in arreſt of judgment; the indictment may be erroneous, which will render his guilt uncertain, and thereupon the preſent conviction may be quaſhed; he may obtain a pardon, or be allowed the benefit of clergy; both which ſuppoſe ſome latent ſparks of merit, which plead in extenuation of his fault. But when judgment is once pronounced, both law and fact conſpire to prove him completely guilty; and there is not the remoteſt poſſibility left of any thing to be ſaid in his favour. Upon judgment, therefore, of death, and not before, the "attainder" of a criminal commences; or upon ſuch circumſtances as are equivalent to judgment of death; as judgment of outlawry on a capital crime, pronounced for abſconding or fleeing from juſtice, which tacitly confeſſes the guilt. And, therefore, upon judgment of outlawry, or of death, for treaſon or felony, a man ſhall be ſaid to be "attainted."

A man is "attainted by *appearance* or by *proceſs*. "Attainder" on *appearance* is by confeſſion, or verdict, &c.: by *confeſſion*, when the priſoner, upon his indictment, being aſked whether guilty or not guilty, owns himſelf guilty, without putting himſelf upon his country; and formerly confeſſion was allowed before the coroner in ſanctuary, upon which the offender was to abjure the realm, and this was called "attainder" by *abjuration*. "Attainder" by *verdict*, is when the priſoner at the bar pleadeth not guilty, and is found guilty by the verdict of the jury of life and death. "Attainder" by *proceſs*, otherwiſe called "attainder" by *default* or by *outlawry*, is when a party flies, and is not found, until he hath been five times publicly called or proclaimed in the county, and, at laſt, upon his default, is pronounced or returned outlawed. Staundf. Pl. Co. 44. 122. 182. Perſons may alſo be attainted by act of parliament. Accordingly acts of attainder have been paſſed in ſeveral reigns, on the diſcovery of plots and rebellion, from the reign of king Charles II., when an act was made for the attainder of ſeveral perſons guilty of the murder of king Charles I., to this time. Among theſe, the moſt remarkable is that for attainting ſir John Fenwick for conſpiring againſt king William; this act having been made for attainting and convicting him of high treaſon on the oath of one witneſs, juſt after a law had been enacted, "that no perſon ſhould be tried or attainted of high treaſon, where corruption of blood is incurred, but by the oath of two lawful witneſſes, unleſs the party confeſs, ſtand mute, &c." Stat. 7 and 8 W. III. c. 3. However, ſir John Fenwick was indicted of treaſon, on the oaths of two witneſſes, though only one appeared againſt him on his trial; and it was alleged, that ſir John had tampered with and prevailed on one of the witneſſes to withdraw.

The conſequences of "attainder" are forfeiture, and corruption of blood; which latter cannot be regularly taken out but by act of parliament. See theſe articles.

"Attainders" may be reverſed or falſified by writ of error, or by plea; in the former caſe it muſt be by the king's leave, &c.; and in the latter it may be by denying the treaſon, pleading a pardon by act of parliament, &c. 3 Inſt. 232.

By a king's taking the crown upon him, all attainders of his perſon are "ipſo facto" purged, without any reverſal. 1 Inſt. 26. Finch. L. 82. Wood. 17. This was the declaration of parliament, made in favour of Henry VII.

Attainder, *Bill of*, is a bill brought into parliament for attainting, condemning, and executing a perſon for high treaſon. See Attainder.

ATTAINT, Attincta, in *Law*, a writ which lieth to inquire, whether a jury of twelve men gave a falſe verdict, that ſo the judgment following thereupon may be reverſed; and this muſt be brought in the life-time of him for whom the verdict was given, and of two at leaſt of the jurors who gave it. This lay, at the common law, only upon writs of aſſiſe; and ſeems to have been coeval with that inſtitution by king Henry II. at the inſtance of his chief juſtice Glanvil; being probably meant as a check upon the vaſt power then repoſed in the recognitors of aſſiſe, of finding a verdict according to their own perſonal knowledge, without the examination of witneſſes. And even here it extended no farther than to ſuch inſtances, where the iſſue was joined upon the very point of aſſiſe (the heirſhip, diſſeiſin, &c.), and not on any collateral matter, as villenage, baſtardy, or any other diſputed fact. (See Assisa *in juratam*, &c.) It ſeems that no attaint lay againſt the inqueſt or jury that determined ſuch collateral iſſue; nor did ſuch a proceſs obtain after the trial by inqueſt or jury, in the old Norman or feudal actions proſecuted by a writ of entry: nor did any attaint lie in treſpaſs, debt, or other action perſonal, by the old common law; becauſe thoſe were always determined by common inqueſts or juries. At length the ſtatute of Weſtm. 1. (3 Edw. I. c. 38.) allowed an attaint to be ſued upon inqueſts, as well as aſſiſes, which were taken upon any plea of land or of freehold. But this was at the king's diſcretion, and ſo it is underſtood by the author of Fleta, a writer cotemporary with the ſtatute; though ſir Edward Coke (2 Inſt. 130. 237.) ſeems to hold a different opinion. Other ſubſequent ſtatutes (1 Edw. III. ſt. 2. c. 6. 5 Edw. III. c. 7. 28 Edw. III. c. 8.) introduced the ſame remedy in all pleas of treſpaſs; and the ſtatute 34 Edw. III. c. 7. extended it to all pleas whatſoever, perſonal as well as real; excepting only the writ of right, in ſuch caſes where the mere or iſſue is joined on the mere right, and not on any collateral queſtion.

queſtion. For though the attaint ſeems to have been generally allowed in the reign of Henry II., at the firſt introduction of the grand aſſiſe (which at that time might conſiſt of only twelve recognitors, in caſe they were all unanimous), yet ſubſequent authorities have holden, that no attaint lies on a falſe verdict given upon the mere right, either at common law or by ſtatute; becauſe that is determined by the grand aſſiſe, appealed to by the party himſelf, and now conſiſting of ſixteen jurors. Bract. 290. Flet. 5. 22. 7. Britt. 243. *b.* 12 Hen. VI. 6. Bro. Abr. *Atteint*, 42. 1 Roll. Abr. 280.

The jury who are to try this falſe verdict muſt be twenty-four, and are called the grand jury; for the law wills not that the oath of the jury of twelve men ſhould be attainted or ſet aſide by an equal number, nor by leſs indeed than double the former. Bract. l. 4. tr. 5. c. 4. § 1. Flet. l. 5. c. 22. § 7. If the matter in diſpute be of forty pounds value in perſonals, or of forty ſhillings a year in lands and tenements, then by ſtat 15 Hen. VI. c. 5. each grand juror muſt have freehold to the annual value of twenty pounds. And he that brings the attaint can give no other evidence to the grand jury than what was originally given to the petit. But thoſe againſt whom it is brought are allowed, in affirmance of the firſt verdict, to produce new matter; becauſe the petit jury may have formed their verdict upon evidence of their own knowledge, which never appeared in court. If the grand jury found the verdict a falſe one, the judgment by the common law was, that the jurors ſhould loſe their "liberam legem," and become for ever infamous; ſhould forfeit their goods and the profits of their lands; ſhould themſelves be impriſoned, and their wives and children thrown out of doors; ſhould have their houſes raſed, their trees extirpated, and their meadows ploughed; and that the plaintiff ſhould be reſtored to all that he loſt by reaſon of the unjuſt verdict. But as the ſeverity of the puniſhment had its uſual effect in preventing the law from being executed, therefore by the ſtatute 11 Hen. VII. c. 24. revived by 23 Hen. VIII. c. 3. and made perpetual by 13 Eliz. c. 25. an attaint is allowed to be brought after the death of the party, and a more moderate puniſhment was inflicted upon attainted jurors; viz. perpetual infamy; and if the cauſe of action were above forty pounds value, a forfeiture of twenty pounds a-piece by the jurors; or if under 40l. then five pounds a-piece; to be divided between the king and the party injured. So that a man may now bring an attaint either upon the ſtatute or at common law, at his election (3 Inſt. 164); and in both of them may reverſe the former judgment. But the practice of ſetting aſide verdicts upon motion, and granting new trials, has ſo ſuperſeded the uſe of both ſorts of attaints, that few inſtances of attaints occur in our books later than the ſixteenth century. Cro. Eliz. 309. Cro. Jac. 90. By the old Gothic conſtitution, indeed, no certificate of a judge was allowed, in matters of evidence, to countervail the oath of the jury; but their verdict, however erroneous, was abſolutely final and concluſive. Yet there was a proceeding, from whence our attaint may be derived. If upon a lawful trial before a ſuperior tribunal, the jury were found to have given a falſe verdict, they were fined, and rendered infamous for the future. Stiernhook de jure Goth. l. i. c. 4. Blackſtone's Comm. vol. iii. p. 402, &c.

ATTAINTED, Attaintus, or Attinctus, in *Law*. See Attainder.

ATTAK, in *Geography*, the largeſt of the iſlands commonly denominated the Aleutſky or Aleutian iſlands. It ſeems to have a larger extent of ſurface than Behring's iſland, and has an oblong form, lying more weſt and eaſt. In theſe iſlands no volcanic traces have been diſcovered, and here are no land animals but ice-foxes and rock-foxes, more frequently blue than white. The ſea-otters come hither but ſingly; whereas ſea-lions, ſea-bears, manatis, and ſome other ſea-animals frequent theſe ſhores in herds. See Aleutian *Iſlands*.

ATTALIA, in *Ancient Geography*, a town of Aſia, in Pamphylia, on the coaſt of the ſea, which there formed a gulf of the ſame name, now called the gulf of Satalia. Strabo (l. xiv. p. 459.) ſays, that it was built by Attalus Philadelphus, king of Pergamus, who founded a colony there, and that it was the chief reſidence of the prefect. St. Paul proceeded from Perga to this town. Acts xiv. 25. —Alſo, a town of Aſia, in Lydia.

Attalicæ Veſtes, in *Antiquity*, garments made of a kind of cloth of gold.

They took the denomination from Attalus, ſurnamed Philometer, a wealthy king of Pergamus, who was the firſt, according to Pliny, who procured gold to be woven into cloth. Hiſt. Nat. lib. iii. cap. 48.

ATTALIS, in *Ancient Geography*, the name of a tribe of Attica.

ATTALUS, in *Biography*, the name of ſeveral kings of Pergamus.—Attalus I. ſucceeded his couſin Eumenes I. in the year 241 B.C. Having expelled the Gauls who had ſettled in his country, he aſſumed the title of king, and extended his conqueſts of the Aſiatic provinces as far as mount Taurus. But in the diſtreſs to which he was afterwards reduced by the united forces of his grandfather Achæus and Seleucus, he availed himſelf of the ſuccour afforded him by the Gauls ſettled in Thrace, and recovered his dominions of which he had been diſpoſſeſſed. He then purſued his conqueſts in Ionia, till his career was ſtopped by the refuſal of the Gauls to advance any farther. Upon this he returned to the Helleſpont, and allowed his allies to ſettle there in a very fertile and extenſive region. For the ſecurity of the territories he had acquired, he formed an alliance with the Romans, whom he vigorouſly aſſiſted in their two wars againſt Philip of Macedon. In conjunction with the Athenians he invaded Macedonia, and recalled Philip from his enterpriſe againſt Athens; and on this account the Athenians gave his name to one of their tribes. At Thebes in Bœotia, whilſt he was haranguing the people, and urging them to take arms againſt Philip, he was ſeized with an apoplexy; and being conveyed to Pergamus, he ſoon after died, in the 72d year of his age, and 43d of his reign. He is repreſented as a generous and amiable prince, a liberal encourager of literature, and alſo a writer. Of his veneration for Homer the following ſingular inſtance is mentioned by Suidas and Valerius Maximus; viz. his cauſing the grammarian Daphnidas to be thrown from a rock, for ſpeaking diſreſpectfully of this celebrated bard.—Attalus II. was the ſecond ſon of Attalus I. and called *Philadelphus*, from his fidelity and affection to his brother Eumenes, who was king of Pergamus before him. Upon a falſe rumour of the death of Eumenes, he haſtily aſſumed the regal enſigns, and married his brother's wife; but on his brother's ſafe return, he manifeſted every token of ſatisfaction and allegiance, and bore an halbert as one of his guards. Eumenes kindly embraced him, and in a whiſper cautioned him "not again to be in ſuch haſte to marry his wife, till he was ſure of his death." Attalus was actively attached to the Romans in their war againſt Perſes; and made ſucceſſive viſits to Rome for the purpoſe of exculpating his brother from the charge of indifference to their intereſt. At his death, Eumenes bequeathed both his kingdom and his wife to Attalus; and appointed him guardian of his infant ſon, which truſt he faithfully executed. At-

talus

talus commenced his reign in the year 159 B. C. and after a reign of 21 years, diſtinguiſhed principally by his ſucceſs in reſtoring Ariarathes VI. to the throne of Cappadocia, and by his conteſt with Prufias king of Bithynia, which terminated after alternate defeats and ſucceſs in the dethronement and aſſaſſination of this prince, he died in his 82d year. He was a patron of literature, acknowledged as the founder of two cities in Aſia; viz. Attalia and Philadelphia, and eſteemed much by the Romans, by whom he was conſidered as one of their moſt faithful allies.—Attalus III. was the ſon of Eumenes II. and ſucceeded his uncle in the year 138 B. C. His diſpoſition was cruel and ſuſpicious, and led him to ſacrifice moſt of his own family, and ſeveral perſons of diſtinction in his court, with their wives and children. From his real or affected love for his mother Stratonica, he was denominated *Philometer*. After filling his capital and kingdom with deplorable diſtreſs, he retired into ſolitude, and ſequeſtered from all ſocial intercourſe, devoted himſelf to the culture of a garden, in which he planted a variety of poiſonous herbs; and theſe he occaſionally ſent in packets, mixed with pulſe, to thoſe who were the objects of his gloomy ſuſpicions. This conduct indicates inſanity; but it has been aſcribed by Varro and Columella to a fondneſs for horticulture, and the ſtudy of medicinal ſimples; and Attalus has been numbered among thoſe who wrote on theſe ſubjects. By the heat and toil which he experienced in the chemical employment of caſting a ſtatue of his mother, he was thrown into a fever, which terminated his life and reign in the year 133 B. C. The Roman people were by his teſtament left the heirs of his goods, which they interpreted to mean his dominions and ſubjects. Their claim to this rich inheritance was conteſted, but at length eſtabliſhed. The wealth of Attalus ſeems to have been a proverbial expreſſion, and is frequently alluded to by the Roman poets. Gen. Biog. See PERGAMUS.

ATTALUS, a Chriſtian martyr, was a native of Pergamus in Phrygia, and fell a ſacrifice to perſecution at Lyons, in the 17th year of the emperor Marcus Antoninus, and the 177th year of our Lord. In an epiſtle of the churches of Vienne and Lyons, addreſſed to the churches of Aſia and Phrygia, containing a relation of the ſufferings of their martyrs, Attalus is denominated "the pillar and ſupport of the churches there," and a zealous champion for the truth. He was led round the amphitheatre with a board carried before him, on which was inſcribed, "This is Attalus the Chriſtian;" whilſt the people were inceſſant in expreſſing their great indignation againſt him. For the gratification of the people he was delivered to the wild beaſts, and after having been run through with a ſword, he was ſet in an iron chair and burned to death. The conduct of Attalus, as well as that of his fellow-ſufferers, manifeſted a fortitude that was invincible. Euſebius, l. v. Præp. c. 1. Lardner's works, vol. vii. p. 425, &c.

ATTALYDA, in *Ancient Geography*, a town of Aſia, in Lydia.

ATTAMINATUS, in *Entomology*, a ſpecies of SCARABÆUS, with the thorax black and glabrous; head tuberculated; wing-caſes teſtaceous, with five black ſpots on each. Marſham's Ent. Brit. Panzer names this little inſect S. inquinatus, Ent. Germ.

ATTAR *of Roſes*. See OTTAR.

ATTARSOAK, in *Zoology*, a name aſſigned by Cranz (Gröenl. p. 163.), to the ſpecies of PHOCA, groenlandica, or harp ſeal of Pennant. See GROENLANDICA.

ATTELABOIDES, in *Entomology*, a ſpecies of CARABUS that inhabits Coromandel, and is about the ſize of the European ſpecies leucophthalmos. It is apterous and black, with a narrow thorax; the poſterior part of the head attenuated; wing-caſes furrowed and truncated. Fabricius.

ATTELABOIDES, a ſpecies of CIRCULIO that inhabits Brazil. The ſhells are rough, variegated with brown and grey; legs variegated; and thighs clavate. It is thus ſpecifically defined by Fabricius; "roſtro clypeique unituberculatis," beak and wing-caſes with a ſingle tubercle.

ATTELABOIDES, a ſpecies of RHINOCEROS that inhabits the pine. It is downy; antennæ and legs teſtaceous. A native of Sweden. Gmel. &c.

ATTELABOIDES, a ſpecies of FORMICA of a black colour; two ſpines on the thorax; legs ferruginous; poſterior part of the head attenuated. Fabricius. Inhabits Brazil.

ATTELABOIDES, a ſpecies of CIMEX (*Reduvius* Sect.), found in New Holland. It is teſtaceous, varied with black; anterior part of the thorax teſtaceous, with two black teeth. Fabricius. The ſnout is pale, with a black dorſal line; a black band in the middle of the thorax; anterior margin of the wing-caſes black; wings black; body teſtaceous beneath; thighs annulated with black.

ATTELABUS, a genus of COLEOPTEROUS inſects in the Linnæan ſyſtem, that is diſtinguiſhed by having the head inclined and pointed behind; antennæ moniliform, and thickeſt near the end. Linn. &c.

Of this genus, Gmelin enumerates thirty-four ſpecies, including the Fabrician clerí, and ſpondylides deſcribed in Spec. Inſ.—Fabricius in his Ent. Syſt. deſcribes thirty-ſeven ſpecies of the attelabi excluſively; his character of the genus is, feelers filiform; jaws bifid; lip horny, concealing the feelers; antennæ moniliform, and ſituated on the beak.

This genus Linnæus obſerves is very obſcure, the inſects arranged under it differing much from one another in their external appearance. But this obſcurity a later writer remarks, "proceeds rather from Linnæus's not having known a ſufficient number of inſects proper to be arranged under it; and his placing with thoſe, the ſpecies included in the CLERUS genus by Geoffroy, in which the generical characters he aſſigns for his attelabi are not found, than to any defect in the characters themſelves." Scopoli diſtinguiſhes the attelabi by the following character; hinder part of the head gradually diminiſhing in ſize; eyes prominent; thorax ſomewhat broader than the diameter of the head, and of a cylindric form. Among theſe are included ſome of the Linnæan chryſomela, whoſe bodies are oblong and narrower than the thorax. The clerus of Geoffroy and Scheffer is partly taken from the Linnæan attelabi, and partly from the dermeſtes of that author; the characters they aſſign it are, antennæ club-formed, and placed on the head; the knob compoſed of three joints; no proboſcis; thorax almoſt cylindrical, and without margin; ſoles of the feet ſpongy.

The body of the inſects in the genus attelabus is commonly of an ovate form; the head projecting, ovate, and narrow behind, where it unites with the thorax; the eyes are globoſe and ſituated in front; the antennæ ſhort and approximate, moniliform, and compoſed of eleven joints, of which that at the baſe is large, and the three at the extremity form an oval of a ſomewhat lengthened ſhape; thorax and ſcutel are both rotundated; wing-caſes as long as the abdomen, and rather convex; legs ſhort and the feet of four joints. The inſects of this genus approach very nearly to les brachicères, les brentes, les rhinomacers, les macrocéphales, and les bruches of modern French naturaliſts, but are ſufficiently diſtinguiſhed by their antennæ.

The larva of the attelabi, according to ſome writers, are furniſhed with ſix feet; are very fat, of a whitiſh colour, and have an annulated body. The head is protected by a hard ſcaly covering, and the mouth furniſhed with two very ſtrong jaws, with which it does great miſchief. It attacks the leaves, the flowers, the fruits, and even the ſtalks and roots of different plants; but moſt of the ſpecies penetrate into the plant, and ſubſiſt entirely on the parenchymous or ſpongy parts within. Preparatory to the transformation to the pupa ſtate, ſome ſpecies ſpin a ſilky web, and others form a little ball of a very ſolid kind, in which they remain during the ſecond ſtate. The perfect inſects inhabit the ſame plants as the larva, but are deemed leſs injurious to them.

Gmelin, as before obſerved, deſcribes thirty four ſpecies of this genus: theſe are coryli, avellanæ, bicolor, denigratus, erythropterus, bipuſtulatus, gemmatus, indicus, curculionoides, ſurinamenſis, pennſylvanicus, melanuros, angulatus, ruficollis, pubeſcens, betulæ, mutillarius, dubius, ichneumonius, formicarius, ſphageus, ſexguttatus, quadrimaculatus, uninfaſciatus, octopunctatus, tricolor, bifaſciatus, ſipylus, ammios, apiarius, cyaneus, crabroniformis, ceramboides, bupreſtoides; which ſee reſpectively.

Obſ. A few of the figures in the third entomological plate of this work having been inadvertently miſplaced, the inſect inſcribed g. 15. *attelobus* will be found to belong to another genus, and that marked g. 13. *bruchus* being one of the Linnæan *attelabi*, may ſerve to illuſtrate this genus, till another figure can be given.

ATTELEBUSSA, in *Ancient Geography*, an iſland in the Mediterranean ſea, on the coaſt of Lycia. Ptolemy calls it Atelebuſa, and places it on the coaſt of Pamphylia. Pliny.

ATTELLANÆ. See ATELLANÆ.

ATTENA, in *Ancient Geography*, a town of Ethiopia, below Egypt. Pliny.

ATTENBY, in *Geography*, a town of Sweden, in the iſland of Oeland.

ATTENDANT, or ATTENDENT, in a general ſenſe. See ASSISTANT, RETINUE, and SATELLITES.

ATTENDANT, *Attendens*, in *Law*, ſignifies one that owes duty, or ſervice to another, or depends in ſome manner upon him.

Where the wife is endowed of lands by guardian, ſhe ſhall be attendant on the guardian, and on the heir at his full age.

ATTENDORN, in *Geography*, a town of Germany, in the archbiſhopric of Cologne, and duchy of Weſtphalia, ſeated on the river Bigge, and ſeven leagues ſouth of Arenſberg.

ATTENHOVE, a town of Brabant, one league north-eaſt of Landen.

ATTENTION, ATTENTIO, compounded of *ad*, *to*, and *tendo*, *I ſtretch*, a due application of the ear, or the mind, to any thing ſaid or done, in order to acquire a knowledge of it.

Attention of mind, is not properly an act of the underſtanding, but rather of the will, by which it calls the underſtanding from the conſideration of other objects, and directs it to the thing in hand. Nevertheleſs, our attention is not always voluntary: an intereſting object ſeizes, and fixes it beyond all power of control.

It is by the attention that is given to any object of ſenſe or intellect, that we form a diſtinct notion of it, or diſcover its nature, its attributes, or its relations: and ſo great indeed is the effect of attention, that, without it, it is impoſſible to acquire or retain a diſtinct notion of any object of thought. To this purpoſe it is ſaid, that ſir Iſaac Newton, when he was complimented upon the force of genius which had made ſuch improvements in mathematics and natural philoſophy, made this reply, no leſs judicious than modeſt; "that, if he had made any improvements in thoſe ſciences, it was owing more to patient attention, than to any other talent." As it is very helpful to memory, if not eſſential to it, that the perception of the idea which we wiſh to remember ſhould remain in the mind for a certain ſpace of time, and ſhould be contemplated by itſelf excluſively of every thing elſe, we can be at no loſs to account for the aſſiſtance which the memory derives from attention, which conſiſts partly, if not entirely, in the effort of the mind, to detain the idea or the perception, and to exclude the other objects that ſolicit its notice. Hence it happens that in ſolitude, or the ſtilneſs of the night, when the attention is undiverted and undiſtracted by ſurrounding objects, the impreſſion made by any one object is ſtronger and deeper: and the memory becomes more retentive. When one faculty of the mind is intenſely engaged about any object, the other faculties are laid, as it were, faſt aſleep; hence a man ſees not what is before his eyes, when his mind is occupied about other things. In the tumult of a battle, a man may be ſhot through the body without knowing any thing of the matter, till he diſcovers it by the loſs of blood or of ſtrength. The moſt acute ſenſation of pain may be deadened if the attention be vigorouſly directed to another object. The anecdote relating to the attention of Archimedes at the ſiege of Syracuſe is well known. (See ARCHIMEDES.) When there is no particular object that draws away our attention, there is a deſultorineſs of thought in man, and in ſome more than in others, which makes it very difficult to give that fixed attention to important objects which reaſon requires. A habit of attention may be acquired by practice; and the ſtudy of the mathematical ſciences has a peculiar aptitude to direct and fix it. Attention is one of thoſe operations of the mind, which, according to Dr. Reid's diſtribution (Eſſays, p. 78.), belong to the claſs of thoſe that are voluntary.

Attention, in reſpect of hearing, is the ſtretching or ſtraining of the *membrana tympani*, ſo as to make it more ſuſceptible of ſounds, and better prepared to catch even a feeble agitation of the air. Or it is the adjuſting the tenſion of that membrane to the degree of loudneſs or lowneſs of the ſound to which we are attentive.

"Sounds," ſays the celebrated Bacon in his Natural Hiſtory, "are meliorated by the intenſion of the ſenſe, where the common ſenſe is collected moſt to the particular ſenſe of hearing, and the ſight ſuſpended. Therefore ſounds are ſweeter, as well as greater, in the night than in the day; and I ſuppoſe they are ſweeter to blind men than to others; and it is manifeſt, that between ſleeping and waking, when all the ſenſes are blind and ſuſpended; muſic is far ſweeter than when one is fully waken."

ATTENUANTS, in *Medicine*. This term is applied to thoſe medicines which are ſuppoſed to poſſeſs the power of reſtoring the concreted parts of a fluid to the ſame ſtate of fluidity which they poſſeſſed before concretion. It is nearly ſynonymous with *reſolvent*. A very reaſonable doubt has been entertained, whether there is properly any ſuch attenuating power reſiding in any medicine, independent either of mere dilution, or elſe of the ſtimulant property. The idea, however, of the operation of attenuants is the following:—many of the older phyſicians, and after them the Boerhaavians, ſuppoſed obſtruction in the circulating ſyſtem to be produced by the red blood, or a thinner impervious humour joined with it, ſtagnating in their proper veſſels, or wedged into other veſſels of a ſmaller diameter than

than the ſanguiferous by an *error loci*. This, they ſuppoſed, would produce a greater motion and heat, owing to the reſiſtance of the veſſels, which would incline the humours very much to a ſtate of putrefaction. Of theſe concretions ſome are ſoluble by water alone, ſuch as the faline, ſaponaceous, and mucous; but others require the diſſolving power of certain medicines; and hence in the former caſe, *diluents* alone are ſufficient to remove the obſtruction, but in the latter, recourſe muſt be had to the *attenuants*. Concretions ſuppoſed to be produced by an inflammatory ſpiſſitude of the blood, and oily, ſebaceous, and calculous concretions, were conſidered as yielding to the internal uſe of various ſalts, ſuch as ſal gem, ſal ammoniac, and fixed alkali, alſo ſoaps, decoctions of the acrid and alkaleſcent vegetables, and bile (which is a kind of natural ſoap), all of which were conſidered as highly attenuating; and the reader will here perceive how cloſely the experiments of the laboratory were applied to the living animal. Another ſpecies of attenuating or reſolving remedies was the whole claſs of mercurial medicines, which are known to produce the moſt violent flow of ſaliva and thin fœtid humours from the body, the conſequence (as was imagined) of the power poſſeſſed by this mineral to reſolve and break down acrid matter impacted in the glands and minuter veſſels.

The term attenuant is not now much employed in its original ſenſe; the alleged cauſe of obſtructions being entirely diſputed, as well as the ſuppoſed ſolvent power of theſe medicines upon the concreted humours, whilſt remaining in the veſſels of the body.

ATTENUATA, in *Entomology*, a ſpecies of LEPTURA that inhabits Europe, and is both deſcribed and figured by ſeveral authors. The wing-caſes are attenuated and fulvous, with four black bands; legs teſtaceous.

ATTENUATA, a ſpecies of BUPRESTIS that inhabits Rio Janeiro. The wing-caſes taper towards the end, terminate in two teeth, and are ſtriated; body braſſy-green; beneath coppery. Fabricius.

ATTENUATA, a ſpecies of VESPA with a ferruginous abdomen, and black petiole, with yellow band. This kind inhabits America. Fabricius, &c. *Obſ.* The antennæ are ferruginous, tipped with black; head black, with the lip yellow.

ATTENUATION, compounded of *ad*, and *tenuis*, *thin*, the act of *attenuating;* that is, of making any fluid thinner and leſs conſiſtent than it was before.

Attenuation is defined more generally by Chauvin, the dividing or ſeparating of the minute parts of any body, which before, by their mutual *nexus* or implication, formed a more continuous maſs.—Accordingly, among alchemiſts, we ſometimes find the word uſed for pulverization, or the act of reducing a body into an impalpable powder, by grinding, pounding, or the like.

ATTENUATUS, in *Entomology*, a ſpecies of CARABUS. (*Cychrus attenuatus* Fabr. Append.) This inſect is apterous, black, wing-caſes rather coppery, with three rows of raiſed dots; thorax narrow; head very narrow. Panz.

ATTENUATUS, in *Natural Hiſtory*, a ſpecies of ECHINORYNCHUS, deſcribed by Müll. Zool. Dan. It is globiferous, with an equal ſmooth yellow body; and neck filiform. Sometimes found in the inteſtines of the flounder. This is *tænia longicollis* of Pallas.

ATTENUATUS, *pedunculus*, in *Botany*, denotes a foot-ſtalk that grows ſmaller towards the flower.

ATTENY, in *Geography*, a town of India, in the kingdom of Deccan, beautifully ſituate in a foreſt of palm-trees, not far from the ſea, about twenty-two leagues north of Viſiapour.

ATTERBURY, [illegible], a [illegible] eminence in the political and literary world, was born, in 1662, at Milton Keynes near Newport-Pagnel, in Buckinghamſhire, [illegible] rector. [illegible] ing at Weſtminſter [illegible] of Chriſt-church college in Oxford. [illegible] reputation as a claſſical ſcholar, and exhibited [illegible] his poetical talents in a Latin verſion of Mr. Dryden's "Abſalom and Achitophel," an epiſtle on "Friendſhip," addreſſed to Mrs. [illegible] wife; and a tranſlation of "Two Odes of Horace;" viz. Od. 9. l. 1. and Od. 3. l. 2. These are [illegible] "Epiſtolary Correſpondence." He took his degree of bachelor of arts in 1684, and that of maſter in 1687; and at this period he firſt appeared as a controverſial writer, by vindicating the reformation, in a piece intitled, "An Anſwer to [illegible] and the origin of the Reformation." While he [illegible] at college, he is thought to have taken a part in the [illegible] diſpute between Mr. Bentley and the hon. Mr. Charles Boyle (afterwards earl of Orrery), concerning the genuineneſs of "Phalaris's Epiſtles," [illegible] the occaſion. The time of his taking orders is not [illegible] aſcertained; but it may be [illegible] it was either at the cloſe of the year 1690, or in the beginning of 1691. He ſeems to have been tired of a [illegible] life, and thinking himſelf formed, as he expreſſes himſelf, for "another ſcene, and another ſort of converſation," he determined, whenever any favourable opportunity occurred, to leave Oxford. Diſappointed in his application for the rectory of Milton, which was the place of his birth, he came to London in 1693, and was appointed one of the chaplains in ordinary to king William and queen Mary, preacher at Bridewell, and lecturer at St. Bride's. His compoſitions for the pulpit were diſtinguiſhed by boldneſs of ſentiment and warmth of language; and accordingly they ſoon commanded attention. One of them, "On the power of charity to cover ſin," excited the notice and animadverſions of Hoadly; and another, intitled "The ſcorner incapable of true wiſdom," was more acrimoniouſly cenſured. In the year 1700 he commenced a controverſy with Archbiſhop Wake, concerning "the rights, powers, and privileges of convocations," which laſted four years, and in the proſecution of which he appeared as an able and ardent advocate for high eccleſiaſtical authority, and the independence of the church on the ſtate. The learning, ingenuity, and zeal manifeſted on this occaſion, procured for him the thanks of the lower houſe of convocation, and the degree of doctor in divinity from the univerſity of Oxford. At the commencement of the year 1700, he was inſtalled archdeacon of Totneſs; and in the progreſs of it he was engaged with ſome other learned divines, in reviſing an intended edition of the Greek teſtament, with Greek ſcholia, collected chiefly from the fathers, by Mr. Archdeacon Gregory. The acceſſion of queen Anne, in 1702, was to him a favourable event; and it was ſoon followed by his appointment as one of her majeſty's chaplains in ordinary; and in 1704, he was advanced to the deanery of Carliſle. In 1706, he preached a [illegible] on 1 Cor. xv. 19. which occaſioned a diſpute with Hoadly "concerning the advantages of virtue with regard to the preſent life." In the following year he was [illegible] of the canons reſidentiary of the cathedral at Exeter; and in 1709, his diſtinguiſhed talents in the pulpit introduced him into the honourable office of [illegible] at the Rolls chapel. In this year he was engaged in a controverſy with Hoadly concerning "Paſſive obedience;" and in the [illegible]

ing year he aſſiſted Sacheverell in his famous trial, who recompenſed him by a legacy of 500l., and in performing the office of prolocutor to the lower houſe of convocation. In 1711 he was appointed by the convocation one of the committee for comparing Mr. Whiſton's doctrines with thoſe of the church of England; and he was principally concerned in drawing up "A repreſentation of the preſent ſtate of religion," which, though too exceptionable in its principles, and too virulent in its ſpirit to be preſented to the queen, was nevertheleſs printed and privately diſperſed. In 1712, Dr. Atterbury was made dean of Chriſt-church; and in 1713 he attained, by the recommendation of the earl of Oxford, the height of his promotion, that of the biſhopric of Rocheſter, and deanery of Weſtminſter. It is ſaid, that he aſpired to the primacy; but the death of the queen, in 1714, diſconcerted all his projects, and diſappointed all his hopes of higher advancement. The acceſſion of George I. was an event which he had reaſon to deplore. The perſonal diſlike of the king, of which he had mortifying evidence, was retaliated on his part by diſaffection to the eſtabliſhed government. In the firſt year of this reign, during the rebellion in Scotland, he, and one other biſhop at his inſtigation, refuſed to ſign the "Declaration" of the biſhops; and his name occurs in the moſt violent proteſts againſt the meaſures of government. Not content with a conſtitutional oppoſition, he engaged in a correſpondence with the pretender's party, in order to bring about a revolution in favour of the abdicated family; and in Auguſt 1722, he was apprehended on this account, and committed to the Tower. Whilſt he was under examination, previous to his commitment, he is ſaid to have adopted our Saviour's anſwer to the Jewiſh council; "If I tell you, you will not believe me; and if I alſo aſk you, you will not anſwer me, nor let me go." In the month of March of the following year, a bill was brought into the houſe of commons for "inflicting certain pains and penalties on Francis biſhop of Rocheſter;" and having paſſed the commons, it was ſent up to the lords for their concurrence. In this houſe it was ſtrongly oppoſed, and the biſhop, in his defence, made an able and eloquent ſpeech, cloſing, after a ſolemn proteſtation of his innocence, and an appeal to the ſearcher of hearts, with this memorable declaration: "If your lordſhips ſhall proceed to paſs this bill againſt me, I ſhall diſpoſe myſelf quietly, and tacitly ſubmit to what you do; God's will be done; *naked came I out of my mother's womb, and naked ſhall I return;* and whether he gives or takes away, *bleſſed be the name of the Lord!*" At length, however, after a long and very warm debate, the bill paſſed into a law, and the biſhop was condemned to the deprivation of all his offices and benefices, and to perpetual exile. The juſtice of this ſentence, though much litigated at and immediately after the time when it was paſſed, has been ſince generally allowed. Of his attachment to the pretender, the following ſtriking inſtance is related by the author of the Memoirs of lord Cheſterfield, from Dr. Birch's MS. papers. "Lord Harcourt, leaving the old miniſtry, provoked Atterbury's abuſive tongue. He, in return, declared, that, on the queen's death, the biſhop came to him and to lord Bolingbroke, and ſaid, nothing remained but immediately to proclaim king James. He further offered, if they would give him a guard, to put on his lawn ſleeves, and head the proceſſion." Of his diſaffection to the exiſting government, many convincing evidences occur; and particularly his conduct towards Mr. Gibbin, a worthy clergyman, and curate of Graveſend, whom he ſuſpended for allowing the uſe of his church to the chaplain of the Dutch troops, who were called over in 1715 to ſuppreſs the rebellion. Atterbury, in conſequence of his ſentence, left the country in June, 1723, accompanied by his daughter, Mrs. Morrice, to whom he was affectionately attached, and landed at Calais. From thence he went to Bruſſels; but being obliged to leave that place, he removed to Paris, where he reſided till his death, ſoftening the rigours of exile by ſtudy, and converſation and correſpondence with learned men. It appears however, by ſome letters publiſhed at Edinburgh in 1768, of unqueſtionable authenticity, that he was actively engaged, in 1725, in fomenting diſcontents in the highlands of Scotland, with a view of encouraging another rebellion. In 1729 he loſt his daughter, and this afflictive event, which he bore with reſignation, is nevertheleſs thought to have haſtened his own diſſolution, which happened at Paris, in February 1731. His remains were brought over to England, and privately interred in Weſtminſter-abbey. We cannot forbear inſerting, in this place, Mr. Pope's fine epitaph on the biſhop, written in the form of a dialogue between his daughter, ſuppoſed to be expiring in his arms, immediately after her arrival in France to ſee him, and himſelf, and preſerved in Pope's Works, vol. iv. p. 58. 8vo. 1776. As to the juſtice of the compliment, which it pays to his political ſentiments, the reader muſt judge.

Dialogue.

She. "Yes, we have lived,—one pang, and then we part!
May heaven, dear father! now have all thy heart.
Yet, ah! how much we loved, remember ſtill,
Till you are duſt like me.—"

He. "Dear ſhade! I will:
Then mix this duſt with thine—O ſpotleſs ghoſt!
O more than fortune, friends, or country loſt!
Is there on earth, one care, one wiſh beſide!
Yes, SAVE MY COUNTRY, HEAV'N, he ſaid, and died."

Biſhop Atterbury had four children, two ſons and two daughters. His ſon Oſborn alone ſurvived him.

Some time before his death the biſhop publiſhed a vindication of himſelf, biſhop Smalridge, and Dr. Aldrich, from a charge brought againſt them by Mr. Oldmixon, of having altered and interpolated the copy of lord Clarendon's "Hiſtory of the Rebellion." His ſermons are extant in four volumes 8vo.: thoſe contained in the two firſt were publiſhed by himſelf, and dedicated to his great patron, ſir Jonathan Trelawny, biſhop of Wincheſter: thoſe in the two laſt were publiſhed after his death by Dr. Thomas Moore, his lordſhip's chaplain. His epiſtolary correſpondence with Mr. Pope is extant in the collection of that poet's "Letters." Mr. Nichols has lately publiſhed in three volumes, 8vo. "The Epiſtolary Correſpondence, Viſitation, Charges, Speeches, and Miſcellanies, of the right reverend Francis Atterbury, D. D. lord biſhop of Rocheſter," with hiſtorical notes; the greater part of theſe volumes is entirely new. From the General Dictionary (vol. ii. 445.) we learn, that Dr. Atterbury is ſaid to have tranſlated "Virgil's Georgics" in Engliſh, and to have written an "Harmonia Evangelica." In an elegant diſſertation on the fictitious perſon of Japyx, or Japis in the Æneid, he attempted to prove that Virgil meant by this perſon to allude to Antonius Muſa, an eminent phyſician and polite ſcholar at Rome, in the reign of Auguſtus; but the attempt does no honour to his critical erudition, and has been deemed futile by judicious commentators. His tranſlations of two odes of Horace, are reputed by a competent judge to have received more than their due ſhare of applauſe.

As to this prelate's character, however the moral and political part of it may have been differently appreciated by oppoſite

oppoſite parties, it is univerſally agreed, that he was a man of great learning and uncommon abilities, a fine writer, and a moſt excellent preacher. With reſpect to Atterbury's public and political character, it "was marked with that turbulent ambition and contentious violence which animated the Beckets and Lauds of former times, and which was ill diſguiſed by the affected mildneſs and moderation of his epiſtolary writings." "The turbulent and imperious temper of this haughty prelate," ſays Dr. Wharton (Eſſay on the Writings and Genius of Pope, vol. ii. p. 432, 433.), "was long felt and remembered in the college over which he preſided. It was with difficulty queen Anne was perſuaded to make him a biſhop; which ſhe did at laſt on the repeated importunities of lord Harcourt. After her deceaſe, Atterbury occaſionally urged his friends to proclaim the Pretender; and on their refuſal, upbraided them for their timidity, with many oaths; for he was accuſtomed to ſwear on any ſtrong provocation." From an anecdote related by lord Cheſterfield to Dr. Maty, and recorded in "Maty's Memoirs" of that nobleman (p. 279.), it has been inferred, that Dr. Atterbury had been long known, among his friends, to be a ſceptic, or an unbeliever, with regard to revelation. The anecdote is as follows. "I went to Mr. Pope one morning at Twickenham, and found a large folio bible with gilt claſps lying before him upon his table; and, as I knew his way of thinking upon that book, I aſked him jocoſely, if he was going to write an anſwer to it? It is a preſent, ſaid he, or rather a legacy, from my old friend the biſhop of Rocheſter. I went to take my leave of him yeſterday in the Tower, where I ſaw this bible upon his table. After the firſt compliments, the biſhop ſaid to me, my friend Pope, conſidering your infirmities, and my age and exile, it is not likely that we ſhould ever meet again, and therefore I give you this legacy to remember me by it.—Does your lordſhip abide by it yourſelf?—I do.—If you do, my lord, it is but lately. May I beg to know, what new light or arguments have prevailed with you now, to entertain an opinion ſo contrary to that which you entertained of that book all the former part of your life?—The biſhop replied, we have not time to talk of theſe things; but take home the book; I will abide by it; and I recommend to you to do ſo too, and ſo God bleſs you!" This ſingle ſtory, however, not only uncorroborated, but contradicted by other facts, is not ſufficient to warrant the charge of ſcepticiſm againſt this prelate. Whatever were his faults, he does not appear to have diſbelieved or even doubted the truth of Chriſtianity. His actions and writings exhibit the fiery zealot and bigot rather than the infidel; though it muſt be acknowledged, that theſe characters may be united in the ſame perſon. His ſermons on the miraculous propagation of the goſpel, and on a ſtanding revelation's being the beſt means of conviction, beſides other diſcourſes, furniſh important and pleaſing evidences of his attachment to the Chriſtian religion. It ought alſo to be conſidered, that he generally treats unbelievers with contempt, as an ignorant, ſuperficial, and conceited ſet of men; which he would ſcarcely have done if he had been of the ſame ſentiments. For though a man may conceal, or deny, or even perſecute the opinions which he himſelf holds, it is not very likely that he ſhould appear to deſpiſe the retainers of them. Beſides, there is an ardour of affectionate eſteem in Mr. Pope's two laſt letters to Dr. Atterbury (Pope's Works, vol. v. p. 351—355.), written to him when he was in the tower, which that eminent poet, who valued himſelf upon his moral character, could not well have expreſſed to the biſhop, if he had known that he had acted the baſe and hypocritical part of publicly profeſſing and defending that religion which he privately diſavowed. Not to add, that he actually derived much of his conſolation in adverſity from his religious principles. His correſpondence with Dr. Wall and biſhop Potter, preſerved in Nichols's publication, fully proves his belief in, and his zeal for the honour of the Chriſtian revelation; and the teſtimony, derived from his private correſpondence and from the uniform tenour of his life and writings, ought ſurely, with impartial and candid judges, to outweigh the evidence deduced from a ſingle ſtory, however well authenticated. In his letters to Mr. Pope, and to his other correſpondents, biſhop Atterbury appears in a very pleaſing light, both as a writer and a man. In eaſe and elegance, theſe letters are ſuperior to thoſe of Mr. Pope, which are more ſtudied. If we were to form our judgment of him, as a man, from theſe letters, we ſhould incline to think that it was his ſole wiſh to ſpend his life in a learned and elegant ſocial intercourſe with a few private friends; and yet numerous facts ſufficiently ſhew, that nothing could be more diſtant from his real diſpoſition and character, and that he was actuated in early life and in the progreſs of his years by a reſtleſs and turbulent ambition. His panegyriſt, biſhop Smalridge, in the ſpeech which he made, upon preſenting him to the upper houſe of convocation, as Prolocutor, repreſents him as "Vir in nullo literarum genere hoſpes, in pleriſque artibus et ſtudiis diu et feliciter exercitatus, in maxime perfectis literarum diſciplinis perfectiſſimus: i. e. "one, who is well acquainted with all parts of literature, long and ſucceſsfully exerciſed in moſt arts and ſtudies, and moſt accompliſhed in thoſe ſciences which admit of the greateſt perfection." Although it is allowed, that he was ſometimes too ſevere upon his adverſary, and dealt rather too much in ſatire and invective, yet this is imputed by his panegyriſt more to the natural fervour of his wit, than to any bitterneſs of temper, or prepenſe malice. As a compoſer of ſermons and a preacher, he excelled his cotemporaries, and in this reſpect few Engliſh authors have attained to ſo high a rank. Of his character, as a preacher, the following encomium is beſtowed upon him by the author of the "Tatler" (N° 66); who, having obſerved that the Engliſh clergy too much neglect the art of ſpeaking, makes a particular exception with regard to this prelate. "Atterbury," ſays he, "has ſo particular a regard to his congregation, that he commits to his memory what he has to ſay to them; and has ſo ſoft and graceful a behaviour, that it muſt attract your attention. His perſon, it is to be confeſſed, is no ſmall recommendation, but he is to be highly commended for not loſing that advantage, and adding to the propriety of ſpeech (which might paſs the criticiſm of Longinus), an action which would have been approved by Demoſthenes. He has a peculiar force in his way, and has many of his audience, who could not be intelligent hearers of his diſcourſe, were there not explanation as well as grace in his action. This art of his is uſed with the moſt exact and honeſt ſkill. He never attempts your paſſions, till he has convinced your reaſon. All the objections, which you can form, are laid open and diſperſed, before he uſes the leaſt vehemence in his ſermon; but when he thinks he has your head, he very ſoon wins your heart, and never pretends to ſhew the beauty of holineſs, till he has convinced you of the truth of it." Dr. Blair (Lectures on Rhetoric, &c. vol. ii. p. 127—[illegible]), ſays of this prelate, that he is deſervedly accounted one of our moſt eloquent writers of ſermons. "At the ſame time," he adds, "he is more diſtinguiſhed for elegance and purity of expreſſion, than for profoundneſs of thought: his ſtyle, though ſometimes careleſs, is, upon the whole, neat and chaſte; and more beautiful than that of moſt writers of

ſermons. In his ſentiments, he is not only rational, but pious and devotional, which is a great excellency." Dr. Warton (ubi ſupra, p. 435.), thinks, that Atterbury was, on the whole, rather a man of ability, than a genius; and that he writes more with elegance and correctneſs, than with any force of thinking or reaſoning. Biog. Brit. Gen. Dict.

ATTERBURY, *Lewis*, the elder brother of the biſhop, was born at Caldecot, in the pariſh of Newport-pagnel in 1656, and after finiſhing his grammatical education under Dr. Buſby at Weſtminſter ſchool, removed to Chriſt church college, Oxford, in 1674. In 1695, he was elected preacher to the chapel at Highgate, in the neighbourhood of London; and in 1707, he was preſented by the queen to the rectory of Shepperton, in Middleſex. In 1719, he was collated to the rectory of Hornſey, in Middleſex, in which pariſh the chapel of Highgate is ſituated. Upon application to his brother for the archdeaconry of Rocheſter, he was refuſed; probably more from a mean opinion of his talents, than from delicacy. However, he ſuſtained the character of an uſeful pariſh prieſt, annexing the profeſſion of phyſic, which he ſtudied for the benefit of his poor pariſhioners, to the clerical character; and he acquired the reputation of a plain, ſolid, uſeful preacher. At the age of ſeventy he had a ſtroke of the palſy, and died at Bath in the year 1731. He publiſhed ſeveral ſermons, which formed two volumes, and other pieces; and ſince his death, two volumes of his ſermons have been publiſhed, in conſequence of his teſtamentary directions, by Mr. E. Yardley, archdeacon of Cardigan. Dr. Atterbury was intimately acquainted with archbiſhop Tillotſon, formed his ſtyle of preaching on his model, and publiſhed a defence of him againſt the attack of an Iriſh prieſt. Biog. Brit.

ATTERKLAA, in *Geography*, a town of Germany, in the arch-duchy of Auſtria, ſix miles north-weſt of Entzerſtorff.

ATTERMINING, in our *Old Writers*, is uſed for a time or term granted for payment of a debt, according to Blount.

ATTERN, in *Geography*, a town of Hindoſtan, in the country of Agra, thirty-eight miles S. S. E. of Agra, and thirty-nine north-eaſt of Gwalior.

ATTESTATION, compounded of *ad*, *to*, and *teſtis*, *witneſs*, the giving teſtimony or evidence of the truth of any thing; eſpecially in writing.

ATTESTATION *of Deeds*, in *Law*. See DEED.

ATTESTATION *of Deviſes*. See DEVISE.

ATTHIS, in *Ornithology*, a ſpecies of GRACULA, called by Haſſelquiſt *corvus Ægyptius*; and by Latham, the *Egyptian grakle*. The colour of this bird is greeniſh; belly ferruginous; legs ſanguineous. Gmelin. It inhabits Egypt, as the ſynonymous names imply; and is believed to live on centipedes, ſcorpions, and other inſects, the remains of ſuch having been found in the ſtomach.

It is about the ſize of a lark; bill dull black, reddiſh at the baſe; eye bluiſh; head rather flattened at the top; upper parts of the plumage deep green, ſpotted with blue-green on the crown, hind part of the neck, and the ſhoulders; neck and back of the ſame deep green, but not ſpotted. On each ſide of the neck and back is a longitudinal broad line, the fore-part of which is ferruginous, the reſt of a whitiſh lucid blue; throat whitiſh; tail nearly even at the end, and of a deep blue colour; claws blackiſh. Lath. Gen. Syn.

Among the ancients, the name of atthis was given to ſome bird at preſent not very accurately known. By Aldrovandus, and other naturaliſts, the ſame name has been alſo aſſigned to birds altogether different from the preſent ſpecies.

ATTIA, in *Geography*, a town of Perſia, ten leagues ſouth of Kin.

ATTIC, ſomething relating to Attica, or the city of Athens. In matters of *Philology*, we uſe, Attic ſalt, *ſales Attici*, meaning a delicate, poignant kind of wit and humour, peculiar to the Athenian writers. Attic witneſs, was a witneſs incapable of corruption; ſo an Attic muſe was an excellent one, &c.

ATTIC *Dialect*, in *Grammar*, one of the four Grecian dialects, which was uſed in Athens and the adjoining country. Thoſe who have chiefly diſtinguiſhed themſelves in this dialect, are Thucydides, Ariſtophanes, Plato, Iſocrates, Xenophon, and Demoſthenes. Its general properties are, that it affects contractions of ſyllables in the ſame word, and alſo the joining of words; it often changes σ into ξ, ϱ, and τ, as ξυνέσις for συνέσις, *prudent*, θαῤῥεῖν for θαρσεῖν, *to confide*, and πρᾶττω for πράσσω, *to do*; it caſts away ι from αι and ει, as κλαω for κλαιω, *to weep*, and πλεον for πλειον, *more*; it changes ο into ω, as νεως for ναος, *a temple*; it joins ν to the end of words, giving it a circumflex accent, as οἷσιν for οἷς, τι, *what*; and it annexes ι to the end of adverbs, as νυνι, *now*. Beſides, the Attics have ſeveral phraſes peculiar to themſelves. Port Royal Greek Grammar, vol. ii. p. 332, &c.

ATTIC, or *Attic Story*, in *Architecture*, a low ſtory erected over an order of architecture, to finiſh the upper part of a building. It is ſo called becauſe ſuppoſed to have been firſt uſed in Attica; but whether it was originally employed to conceal the roof, or from ſome reaſons of convenience in the internal diſtribution, does not clearly appear; what has been mentioned reſpecting it by ancient authors being very obſcure. There is no inſtance of an Attic among the exiſting antiquities of Athens. In Italy it is met with in the triumphal arches, and in the forum of Nerva.

It has been much employed by the moderns, and particularly by the Italian architects. But the rules which they give for its proportions are various, ſome making it in height equal to one half, and others to one third of the principal order. It is uſually decorated with pilaſters, and frequently with baſſo-relievos, in the ſpaces between; or there are windows in theſe ſpaces. The pilaſters are ſometimes plain, and ſometimes have a ſunk pannel, or other ornaments. They have no diminution, nor have they any peculiar baſe or capital, the mouldings at the top and bottom of the Attic continuing round the pilaſters. In the arch of Conſtantine at Rome there are ſtatues placed over the columns of the principal order, immediately before the pilaſters of the Attic; and this has frequently been imitated in modern buildings.

ATTIC *Story* is alſo frequently applied to the upper ſtory of a houſe, conſtructed in the roof, when there is no order of architecture employed in its decoration.

ATTIC *Order*. This term has been by ſome authors uſed to denote the pilaſters that are employed to decorate an Attic ſtory. Pliny, after enumerating the other orders, ſays, "Præter has ſunt quæ vocantur Atticæ columnæ quaternis angulis pari laterum intervallo." But how theſe ſquare columns were formed is very uncertain, ſince we have no remains of columns which are known to have been of the kind here deſcribed; and Vitruvius makes no mention of them. The Attic of the forum of Nerva correſponds moſt with Pliny's deſcription, there being projections that come forward from the attic over the detached columns, faced with ſquare pilaſters, whoſe ſides are nearly equal in width to their fronts. It ſeems improper, however, to call this an order of architecture, as it has no peculiar parts eſſentially

tially conſtituting an order, ſuch as capital, baſe, entablature, &c.

Attic or *Atticurgic Baſe*. Vitruvius, lib. iii. cap. 3. ſpeaking of the baſes of columns, ſays, "This done, the baſes are fixed in their places, and are ſo proportioned that including their plinth, they have in height half the thickneſs of the column; and in projection, which the Greeks call ἐκφορὰν, they ſhould have one quarter of the thickneſs of the column; ſo that their breadth and length will be once and a half the thickneſs of the column. Their height, if they are to be in the Attic mode, is ſo divided, that the upper part is one third of the thickneſs of the column, and the remainder is left for the plinth. The plinth being excluded, the remaining part is divided into four parts, and the upper torus has one of them; the remaining three parts are equally halved, and one half makes the lower torus, and the other the ſcotia, which the Greeks call τροχιλον, with its ſquares."

This kind of baſe is frequently found in the ancient examples of the Ionic and Corinthian orders, both Greek and Roman, but the proportion of its parts varies in almoſt every different example. We ſometimes alſo meet with aſtragals between the toruſes and fillets, and all its mouldings are, in Roman architecture, frequently covered with ornaments. This baſe is extremely beautiful, and has been much employed by modern architects, who have, though very improperly, applied it alſo to the Doric order, or rather to the order which has long been called Doric by the moderns. See Doric *Order*.

For an example of the Attic baſe we refer the reader to *Plate* XVI. of Architecture.

Attic or *Atticurgic Door*. Vitruvius, lib. iv. cap. 6. ſays, in ſpeaking of doors, that "they are of three kinds, Doric, Ionic, and Attic." And he afterwards proceeds to deſcribe the manner of forming the Attic door, concluding with this remarkable paſſage, "Theſe rules, which are practiſed in the compoſition of Doric, Ionic, and Corinthian temples, I have explained as well as I have been able, according to the approved methods;" intimating thereby, that he has applied the term Attic only as relating to the Corinthian order.

Attic *Year*. See Year.

ATTICA, in *Ancient Geography*, one of the eight diſtricts into which Achaia was divided, anciently called *Actæ*, *Actea*, and *Atthis*. Plin. l. iv. c. 7. Pauſan. in Attic. c. 11. Mela, l. ii. c. 3. This country is a kind of peninſula of a triangular form, bounded on the north by Bœotia and the gulf of Euripus, on the weſt by Megaris, on the ſouth by the Saronic gulf, and on the eaſt by part of the Ægean ſea; and extending from north-weſt to ſouth-eaſt about eighty miles with decreaſing breadth, but at an average about fifty miles, ſo that its area is conſiderably leſs than that of Yorkſhire. This little country, every where interſected with rocks and mountains, is by nature extremely barren. The ſterility of the ſoil requiring aſſiduous induſtry to produce the common neceſſaries of life, rendered the territory much leſs inviting to plundering or conquering invaders than the fruitful lands in other parts of Greece. Hence Thucydides obſerves, in his Introduction to his Hiſtory, that a much greater portion of its inhabitants was aboriginal than thoſe of neighbouring diviſions. The phyſical deficiencies of Attica tended to invigorate the intellectual and moral energies of the people; and a political eſtabliſhment happily adapted to the circumſtances and characters of the citizens, cheriſhed and improved the genius and ſpirit from which it ſprung. A region leſs extenſive and naturally productive than North Wales, was tranſcendent in the arts of war and of peace, and repelled the [illegible] of the moſt potent monarch. [illegible] by [illegible], [illegible] the [illegible] gigantic deſpot of the [illegible], [illegible], and left monuments of military [illegible] and patriotism, and [illegible] turniſhed by the [illegible] the various departments of the arts, literature, and philoſophy.

Though in the early periods of their hiſtory, they were little ſubject to foreign invaſions that [illegible] of their habitations, their maritime expoſure opened the way to emigrations of ſea-faring [illegible] eſtabliſhments, not by extirminating and [illegible], but by conciliating them through an interchange of benefits. The firſt navigators recorded in hiſtory to have viſited the Autochthones, or aboriginal poſſeſſors of Attica, came from the mother country of erudition and ſcience. Cecrops, an Egyptian (B. C. 1556), led a colony of his countrymen into Greece. (See Strabo, lib. ix.) The colony of Cecrops derived its origin from the city of Sais, in Egypt. The adventurers who compoſed it had quitted the banks of the Nile, to withdraw themſelves from the tyranny of an inexorable conqueror; and after a tedious voyage, reached the ſhores of Attica, at all times inhabited by a people whom the fierce nations of Greece had diſdained to bring under the yoke. Their ſterile fields offered no plunder, nor could their weakneſs inſpire any dread. Habituated to the enjoyments of peace, free without knowing the value of independence, rude rather than barbarous, they muſt have united themſelves without difficulty to ſtrangers inſtructed by misfortune. In a ſhort time, the Egyptians and the inhabitants of Attica formed but one people: the former, however, aſſumed over the latter that aſcendancy which ſooner or later invariably attends ſuperiority of knowledge; and Cecrops, placed at the head of the united people, conceived the noble deſign of beſtowing happineſs on his adopted country.

The ancient poſſeſſors of theſe lands yearly ſaw a regular ſucceſſion of the wild fruits of the oak, and relied on nature for a reproduction which ſecured their annual ſubſiſtence. Cecrops firſt engaged the wandering hunters or ſhepherds of Attica to unite in villages of huſbandmen. Corn, wine, and oil, rewarded their uſeful labours; and theſe productions, being acquired by common toil, were regarded, with the ground itſelf, as a common property. The idea of an excluſive and permanent right to all the uſes of a piece of land, whether belonging to communities or to individuals, is one of the moſt intereſting ſteps in the progreſs of ſociety. In Attica, this invaluable right was immediately followed by ſuch inſtitutions as tended to ſecure its enjoyment, and to check the injuſtice of man, who is ſeldom willing to acquire by ſlow labour what he can raviſh by ſudden violence. The ſalutary influence of religion was employed on this important occaſion. With agricultural property religious rites were introduced, and Cecrops inſtituted ſacrifices to the attributes of wiſdom and of power under the names and ſenſible repreſentations of Minerva and Jupiter. He is alſo by ſome hiſtorians ſaid to have taught his ſubjects the art of navigation; to have inſtituted the areopagus, and to the inſtitution of civil rights to have added the puniſhment of crimes. Aware of the advantages which might be derived from union of effort, Cecrops propoſed to facilitate it by contiguity of reſidence; he induced his ſubjects to collect and ſecure themſelves within a wall, and laid the foundation of Athens. He placed this new city on a hill in the midſt of a large plain, and built the citadel on the rock in which the hill terminated; [illegible]

prince reigned fifty years. For an abſtract of the hiſtory of this country, and other particulars relating to it, ſee ATHENIANS, and ATTENS.

The chief city of Attica, next to Athens, was ELEUSIS. Rhamnus was famous for the temple of Amphiaraus and the ſtatue of Nemeſis. The principal river was ASOPUS; as to the Iliſſus, Eridanus, and Cephiſſus, they were rather brooks than rivers; but Attica, having a number of havens, was leſs in want of rivers. The riches of this kingdom, according to Thucydides (l. ii.), occaſioned by its frugality and commerce, are ſaid to have amounted to 1200 Attic talents a year; hence it was enabled to maintain a powerful army and navy, and thus to extend its poſſeſſions. The coin of Attica was commonly ſtamped with the figure of an ox, and this circumſtance gave occaſion to the phraſe frequent among the Greeks, of a thing being worth 10 or 100 oxen; and hence alſo aroſe the common proverb "bovem habet in lingua," when a man was thought bribed to ſpeak contrary to his own ſentiments. But the wealth, ſtrength, and populouſneſs of Attica, were principally diſplayed in the number of tribes, amounting to thirteen, into which it was divided, and the great number of cities and towns belonging to each tribe.

ATTICUS, HERODES TIBERIUS CLAUDIUS, in *Biography*, was deſcended of a noble family, which traced their pedigree as high as Cimon and Miltiades, and born at Marathon in the territory of Athens. His father, Julius Atticus, was reduced to a low condition by the proſcription of his father; but by the accidental diſcovery of a treaſure in his houſe, he was unexpectedly raiſed to the poſſeſſion of affluence. Dreading the event of this diſcovery, he communicated it to the emperor Nerva, who empowered him to uſe it at his pleaſure; and on a ſecond repreſentation, that it was too large for a private perſon, the emperor renewed his licence, adding that if it was too large for uſe, he might abuſe it, if he pleaſed, for it was his own. Atticus having increaſed his wealth by marriage, lived at Athens with very ſingular magnificence, giving to the people frequent largeſſes, and offering to the gods very ſplendid ſacrifices. Whilſt he had the command of the free cities in Aſia, in the time of Adrian, he perceived that the city of Troas wanted water, and he obtained of this emperor a grant of three millions of drachmas, in order to defray the expence of procuring the neceſſary ſupply; but the charge of executing his project for this purpoſe amounted to ſeven millions of drachmas inſtead of three, and the additional expence he defrayed out of his own fortune. The great wealth of Atticus enabled him to make very liberal proviſion for the education of his ſon, Herodes; and accordingly he employed Scopelian, one of the moſt eminent orators of the age, as his inſtructor, and rewarded him liberally for his ſervices. Herodes poſſeſſed diſtinguiſhed talents, which he cultivated with diligence; and his attention was principally directed to the ſtudy of rhetoric. In this ſcience, as it was then practiſed, he made great proficiency; and ſuch was the ardour of his purſuit, and his ambition of gaining applauſe, that when he was deputed at an early age to addreſs a ſpeech to the emperor Adrian, who was then in Pannonia, the young orator is ſaid to have failed in the attempt, and to have been almoſt urged by ſhame and deſpair to throw himſelf into the Danube. This misfortune, however, ſerved only as an incitement to future diligence. Having finiſhed his attendance in the ſchools of rhetoric, Herodes returned to his own country, and delivered public lectures, which were popular and much frequented by the ſophiſts, philoſophers, and rhetoricians of the age, who were munificently rewarded for their attendance and applauſe. The liberality of Herodes was, however, ſometimes impoſed upon and abuſed. Aulus Gellius, who was himſelf a diſciple of Herodes, mentions one inſtance to this purpoſe. A man with a cloak, long hair, and a beard down to his waiſt, preſented himſelf to the orator, and ſupplicated alms. Being interrogated who he was, the pretended philoſopher indignantly replied, that he was a philoſopher, and expreſſed ſurpriſe at the queſtion. "I ſee," replied Herodes, "the cloak and the beard, but I do not ſee the philoſopher." One of the company interpoſed, and obſerved, that this perſon was an impudent beggar, who ſpent his time in the tavern, and inſulted thoſe who refuſed to relieve him. "Well then," ſaid Herodes, "let us give as men, though not as to a man;" tanquam homines non tanquam homini.

The fame of Herodes having extended through Greece, and even to Rome, he was appointed by the emperor Titus Antoninus the preceptor of eloquence to his two ſons Marcus Aurelius and Lucius Verus; and being there introduced into the way of promotion, he was created conſul in the year 143. About this time he was appointed prefect of the free cities of Aſia, and preſident at the Panhellenia and Panathenian games, at which he was crowned. On this occaſion he erected the ſtadium, 600 feet in length, and formed of white marble, a moſt ſumptuous work, of which ſome remains are ſtill viſible. He alſo conſtructed a magnificent theatre at Athens, called Regillum, in honour of his wife Regilla; he alſo repaired and beautified the odeum of Pericles; and decorated many other places in Greece and Aſia with uſeful and ornamental works. He likewiſe conſecrated rich offerings in the temples at Athens, Delphos, Olympia, Piſa, and in other places. To this liberal and even profuſe expenditure of his wealth it is owing, that his name has not ſunk into oblivion; as the productions of his eloquence, ſome of which exiſted in the time of Philoſtratus and Suidas, have been all loſt. Notwithſtanding theſe diſplays of his public ſpirit, and the benefits he beſtowed on his country, his influence excited jealouſy; and two brothers, named Quintilii, who commanded in Greece, ſeized occaſion for tranſmitting complaints againſt him to the emperor Aurelius. Herodes preſented himſelf before the emperor, but inſtead of employing his eloquence for the purpoſe of conciliation, he rudely reproached him with a predetermination to ruin him. An officer, who ſtood by, exclaimed, that this inſolence merited death. "A man of my age," ſaid Herodes, "does not fear death." The mild emperor contented himſelf with puniſhing the freedmen of Herodes; who himſelf retired to Attica; and attempting by a letter to Aurelius to regain his kindneſs, the emperor returned a friendly anſwer. Herodes was again mortified by a charge of having been acceſſary to the death of his wife, preferred againſt him before the ſenate by his brother, who had been conſul; but he was acquitted. In token of his ſorrow for her loſs, he erected to her memory a ſtatue, bearing an inſcription, ſtill ſubſiſting. The cloſe of his life was ſpent at Marathon, where he died at the age of 76; and his countrymen honoured him with a public funeral at Athens. Crevier's Hiſt. Emp. vol. vii. p. 250, &c. Mem. de l'Acad. des Inſcript. vol. xxx. Gen. Biog.

ATTICUS, *Titus Pomponius*, a Roman knight, lived in the latter period of the Roman republic, and acquired great celebrity from the ſplendor of his private character. He inherited from his father, and from his uncle Q. Cæcilius, who adopted him, great wealth; and availed himſelf of his liberal education to ſuch a degree, that he was exhibited as a pattern to his ſchool-fellows, among whom were the younger Marcus and Cicero. When he attained maturity, the republic was diſturbed by the factions of Cinna and

and Sylla; but endowed with a peculiar ſuavity of manners, which made him uniformly averſe from civil contentions, he retired to Athens with a great part of his property, and there devoted himſelf to ſtudy, and particularly to Grecian literature, in which he excelled his cotemporaries of his own country. At Athens he became popular by his conciliatory diſpoſition and conduct, by the liberal diſtribution of his money, and by his charity to the poor and diſtreſſed. The Athenians wiſhed to confer on him the honour of a citizen, which he declined; and though during his abode with them, he would not ſuffer them to erect ſtatues to him, they teſtified their reſpect in this way immediately on his departure, an event which occaſioned a general mourning through the city. The ſurname of *Atticus*, which he acquired from his attachment to this city, and his familiarity with its language and manners, became his uſual appellation during his life, and continued to diſtinguiſh him in after ages. At a diſtance from the ſcene of political contention, he intereſted himſelf in the welfare of his friends; and at the riſk of diſpleaſing the triumphant party, he ſerved a friend in diſtreſs, for he aſſiſted young Marius, when declared a public enemy, by ſupplying him with money to eſcape from his enemies. He even occaſionally made journies to Rome to ſupport his friends in conteſted elections, and embraced every opportunity that occurred of ſerving thoſe who needed his aſſiſtance. To Cicero he was particularly attached, partly from affinity, as his ſiſter Pomponia was married to Quintus Cicero, but chiefly from ſimilarity of diſpoſition; and he ſupplied him with money in the time of his exile; and alſo intimate with Hortenſius, the rhetorical rival of Cicero, he exerted himſelf in preſerving a good underſtanding between them. When Rome was in a tranquil ſtate, it was the place in which Atticus choſe to reſide; but he never engaged in public buſineſs. He availed himſelf of none of the opportunities that occurred of increaſing his fortune; whilſt he was honoured with a nomination to public offices, he diſregarded the emoluments accruing from them. He never engaged in a law-ſuit, nor was ever concerned in an accuſation as the principal or ſecond. He never bid for eſtates at public auctions, or in any way partook of the ſpoils of the unfortunate. When the war broke out between Cæſar and Pompey, Atticus was ſixty years old; and his age was a plea of which he availed himſelf for not taking part with either; and by his ſubſequent conduct he offended neither the one nor the other. After the death of Cæſar, whoſe favour he had conciliated, he ſucceſsfully oppoſed the eſtabliſhment of a private treaſure for the uſe of the party which had taken him off, though he was upon very intimate terms with Brutus. Nevertheleſs, when Brutus and Caſſius were obliged to leave Italy, he ſupplied Brutus with a large ſum of money. He afterwards exerted himſelf to the utmoſt of his power in favour of Antony and his family. Upon the return of Antony from his retreat, and when every friend of the republican party was expoſed to great danger, Atticus withdrew into a place of refuge; and though Antony was urged to deſtroy him, he remembered his obligations to his benefactor, aſſured him by a letter written with his own hand of his ſafety, and appointed a guard for his protection. In this ſeaſon of diſtreſs, Atticus ſuccoured the fallen party, and ſupplied the neceſſities of thoſe who, under proſcription, had fled to Epirus, out of his own eſtates; and he ſhewed no leſs reſpect to Servilia the mother of Brutus, after the death of this patriot, than he had done during his proſperity. His family afterwards became allied to the imperial family by the marriage of his daughter with M. Agrippa, the friend and favourite of Octavius, who formed with Atticus an intimate acquaintance, and communicated to him all his movements and deſigns. While Antony lived, an intimate correſpondence was carried on between him and Atticus. Thus from the firſt to the laſt, he maintained the character of "the common friend of all parties in all fortunes." The conduct by which this character was acquired and maintained has not eſcaped cenſure; and Atticus has been charged with a neutrality and indifference, with regard to public concerns, which was diſcreditable and criminal. To his Epicurean principles, which he imbibed at Athens under Phædrus and Zeno the Sidonian, ſome have aſcribed the peculiarities of his temper, and the reſolution by which he ſeems to have been actuated, that amidſt the fluctuation and viciſſitudes of political events he would maintain a compoſed and tranquil mind. But others have attributed his diſcriminating character to natural diſpoſition and early habits, more than to any ſpeculative principles. In domeſtic life, as well as in the more extended circle of ſocial intercourſe, he poſſeſſed a degree of ſelf-command, which, all circumſtances conſidered, appears to have been very extraordinary and ſingular. The temper of his uncle Cæcilius was intolerably perverſe, and yet Atticus humoured it in ſuch a manner that he retained his favour to the laſt, and inherited the greateſt part of his very large fortune. With his mother, who died at the age of 90, when he was 67 years old, and with his ſiſter, who was nearly of the ſame age with himſelf, he lived with a harmony ſo uninterrupted, that he never had occaſion to be reconciled to the former, nor ever had any quarrel with the latter. By his own patrimony and his uncle's bequeſt, he was maſter of a large fortune, which he expended with liberality. His mode of living correſponded to his affluence, and to his taſte and habits, as a man of literature and philoſophy. His domeſtics were ſelect, but not numerous; ſeveral of them had been born and brought up in his own family; and many of them were in one way or other as readers or copyiſts, employed to the purpoſes of literature. His table was elegant, but not coſtly. Reading was always an accompaniment of the ſupper; and he had no gueſts to whom ſuch an entertainment was not acceptable. In his enjoyments he was moderate; in his ſtudies, which formed a great part of his occupation, he was particularly attached to inquiries relative to the antiquities of his country; its laws, treaties, cuſtoms, and the genealogies of its illuſtrious families. On theſe ſubjects he wrote ſeveral treatiſes, which were held in high eſtimation. His poetical talents were employed in conciſe deſcriptions of the characters and actions of illuſtrious men, which were placed under their ſtatues. He wrote in Greek a hiſtory of the conſulate of his friend Cicero. Of the writings of Atticus, none remain; but we have a large number of the letters of Cicero, addreſſed to him, and written from the year of his conſulſhip almoſt to the time of his death. Theſe letters are confidential, and contain a variety of curious particulars; both political and literary. Atticus having attained to the age of 77, with little interruption of health, was ſeized with a diſorder of the inteſtines, which terminated in a painful and incurable ulcer. Apprized of the danger of his caſe, he communicated to his ſon-in-law Agrippa, and other friends, his reſolution of putting a period to a life that was no longer valuable to himſelf and others. Unmoved by their remonſtrances, he determined to abſtain from food, and though his fever left him and his pain abated, after an abſtinence of two days, he perſiſted in his purpoſe, and on the fifth day, death cloſed the ſcene, in the year of Rome 721. B. C. 33. Corn. Nepos in Vit. Attici. Gen. Dict. Gen. Biog.

A T T

ATTICUS, a Platonic philoſopher, lived under the emperor M. Aurelius, and took pains in aſcertaining the preciſe difference between the doctrines of Plato and thoſe of Ariſtotle. Euſebius has preſerved ſeveral fragments of his works, in which he argues againſt Ariſtotle, concerning the ultimate end of man, providence, the origin of things, the immortality of the ſoul, and other topics. Plotinus, of the Eclectic ſchool, held the writings of Atticus in high eſtimation, and recommended them as very uſeful for obtaining an accurate knowledge of the Platonic ſyſtem. Atticus pronounced it impoſſible for thoſe who had imbibed the Peripatetic notions, to elevate their minds to a capacity of underſtanding and reliſhing the ſublime conceptions of Plato. Euſeb. Chron. ſub. Aurel. A. 179. Præp. l. xv. c. 4, &c. Fab. Bib. Græc. v. ii. p. 54.

ATTICUS, a patriarch of Conſtantinople in the fifth century, was a native of Sebaſtia in Armenia, and having received his education among the Macedonian monks, became firſt preſbyter, and afterwards, viz. in 406, patriarch of the church of Conſtantinople. But having ſeized this ſee while John Chryſoſtom was living, he was excommunicated by pope Innocent I. and the weſtern biſhops. However, on the death of Chryſoſtom he was again reſtored, on condition of replacing his name in the diptychs, or liſt of the archbiſhops of Conſtantinople, whoſe names were recited at the altar, as having died in the communion of the church. Atticus is extolled for his learning, prudence, and piety; for the gentleneſs of his temper and manners; for his zeal againſt the Neſtorians; and for his charity to the poor, without diſcrimination of religious party and profeſſion. He died in the year 427. Whilſt he was preſbyter, he committed his ſermons to memory; but when he became a biſhop he preached extempore. Of his writings there are extant "A Letter to Cyril of Alexandria," on the reſtoration of the name of Chryſoſtom in the diptychs (apud Nicephor. Hiſt. Eccl. l. xiv. c. 26.); "A Letter to Calliopus, preſbyter of the church at Nice," accompanying 300 crowns ſent to the poor of that city (Socrat. l. vii. c. 25.); and another (in Nicephor. ubi ſupra) addreſſed to the deacons of the church of Alexandria, concerning the means of reſtoring peace to the church. He alſo wrote a book "On Faith and Virginity," dedicated to the daughters of Arcadius, and cited by Cyril in his book to the empreſſes. Socrat. H. E. l. vii. c. 2. Sozom. H. E. l. viii. c. 27. Cave, H. L. vol. i. p. 384.

ATTIDIUM, now ATTIGIO, in *Ancient Geography*, a city of Umbria, ſituated between Sentinum, Camerinum, and Matilica, near the ſources of the river Æſis. Pliny calls the inhabitants Attidiates. Several ancient inſcriptions have been found in the vicinity of Attigio.

ATTIGNY, in *Geography*, a town of France, and ſeat of a tribunal, in the department of Ardennes; two leagues north-weſt of Vouzieres, and ſix ſouth of Mezieres.

ATTILA, in *Biography* and *Hiſtory*, king of the Huns, and by the modern Hungarians denominated "The Scourge of God," was the ſon of Mundzuk, and deduced his deſcent from the ancient Huns, who had formerly contended with the monarchs of China. Indeed the modern Hungarians have traced his genealogy upwards, in the thirty-fifth degree, to Ham, the ſon of Noah. At the death of Rugilas, A. D. 433, his two nephews, Attila and Bleda, ſucceeded to the throne of their anceſtors. Having concluded an humiliating peace with the emperor Theodoſius II., they extended their arms towards the north with ſo much ſucceſs, as to reduce all the nations between the Danube and the Euxine under their dominion. Under pretence of an offence given them by the Romans, they made an irruption into the eaſtern empire, took ſeveral towns on the ſouth of the Danube by ſtorm, defeated ſeveral imperial armies, and laid waſte the whole adjacent country with fire and ſword. Theodoſius, thinking himſelf inſecure at Conſtantinople, retired into Aſia, and was glad to purchaſe an inglorious peace. At this time the two nephews of Rugilas ſhared the government of the Huns; but Attila, whoſe ambition admitted of no partnerſhip in power, cauſed Bleda to reſign both his ſceptre and his life, and acquired the ſole ſovereignty of the nation and its dependent territories. The extent of his empire affords the only evidence of the number and importance of his victories. If a line of ſeparation were drawn between the civilized and the ſavage climates of the globe; between the inhabitants of cities, who cultivated the earth, and the hunters and ſhepherds who dwelt in tents; Attila might aſpire to the title of ſupreme and ſole monarch of the Barbarians. He alone, among the conquerors of ancient and modern times, united the two mighty kingdoms of Germany and Scythia, in their moſt ample latitude; Thuringia, extending to the Danube, was in the number of his provinces; he interpoſed with the authority of a powerful neighbour, in the domeſtic affairs of the Franks; and one of his lieutenants chaſtiſed, and almoſt exterminated, the Burgundians of the Rhine. He ſubdued the iſlands of the ocean, the kingdoms of Scandinavia, encompaſſed and divided by the waters of the Baltic; towards the eaſt his dominion extended over the Scythian deſerts to the banks of the Volga; and he ſent ambaſſadors to negotiate an equal alliance with the empire of China. He alſo reckoned among his ſubjects the numerous and warlike tribes of the Gepidæ and Oſtrogoths. "The crowd of vulgar kings, the leaders of ſo many martial tribes, who ſerved under the ſtandard of Attila, were ranged in the ſubmiſſive order of guards and domeſtics, round the perſon of their maſter. They watched his nod; they trembled at his frown; and, at the firſt ſignal of his will, they executed, without murmur or heſitation, his ſtern and abſolute commands. In time of peace, the dependent princes, with their national troops, attended the royal camp in regular ſucceſſion; but when Attila collected his military force, he was able to bring into the field an army of five, or, according to another account, of 700,000 Barbarians." The portrait of Attila, ſays Jornandes, a Gothic hiſtorian, exhibits the genuine deformity of a modern Calmuck; with a large head, a ſwarthy complexion, ſmall deep-ſeated eyes, a flat noſe, a few hairs in the place of a beard, broad ſhoulders, and a ſhort ſquare body, of nervous ſtrength, though of a diſproportioned form. His haughty ſtep and demeanour expreſſed conſcious ſuperiority; and by fiercely rolling his eyes, he ſeemed to enjoy the terror which he inſpired. Nevertheleſs, this ſavage hero was not inacceſſible to pity; his ſuppliant enemies might confide in the aſſurance of pardon and peace; and Attila was regarded by his ſubjects as a juſt and indulgent maſter. His delight was war, and he indulged his paſſion for it to the deſtruction of myriads. Apprized of the influence of ſuperſtition over ignorant and ſavage minds, he availed himſelf of it, as a collateral and uſeful inſtrument for the accompliſhment of his purpoſes. Accordingly he pretended to have diſcovered, by means of a ſhepherd, the famous ſword of the Scythian Mars; and being in poſſeſſion of this, he aſſerted his divine and indefeaſible claim to the dominion of the earth. As the favourite of Mars, whom he propitiated by bloody rites and ſacrifices, Attila ſoon acquired a ſacred character, which rendered his conqueſts more eaſy and more permanent; and the Barbarian princes confeſſed, in the language of devotion or of flattery, that they could not preſume to gaze, with

with a fiery eye, on the divine nature of the king of the Huns. In his garb and mode of living, the king of the Huns affected no particular distinction, but rigidly adhered to the simplicity of his Scythian ancestors. His dress, his arms, and the furniture of his house, were plain, without ornament, and of a form peculiar to themselves. The royal table was served in wooden cups and platters; flesh was the only food; and the conversation of the nobles rarely turned the bowl of bread. His palace, though it surpassed all other houses in his dominions, was built entirely of wood: and it contained, within a palisaded court, a variety of separate buildings, appropriated to his numerous wives. When the Roman ambassadors were introduced into the private apartment of Cerca, the principal queen, she received their visit, reclining on a couch: her attendants formed a circle round her; and her damsels, seated on the ground, were employed in working the variegated embroidery which adorned the dress of the Barbaric warriors. The other wives of Attila politely admitted them to their presence and table, nor was there any appearance among them of the rigid and illiberal confinement imposed by Asiatic jealousy. When these ambassadors had audience of Attila himself, he was surrounded by a formidable guard; and when they were invited to the royal feast, they had reason to praise his politeness and hospitality. On this occasion the company were diverted by a variety of buffooneries, which produced loud and licentious peals of laughter; but Attila himself maintained an inflexible gravity, and never relaxed his features except on the reception of his favourite son, Irnac, who, by the assurance of his prophets, was to be the future support of his family and empire. Thus did this powerful monarch live familiarly among his people, and pride himself in trampling upon the pomp and parade of kings and emperors.

After the last peace with Theodosius, Attila sent various embassies, with complaints and threats, to Constantinople; and, to the dishonour of the imperial court, a base design was formed, with the privity and sanction of the emperor, of murdering Attila, under the disguise of a solemn embassy. The conspiracy was discovered, and the king of the Huns, with a singular moderation, contented himself with exacting a large ransom for the immediate agent in the business, and with severely reprimanding Theodosius. The treaty with the eastern emperor was renewed, at the expence of fresh payments. On the accession of Marcian, in 450, Attila's demand of tribute was refused; upon which he sent a threatening message to the emperor of the east and west, which was delivered by his envoys in these terms: "Attila, my lord, and thy lord, commands thee to provide a palace for his immediate reception." He proposed, however, to direct his arms, in the first instance, against Valentinian III. a weak and unwarlike prince. The pretext of this hostility was founded on the following circumstance. Honoria, the sister of Valentinian, having dishonoured herself by an intrigue with her chamberlain, was banished to the court of Constantinople. Here she found means to send an offer of her person to Attila, with a ring, and a request that he would march and claim her for his spouse. These overtures were at first received with coolness on the part of Attila, but afterwards conceiving that he might derive advantage from them, he made a formal demand of Honoria, with an equal share of the imperial patrimony, before he proceeded on his intended irruption into Gaul. His demand was refused, and Honoria was married to an obscure person in Italy, and there confined to perpetual imprisonment. Attila, professing to be satisfied with respect to Honoria, entered Gaul, under a pretence of making war upon Theodosius, king of the Visigoths, in Toulouse. With these he united the Ostrogoths, the Gepidæ, and other Barbarians, and, without expecting either the aids he had promised the Gauls, he passed the Rhine, plundered and burnt several cities, and besieged Orleans. Here he was met by Aetius, at the head of the Roman and Gothic forces, and the latter, who had secretly entered into a league with the Romans, induced him to retire. After the bloody battle of Chalons, he marched without molestation to the confines of Thuringia, where he passed the Rhine, and continued his progress to Pannonia. At the commencement of the following year, Attila, having recruited his forces, passed the Alps, entered Italy, and invested Aquileia, which he soon destroyed. He then ravaged Lombardy, sacked and reduced to ashes many of their towns; and thus, by means of the fugitives who fled from the terror of his name, was unintentionally instrumental in laying the foundation of the Venetian republic. Valentinian, incapable of resistance, fled from Ravenna to Rome, and sent a deputation to Attila, at the head of which was Leo, the pope of Rome, deprecating his wrath, and proposing terms of accommodation. Attila consented to leave Italy, on the payment of a very large sum, as the dowry of the princess Honoria, and an annual tribute. But this was only a temporary truce; as he threatened to return the next year, if Honoria and her dowry were not punctually transmitted to him. Attila, however, did not long survive his return into his own country. Having added to the number of his wives a beautiful young virgin whose name was Ildico, he celebrated his marriage with great pomp and festivity at his wooden palace beyond the Danube; and, oppressed with wine and sleep, he retired at a late hour to the nuptial bed. In the night a blood-vessel burst, and as he lay in a supine posture, he was suffocated by a torrent of blood. His attendants found the trembling bride sitting by the side of the bed, hiding her face with a veil, and lamenting the death of the king, as well as her own danger. His body was exposed in the midst of the plain, under a silken pavilion; and "the chosen squadrons of the Huns, wheeling round in measured evolutions, chanted a funeral song to the memory of a hero glorious in his life, invincible in his death, the father of his people, the scourge of his enemies, and the terror of the world. According to their national custom, the Barbarians cut off a part of their hair, gashed their faces with unseemly wounds, and bewailed their valiant leader as he deserved, not with the tears of women, but with the blood of warriors. The remains of Attila were inclosed within three coffins, of gold, of silver, and of iron, and privately buried in the night; the spoils of nations were thrown into the grave: the captives who had opened the ground were inhumanly slaughtered; and the same Huns, who had aided the funeral pomp, feasted round the monument of their king." The death of Attila is commonly dated in the year 453; by some in 454. With him the empire of the Huns is extinct: for their few other kings, the successors of Attila, were dispossessed by the Ostrogoths, and reduced to the rank of vassals. Ant. Univ. Hist. vol. xvi. p. 110—116. Gibbon's Hist. vol. vi. p. 40—135.

ATTILL, Attilium, in Ships, denotes the rigging or furniture of a ship. Fleta, l. i. c. 25.

ATTILUS, in Ichthyology, a term [illegible] with adds, silus, and alalus. Artedi [illegible] and Klein adds to the variety of the Linnæan sturgeon.

Sturio, or common sturgeon.

ATTINGA Amiranas, in Botany, a name by which

which Briſſ. calls the pinnated grous of the Arctic Zoology, and *tetrao cupido* of Gmelin.

ATTIRE, in *Botany*, is uſed by ſome to denote the third part or diviſion of the flower of a plant; the other two being the *empalement* and the *foliation*.

The attire is of two kinds, *ſemiform* and *florid*.—The ſemiform attire conſiſts of two parts; chives or ſtamina, and ſummits or apices, one upon each ſtamen.

The florid attire is uſually called the thrums, as in the flowers of marygold, tanſy, &c. Thoſe thrums are called ſuits, which conſiſt of two, but moſt times of three pieces. And the outer part of the ſuit is the floret, whoſe body is divided at the top like a cowſlip flower, into five parts, or diſtinct leaves.

ATTIRE, in *Heraldry*, ſignifies a ſingle horn of a ſtag.

ATTIRE, in *Hunting*, denotes the head or horns of a deer. The attire of a ſtag, if perfect, conſiſts of bur, pearls, beam, gutters, antler, ſur-antler, royal, ſur-royal, and croches:—of a buck, of the bur, beam, brow-antler, advancer, palm, and ſpellers.

ATTIRED, in *Heraldry*, a term uſed in ſpeaking of the horns of a ſtag, hart, or buck.

ATTIRES, are both the horns of a ſtag, hart, or buck.

ATTITUDE, in *Painting* and *Sculpture*, the poſture or geſture of a figure or ſtatue; or ſuch a diſpoſition of their parts, as ſeems to expreſs the action and the ſentiments of the perſon repreſented. See MECHANICAL MOTION *of the Human Figure*, and *Compoſition*, and *Contraſt*, under the article SCULPTURE.

ATTIUM, in *Ancient Geography*, a promontory on the weſtern coaſt of the iſland of Corſica; now called *Punta di Acciaolo*.

ATTLEBOROUGH, in *Geography*, a townſhip of America, in Briſtol county, Maſſachuſetts, eighty-two miles ſouth from Boſton, and nine north from Providence.

ATTLEBURGH, a town of England, in Norfolk, diſtant N.N.E. from London ninety-four miles.

ATTMELLA. See ACMELLA.

ATTNANG, in *Geography*, a town of Germany, in the archduchy of Auſtria, one mile W.S.W. of Schwannaſtadt.

ATTOCK, a city and fortreſs of Hindoſtan, on the eaſtern bank of the Indus, built by Acbar, in 1581, to command the paſs that leads from Cabul to Lahore. This paſs is ſo confined, either by the nature of the banks, or of the channel of the river, or both, that the paſſage from the landing place leads through the very fortreſs itſelf. The ancient Taxila, where Alexander croſſed the Indus, ſtood on or near to the ſite of Attock. N. lat. 33° 6′. E. long. 71° 15′. That part of the river Indus, called alſo Nilab and Sinde, that ſeparates the province of Lahore from Paiſhawur, is denominated the Attock, probably from the city founded on its banks. At Attock, the river Cabul, after receiving the rivers of Sewad, Bijore, &c. joins the Indus, and very conſiderably increaſes it. For though the Indus is ſometimes fordable above Attock, and Mr. Forſter actually forded it at twenty miles above this place, July 10th, 1783; we never hear of its having been forded below that point. "From Attock downwards to Moultan, or to the conflux of the Panjab waters, this river (ſays Major Rennell) has obtained the name of Attock;" but ſpoken of generally, it is called Sinde.

ATTOLLENS, compounded of the Latin *ad*, *to*, and *tollo*, *I lift*, in *Anatomy*, a name common to ſeveral muſcles, whoſe office or action is to raiſe the parts they belong to.

The attollent muſcles are otherwiſe called *levators* and *elevators*.

ATTOLLENS *Muſculus Aurem*, is a thin broad muſcle connected at its upper part to the tendon of the fronto-occipitalis, and at the lower to the pinna of the ear oppoſite to the antihelix. Its uſe is to draw the external ear upwards, and to render it tenſe. This muſcle is called *ſuperior auris* by Winſlow.

ATTOMBISSEUR, in *Ornithology*, a term by which the French falconers diſtinguiſh thoſe falcons which will attack the heron in its flight; ſuch a bird they call *un bon attombiſſeur*.

ATTORE, in *Geography*, a town of Hindoſtan, in the Myſore country, fifty-four miles north of Tritchinopoly, and twenty-nine N. N. W. of Rajanagur.

ATTORNARE, in the original ſenſe, ſignified to turn over money and goods, that is, to aſſign and appropriate them to certain perſons, or uſe. This is properly called *attornare rem*. *Attornare perſonam* denotes to depute a repreſentative, or proxy, to appear and act for another.

ATTORNATO *faciendo vel recipiendo*, in the *Common Law*, a writ to command a ſheriff, or ſteward, of a county-court, or hundred-court, to receive and admit an attorney to appear for the perſon that oweth ſuit of court. F. N. B. 156. Every perſon that owes ſuit to the county-court, court-baron, &c. may make an attorney to do his ſuit. Stat. 20 H. III. c. 10.

ATTORNEY, ATTORNATUS, in *Law*, a perſon appointed by another to do ſomething in his ſtead, particularly to ſolicit and carry on a law-ſuit.

The word is compounded of the Latin *ad*, *to*, and the French *tourner*, *to turn*, q. d. *to turn a buſineſs over to another*. The ancient Latin name, according to Bracton, is *reſponſalis*.

An attorney is either public, in the courts of records, the king's bench, common pleas, &c. and made by warrant from his client; or private, upon occaſion for any particular buſineſs, who is commonly made by letter of attorney.

Attorneys, in *Common Law*, are much the ſame with procurators, proctors, or ſyndics, in the *Civil* and *Canon Law*.

Attorneys are properly thoſe who ſue out writs or proceſs, or commence, carry on, and defend actions, or other proceedings, in the names of other perſons, in any of the courts of common law.—They are diſtinguiſhed from *ſolicitors*, who do the like buſineſs in courts of equity; as the chancery, equity-court in the exchequer, chamber-court of the duchy, or the like.

Formerly every ſuitor was obliged to appear in perſon to proſecute or defend his ſuit, according to the old Gothic conſtitution, unleſs by ſpecial licence under the king's letters patent. F. N. B. 25. This is ſtill the law in criminal caſes. Nor can an ideot appear to this day by attorney, but in perſon; becauſe he is ſuppoſed not to have ſufficient diſcretion for appointing a proper ſubſtitute; and upon his being brought before the court in ſo defenceleſs a condition, the judges are bound to take care of his intereſts, and they ſhall admit the beſt plea in his behalf that any one preſent can ſuggeſt. But as in the Roman law "*cum olim in uſu fuiſſet, alterius nomine agi non poſſe, ſed, quia hoc non minimam incommoditatem habebat, cæperunt homines per procuratores litigare*" (Inſt. 4. tit. 10.); ſo with us, upon the ſame principle of convenience, it is now permitted, in general, by divers ancient ſtatutes, of which the firſt is ſtat. Weſtm. 2 c. 10. (13 Ed. I. A. D. 1285.) that attorneys may be made, as if they had letters patent, to proſecute or defend any action in the abſence of the parties to the ſuit. Theſe attornies are now formed into a regular corps; they are admitted to the execution of their office by the ſuperior courts

of

of Weſtminſter-hall; and are in all points officers of the reſpective courts in which they are admitted; and as they have many privileges on account of their attendance there, ſo they are peculiarly ſubject to the cenſure and animadverſion of the judges. No man can practiſe as an attorney in any of thoſe courts, but ſuch as is admitted and ſworn an attorney of that particular court; an attorney of the king's bench cannot practiſe in the court of common pleas; nor *vice verſâ*. To practiſe in the court of chancery, it is alſo neceſſary to be admitted a ſolicitor therein; and by the ſtat. 22 Geo. II. c. 46. no perſon ſhall act as an attorney at the court of quarter ſeſſions, but ſuch as has been regularly admitted in ſome ſuperior court of record. With reſpect to the ſeveral courts, there are attorneys at large, and attorneys ſpecial, belonging to this or that court only. An attorney may be a ſolicitor in other courts by a ſpecial retainer; one may be an attorney on record, and another do the buſineſs; and there are alſo attornies who manage the buſineſs out of the courts. So early as the ſtatute 4 Hen. IV. c. 18. it was enacted that attorneys ſhould be examined by the judges, and none admitted but ſuch as were virtuous, learned, and ſworn to do their duty. And many ſubſequent ſtatutes have laid them under farther regulations. By 3 Jac. I. c. 7. attorneys, &c. ſhall not be allowed any fees laid out for counſel, or otherwiſe, unleſs they have tickets thereof ſigned by them that receive ſuch fees, and they ſhall give in true bills to their clients of all the charges of ſuits under their hands, before the clients ſhall be charged with the payment thereof. If they delay their client's ſuit for gain, or demand more than their due fees or diſburſements, the client ſhall recover coſts and treble damages; and they ſhall for ever after be diſabled to be attorneys. None ſhall be admitted attorneys in courts of record, but ſuch as have been brought up in the ſaid courts, or are well ſkilled, and honeſt; and no attorney ſhall ſuffer any other to follow a ſuit in his name, on pain of forfeiting 20 l. to be divided between the king and the party aggrieved. By 12 Geo. I. c. 29. if any perſon who hath been convicted of forgery, perjury, ſubornation of perjury, or common barratry, ſhall practiſe as an attorney or ſolicitor in any ſuit or action in any court, the judge where ſuch action ſhall be brought hath power to tranſport the offender for ſeven years, by ſuch ways and under ſuch penalties as felons. The act 2 Geo. II. c. 23. ordains, that all attorneys ſhall be ſworn, admitted, and inrolled, before they ſue out writs in the courts at Weſtminſter; and they are required to have ſerved a clerkſhip of five years, and to be examined, ſworn, and admitted in open court; and attorneys ſhall not have more than two clerks at one time, except the prothonotaries in the common pleas, and the ſecondary in the king's bench, and the ſeveral prothonotaries in the counties palatine and great ſeſſions in Wales, each of whom may have three. Attorneys, upon being ſworn and admitted, ſhall pay a ſtamp-duty, by ſeveral acts, of 16 l. When the attorney's bills are taxed, he is to pay the coſts of taxation, if the bill be reduced a ſixth part. A penalty of 50 l. and diſability to practiſe, are the conſequences of acting contrary to this ſtatute. By ſtat. 6 Geo. II. c. 27. attorneys of the courts at Weſtminſter may practiſe in inferior courts. By 12 Geo. II. c. 13. attorneys, &c. that act in any county-court, without admiſſion according to the ſtatute 2 Geo. II. c. 23. ſhall forfeit 20 l.; and no attorney, who is a priſoner, ſhall ſue out any writ, or proſecute ſuits; if he doth, the proceedings, &c. ſhall be void, and ſuch attorney, &c. ſhall be ſtruck off the roll. By 22 Geo. II. c. 46. perſons bound clerks to attorneys or ſolicitors are to cauſe affidavits to be made and filed of the execution of the articles, names, and places of abode of attorney or ſolicitor, and clerk; and none to be admitted till the affidavits be produced and read in court. Clerks are actually to ſerve during their whole time, and make affidavits thereof. Perſons admitted attorneys clerks in chancery, or ſerving a clerkſhip to ſuch, may be admitted ſolicitors. By 23 Geo. II. c. 26. any perſon duly admitted a ſolicitor, may be admitted an attorney, without any fee for the oath, or any ſtamp; and by ſtat. 2 G. II. c. 23. § 20. attornies may be admitted ſolicitors. By 25 Geo. III. c. 80 every admitted attorney, ſolicitor, notary, proctor, agent, or procurator, ſhall annually take out a ſtamped certificate, with a five pound ſtamp within the bills of mortality, and fifty pound elſewhere, from the courts in which they practiſe, on penalty of 50 l. and incapacity of practiſing. By 34 Geo. III. c. 14. every perſon who ſhall become bound to ſerve as a clerk in order to his admiſſion as a ſolicitor or attorney in any of the courts at Weſtminſter, ſhall be charged an additional ſtamp-duty of 100 l. And in any of the courts of great ſeſſion in Wales, or in the courts of Cheſter, Lancaſter, or Durham, or in any court of record in England holding pleas, where the debt or damage ſhall exceed 40 s. and not in any of the ſaid courts at Weſtminſter, a ſtamp duty of 50 l. And by the ſeveral ſtamp-acts, if the conſideration money given with ſuch clerk or apprentice be under 10 l. a ſtamp duty of 10 s. If above 10 l. it is 1 l. by 37 G. III. c. 3. 10 s. more. The articles muſt be inrolled, and affidavit ſhall be made within ſix weeks. Perſons who have paid the duty of 100 l. in any of the courts at Weſtminſter, may be admitted in any of the other courts without payment of any further duty. New contracts with other maſters are ſubject to no further duty. The privileges belonging to attorneys are as follow: an attorney, in reſpect of his attendance at the court, cannot be preſſed for a ſoldier; but he is not privileged from ſerving in the militia, or finding a ſubſtitute: an attorney ſhall not be made conſtable, nor be elected into any other office againſt his will; as to the office of overſeer of the poor, or churchwarden, or any office within a borough. Attorneys have the privilege to ſue and be ſued only in the courts at Weſtminſter, where they practiſe; they are not obliged to put in ſpecial bail, when defendants; but when they are plaintiffs, they may inſiſt upon ſpecial bail in all bailable caſes. 1 Vent. 299. Wood's Inſt. 450. But an attorney of one court may, in that court, hold an attorney of another court to bail. Payment to the attorney is payment to the principal. Doug. 623. 1 Black. R. 8. An attorney has a lien on the money recovered by his client, for his bill of coſts; if the money come to his hands, he may retain to the amount of his bill. He may ſtop it *in transitu*, if he can lay hold of it; if he apply to the court, they will prevent it being paid over until his demand is ſatisfied. If the attorney gives notice to the defendant not to pay till his bill is charged, a payment by the defendant after ſuch notice would be in his own wrong, and like paying a debt after it has been aſſigned after notice. Doug. 238.

Attorneys are liable to be puniſhed in a ſummary way, either by attachment, or having their names ſtruck off the roll, for ill practices, attended with fraud and corruption, and committed againſt the obvious rules of juſtice and common honeſty; but the court will not eaſily be prevailed upon to proceed in this manner, if it appears that the matter complained of was rather owing to neglect or accident than deſign, or if the party injured has other remedy by act of parliament, or action at law. 12 Mod. 251. 513 and 583. 657. 4 Mod. 367. If an attorney, defendant in an action, does not appear in due time, the plaintiff may take a "*ſor judgment*," which enables him to ſtrike the defendant

off the roll, and then he may be ſued as a common perſon (ſt. 2 Hen. IV. c. 8.), and cannot be proceeded againſt by bill. On making ſatisfaction to the plaintiff, an attorney ſo forjudged may be reſtored. Impey's Practice Clericalis. C. P. 521.

Attorneys are ſometimes ſtruck off the roll on their own application, for the purpoſe of being called to the bar, &c.; and in ſuch caſes they muſt be re-admitted by motion, before they are re-admitted attorneys. Doug. 221. An attorney convicted of felony is directed to be ſtruck off the roll. Dougl. 529. Attorneys are alſo liable to be puniſhed for bad and unfair dealings towards their clients in the way of buſineſs, as for protracting ſuits by baſe and unfair means, or putting the parties to unneceſſary expences, in order to encreaſe their bills; or demanding fees for buſineſs that was never done; or for refuſing to deliver to their clients' writings which they have had been intruſted in the way of buſineſs, or money which has been recovered and received by them to their clients' uſe, and for other ſuch like groſs and palpable abuſe. 2 Hawk. P. C. 144. 8 Mod. 3. 6. 12 Mod. 516.

Attorney *of the Duke's Court of Lancaſter*, *attornatus curiæ ducatûs Lancaſtriæ*, is the ſecond officer in that court; being there, for his ſkill in law, placed as aſſeſſor to the chancellor of the court, and choſen for ſome ſpecial truſt repoſed in him, to deal between the king and his tenants. Cowel.

Attorney-*General*, is a great officer under the king, made by letters patent. It is his province to exhibit informations, and proſecute for the crown, in matters criminal; and to file bills in the Exchequer, for any thing concerning the king in inheritance or profits; and others may bring bills againſt the king's attorney. His proper place in court, upon any ſpecial matters of a criminal nature, in which his attendance is acquired, is under the judges, on the left hand of the clerk of the crown; but this only upon ſolemn and extraordinary occaſions; for uſually he does not ſit there, but within the bar in the face of the court.

Attorney, *Letter of*. See Letter.

Attorney, *Warrant of*. See Warrant.

ATTOURNMENT, or Attornment, a transferring of duty and ſervice to another lord; or an acknowledgment which a tenant makes of homage and ſervice to a new lord.

By the nature of the feudal connection, it was not thought reaſonable nor allowed, that a feudatory ſhould transfer his lord's gift to another, and ſubſtitute a new tenant to do the ſervice in his own ſtead, without the conſent of the lord; and, as the feudal obligation was conſidered as reciprocal, the lord alſo could not alienate his ſeignory without the conſent of his tenant, which conſent of his was called an "*attornment*." This doctrine of attornment was afterwards extended to all leſſees for life or years. For if one bought an eſtate with any leaſe for life or years ſtanding out thereon, and the leſſee or tenant refuſed to attorn to the purchaſer, and to become his tenant, the grant or contract was in moſt caſes void, or at leaſt incomplete (Lit. §. 551.): which was an additional clog upon alienations. But after the ſtatute "*quia emptores terrarum*" (18 Ed. I. ſt. 1.), was paſſed, by which ſubinfeudation was prohibited, it became neceſſary that when the reverſion or remainder-man after an eſtate for years, for life or in tail, granted his reverſion or remainder, the particular tenant ſhould attorn to the grantee. The neceſſity of attornment was, in ſome meaſure, avoided by the ſtatute of uſes (27 Hen. VIII. c. 10.), as by that ſtatute, the poſſeſſion was immediately executed to the uſe; and by the ſtatute of "*Wills*" (34 & 35 Hen. VIII. c. 5.), by which the legal eſtate is immediately veſted in the deviſee. Attornments, however, ſtill continued to be neceſſary in many caſes; but both their neceſſity and efficacy are now almoſt wholly taken away: for by ſtat. 4 & 5 Anne. c. 16. it is enacted, that all grants and conveyances of manors, lands, rents, and reverſions, &c. by fine or otherwiſe, ſhall be good, without the attornment of the tenants; but notice muſt be given of the grant to the tenant, before which he ſhall not be prejudiced by the payment of any rent to the grantor, or for breach of the condition for non-payment. And by ſtat. 11 Geo. II. c. 19. attornments of lands, &c. made by tenants to the perſons claiming title to the eſtate of their landlords ſhall be null and void, and their landlord's poſſeſſion not affected thereby; though this ſhall not extend to vacate any attornment made purſuant to a judgment at law, or with conſent of the landlord; or to a mortgagee on a forfeited mortgage. Till theſe ſtatutes were paſſed, the doctrine of attornment was one of the moſt copious and abſtruſe parts of the law. But the ſtatutes having made attornment both unneceſſary and inoperative, the learning upon it may be deemed almoſt entirely uſeleſs. 1 Inſt. 329. Jacob's Law Dict. by Tomlyns, tit. *Attornment*.

ATTOWAI, in *Geography*. See Atooi.

ATTRACTION, in *Natural Philoſophy*, a general term uſed to denote the power or principle, by which all bodies mutually tend towards each other, without regarding the cauſe or kind of action that may be the means of producing this effect.

The exiſtence of a principle of this kind is ſo clearly manifeſted by many of the moſt common phænomena of nature, which fall under our daily inſpection, that it muſt have been known in very early times; but the information we have hitherto obtained of the progreſs made by the ancients in phyſical inveſtigations, is too vague and obſcure to afford any proof of their ever having applied the action or influence of this power to the purpoſes of ſcience. The philoſopher Anaxagoras, who flouriſhed about 500 years before the Chriſtian æra, is reported, by Diogenes Laertius, to have attributed to the celeſtial bodies a tendency towards the earth, which he conſidered as the centre of their motions; and the doctrines of Democritus and Epicurus are founded upon the ſame principle, as appears from their elegant interpreter Lucretius, who thence derives the conſequence of the univerſe being without bounds. But though ſome bold and original characters had embraced theſe opinions, it is no leſs certain, from the teſtimonies of other writers, that they were far from being generally received in the ancient world.

The firſt, among the moderns, who appears to have had juſt notions of this doctrine, was Nicholas Copernicus, the celebrated reſtorer of the old Pythagorean ſyſtem of the univerſe; who in his work "De Revolut. Orb. Cæleſt." (lib. i. c. 9.), expreſſes himſelf thus: "I conſider gravity as nothing more than a certain natural appetence (*appetentia*) that the Creator has impreſſed upon all the parts of matter, in order to their uniting and coaleſcing into a globular form, for their better preſervation; and it is probable that the ſame power is alſo inherent in the ſun, moon, and planets, that thoſe bodies may conſtantly retain that round figure in which we behold them." He alſo conſidered the ſun as the chief governing power of all the reſt, as may be inferred from ſome of the laſt words of Tycho Brahe, who perceiving the approach of death, called for the celebrated Kepler (then a young man, and his aſſiſtant in his obſervatory at Prague), and after charging him with completing the Aſtronomical Tables which he had left unfiniſhed, thus addreſſed him: "My friend, although what I aſcribe to a voluntary, and as it were, an obſequious motion of the planets round the

the ſun, you attribute to an attractive energy of that body, yet I muſt entreat, that, in the publication of your theories, you would explain all the celeſtial motions by our hypotheſis, rather than by that of Copernicus, which I know you would otherwiſe incline to follow." (Life of Tycho Brahe.)

Kepler, however, in his own works, conſtantly maintains the doctrine of attraction, and even carried it further than Copernicus had ever done. "Two, he ſays, propoſed mutual affection between the earth and the moon, in order to their union." He alſo controverts, with great ſubtlety, the Peripatetics, that "the earth is not only the reſt of the univerſe, but the moſt abject and vile part of it, and, conſequently, of much the ſame nature with dung and mire." He argues, that if the earth were not ſpherical, things would not fall from all parts towards its centre. "If," ſays he, "two ſtones were to be placed at a diſtance from another ſtone, in any part of the univerſe, without the ſphere of its attraction, they would, like two magnets, they would come together in ſome intermediate point; each advancing, in ſpace, in the inverſe proportion of their quantities of matter. Hence, if the moon and the earth were not kept aſunder by ſome power, in their reſpective orbits, they would move towards each other; the moon paſſing over fifty-three parts of the way while the earth paſſed over one, [illegible]." (Astron. Nov. in Introdu t.)

From the ſame principle, Kepler alſo accounted for the general motion of the tides; viz. by the attraction of the moon, and expreſsly calls [illegible]; adding, that if the earth did not attract its own waters over its own waters, they would riſe and ruſh to the moon. We alſo find him ſuſpecting that certain irregularities in the motion of the moon are owing to the combination of the earth and ſun upon this body. (Ibid.)

Theſe and other reflections concerning the univerſality of attraction, he accompanies with an ingenious anticipation of a law of nature, from conjecture only, but which was afterwards verified by experiment. The ſchools had taught that ſome bodies were by their nature heavy, and ſo fell to the ground; and that others were naturally light, and for that reaſon aſcended. But Kepler pronounced, that no bodies whatever are abſolutely light, but only relatively ſo; and conſequently that all matter is ſubjected to the law of gravitation. So far the genius of Kepler was fortunate, in tracing out the great principle which prevents the planets from flying off from the ſun; but his ſagacity failed him, when he endeavoured to [illegible] they were kept from falling into that immenſe body, and what power perpetuated their motion in their orbits: a general inveſtigation of the laws of motion was yet wanting; the diſcovery of which, as well as many other things, being reſerved, as he himſelf propheſies at the end of his work, "for the ſucceeding age, when the Author of nature would be pleaſed to reveal theſe myſteries."

The firſt perſon in this country, who embraced the doctrine of attraction, was Dr. Gilbert, a native of Colcheſter, and a phyſician at London, in a work published the year 1600, intitled, "De Magnete Magneticiſque Corporibus;" which contains a number of curious things; but he did not properly diſtinguiſh between attraction [illegible]. The next after him was lord Bacon, who, though not a convert to the Copernican ſyſtem, yet acknowledged an attractive power in matter (Nov. Organ. lib. ii. aphor. 36. 45. & 48.); and in the dawn of philoſophy, in which he lived, he conſtantly recommends [illegible] reaſons of things; obſerving, that [illegible] tend to the appetences and general [illegible] matter, [illegible] body to the earth and [illegible] powerful and [illegible] the moon [illegible] of the [illegible], [illegible] to [illegible] [illegible] relating to the [illegible] [illegible] from [illegible]." (De Magn. Magnet. lib. vi. c. 4.)

In Portugal, [illegible] taught, [illegible] great [illegible] the [illegible]. The latter, in particular, made it the fundamental principle of his [illegible]. In this work, Roberval attributes to all the parts of matter [illegible]. Galileo, in Italy, had likewiſe conceived this idea; but with [illegible] contemporaries Bacon and Kepler.

But no one, before Newton, had entertained ſuch juſt and clear notions of the doctrine of univerſal gravitation, or had approached ſo near to the making a general application of it to the laws of nature, as the celebrated Dr. Hooke. The philoſophers before mentioned had ſeized, ſome one branch, [illegible]; [illegible] tempt to prove the Motion of the Earth," 1674, 4to., appears to have embraced it in nearly the whole of its generality. He [illegible] ſyſtem of the world, is, in many reſpects different from all others; and which is founded upon the three following principles: 1. That all the celeſtial bodies have not only an attraction or gravitation towards their proper centres, but that they mutually attract each other within their ſphere of activity. 2. That all bodies which have a ſimple and direct motion, continue [illegible], with [illegible], an ellipſe, or ſome other more complicated curve. 3. That attraction is ſo much the more powerful, as the attracting bodies are nearer to each other.

He alſo made ſeveral experiments with a view to ſtrengthen the preceding conjectures. For this purpoſe, he ſuſpended a bullet to the end of a long ſtring, and after it had been [illegible] tion; and remarked, that the bullet deſcribed an ellipſe, or a curve of that form, round the vertical line. He then attached to the ſtring of the firſt bullet, another, which carried a [illegible]; [illegible] motion round the vertical line, he put the other in motion, as in the former experiment; when it was found, that neither [illegible] point at a mean diſtance between them, which appeared to be their centre of gravity. (Life of Dr. Hooke, prefixed to his poſthumous works.)

This was certainly very ingenious; but Hooke did not conſider that the centre of force reſides in one of the foci of the ellipſe, and not in its centre; and though the obſervation was ſuggeſted to him, and he was even excited by the promiſe of a very conſiderable reward, to determine the law of attraction, which would occaſion a body to deſcribe an ellipſe round another quieſcent body, placed in one of its foci, [illegible] problem, which belongs to the higher geometry, was too difficult for that time; this admirable diſcovery, which does [illegible]

the genius of Newton; and though Hooke claimed a ſhare of the glory of this diſcovery, it was without the ſmalleſt foundation; as his conjectures were far ſhort of the proofs which were required in the ſublime demonſtrations by which the former eſtabliſhed this law of the univerſe.

Such was the progreſs of the ſyſtem of univerſal gravitation, when this extraordinary man firſt appeared; who, according to Pemberton (View of ſir Iſaac Newton's Philoſophy, 1725, 4to.), firſt began, about the year 1666, to ſuſpect the exiſtence of this principle, and to attempt to apply it to the celeſtial motions. Having retired into the country to avoid the plague, which about this time prevailed in London and its vicinity, his meditations turned upon the nature of gravity; and one of his firſt reflections appears to have been, that this power, which, by its continual action, occaſions the fall of bodies towards the ſurface of the earth, to whatever height they are taken, might poſſibly extend much farther than was commonly imagined; as for inſtance, to the diſtance of the moon, or ſtill higher. And if ſo, he began to conſider, that it might be this force which retained the moon in her orbit, by counterbalancing the centrifugal force which ariſes from her revolution round the earth. It alſo occurred to him, at the ſame time, that though this power appears to ſuffer no diminution at any heights to which we can aſcend, theſe being comparatively extremely ſmall, yet it was highly probable, that, at very great diſtances from the earth, it might be conſiderably weakened.

In following therefore this conjecture, he was farther led to conceive, that if the attraction of the earth was the cauſe of retaining the moon in her orbit, the planets, in like manner, muſt be retained in their orbits by the attractive force of the ſun; and as the ſquares of the times of the revolutions of the planets had been found by Kepler to be proportional to the cubes of their mean diſtances from the ſun, it followed that the diminution of their centrifugal forces, and of courſe that of gravity, would be reciprocally as the ſquares of their diſtances from that body. Hence, from the experiments which had been already made on the deſcent of heavy bodies at ſmall elevations, he determined the height from which the moon, if left freely to herſelf, would deſcend towards the earth in a ſhort interval of time: this is well known to be the verſed ſine of the arc that ſhe deſcribes in that time; and which, by means of the lunar parallax, may be determined in parts of the earth's radius; ſo that to compare the diminution of gravity with the obſervations, nothing more was neceſſary than to know the magnitude of this line.

But Newton having at that time only an incorrect meaſure of the terreſtrial meridian, obtained a reſult conſiderably different from that which he expected; whence, imagining that ſome unknown forces might be connected with the gravity of the moon, he abandoned his firſt ideas. Some years afterwards, however, his attention was again called to the ſubject by a letter of Dr. Hooke; and as Picard, about this time, had meaſured a degree of the earth in France with great exactneſs, he employed this meaſure in his calculations inſtead of the one he had before made uſe of, and found, by that means, that the moon is retained in her orbit by the ſole power of gravity, ſuppoſed to be reciprocally proportional to the ſquares of the diſtances.

According to this law, he alſo found that the line deſcribed by bodies in their deſcent is an ellipſe, of which the centre of the earth occupies one of the foci; and conſidering, afterwards, that the orbits of the planets are, in like manner, ellipſes, having the centre of the ſun in one of their foci, he had the ſatisfaction to perceive, that the ſolution which he had undertaken, only from curioſity, was applicable to ſome of the moſt ſublime objects of nature. Theſe diſcoveries gave birth to his celebrated work entitled, "Philoſophiæ Naturalis Principia Mathematica," which appeared in 1767; and is juſtly conſidered as one of the greateſt monuments that has ever been erected by human genius to the honour of ſcience.

In generaliſing theſe reſearches, this profound geometer afterwards ſhewed, that a projectile may deſcribe any conic ſection whatever, by virtue of a force directed towards its focus, and acting in proportion to the reciprocal ſquares of the diſtances. He alſo developed the various properties of motion in theſe kinds of curves, and determined the neceſſary conditions, ſo that the ſection ſhould be a circle, an ellipſe, a parabola, or an hyperbola, which depend only upon the velocity and primitive poſition of the body; aſſigning, in each caſe, the conic ſection which the body would deſcribe. He alſo applied theſe reſearches to the motion of the ſatellites and comets, ſhewing that the former move round their primaries, and the latter round the ſun, according to the ſame law; and he pointed out the means of determining, by obſervation, the elements of theſe ellipſes.

In conſidering that the ſatellites move round the planets in nearly the ſame manner as if theſe planets were quieſcent, Newton perceived that they muſt all equally gravitate towards the ſun. The equality of action and re-action, did not allow him to doubt that the ſun gravitates towards the planets, as well as theſe towards their ſatellites; and that the earth is attracted by all the bodies that are attracted towards her. He afterwards extended, by analogy, this property to all the parts of which bodies are compoſed, and eſtabliſhed it as a principle, that every molecule of matter attracts every other body in proportion to its maſs, and reciprocally as the ſquare of the diſtance from the body attracted.

Having arrived at this principle, Newton ſoon ſaw that all the great phenomena of the ſyſtem of the world might be eaſily derived from it. In conſidering the force of gravity at the ſurface of the celeſtial bodies as the *reſultante* of the attractions of all their molecules, he arrived at theſe remarkable concluſions: that the attractive force of a body, or ſpherical ſtratum, on a point placed without it, is the ſame as if the whole of its maſs was united in the centre; and that a point placed within the body, or more generally in any ſtratum terminated by two ſimilar elliptical ſurfaces, ſimilarly ſituated, is equally attracted on all parts. He alſo proved that the rotation of the earth upon its axis muſt occaſion a flattening of it about its poles, which was afterwards verified by an actual meaſurement; and he determined the law of the variation of the degrees, in different latitudes, upon the ſuppoſition that the matter of the earth was homogeneous. He likewiſe ſaw, that the actions of the ſun and moon upon the terreſtrial ſpheroid, muſt produce a movement of rotation of its axis, as well as occaſion a retroceſſion of the equinoxes, and the various oſcillations of the waters of the ocean which are called the tides. In ſhort, he alſo aſſured himſelf, that the inequalities of the motion of the moon ariſe from the combined actions of the ſun and earth upon this ſatellite.

But, with the exception of what concerns the elliptical motions of the planets and comets, and the attractions of ſpherical bodies, theſe diſcoveries were not wholly completed by Newton. His theory of the figures of the planets is limited by the ſuppoſition of their homogeneity; and his ſolution of the problem of the preceſſion of the equinoxes, although extremely ingenious, and nearly agreeing with the reſults obtained from obſervations, is defective in ſeveral reſpects; as among the great number of perturbations of the celeſtial motions, ſeveral ſmall ones, and particularly

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that which arifes from the evection of the moon, efcaped his refearches. He has perfectly eftablifhed the principle which he had difcovered; but left the complete developement of its conſequences and advantages to the geometers that ſhould ſucceed him.

The profound analyſis, of which this great man was alſo the inventor, had not, at this time, been ſufficiently perfected, to enable him to give complete ſolutions to all the difficult problems which arife in conſidering the theory of the ſyſtem of the world; ſo that he was ſometimes obliged to give only imperfect ſketches or approximations, and leave them to be verified by a more rigorous calculation. But, notwithſtanding theſe inevitable defects, the importance and generality of his diſcoveries, and the great number of his original and profound views, which have given riſe to the moſt brilliant mathematical theories of the preſent age, will always aſſure to this performance the pre-eminence above every other ſimilar production of the human mind.

Having thus given a conciſe hiſtory of the diſcovery of this extenſive principle, and its application to the laws of motion, it is proper to obſerve, that though Newton makes uſe of the word attraction in common with the ſchool philoſophers, yet he very ſtudiouſly diſtinguiſhed between the ideas. The ancient attraction was ſuppoſed to be a kind of quality, inherent in certain bodies themſelves, and ariſing from their particular or ſpecific forms; but the Newtonian attraction is a more indefinite principle, denoting no particular kind or manner of action, nor the phyſical cauſes of ſuch action, but only tendency in the general, a *conatus accedendi*, to whatever cauſe, phyſical or metaphyſical, ſuch effects be owing, whether to a power inherent in the bodies themſelves, or to the impulſe of an external agent.

He accordingly ſhews in his Philoſoph. Nat. Prin. Math. that he uſes the words attraction, impulſe, and propenſion to the centre, indifferently; and cautions the reader not to imagine, that by attraction he expreſſes the modus of the action, or the efficient cauſe thereof, as if there were any proper powers in the centres, which in reality are only mathematical points; or as if centres could attract. Lib. i. p. 5. In like manner he conſiders centripetal powers as attractions, though phyſically ſpeaking, it were more juſt to call them impulſes. Ib. p. 148. He alſo adds, that what he calls attraction may poſſibly be effected by impulſe, though not a common or corporeal impulſe, but after ſome other manner unknown to us. Optics, p. 322.

Attraction indeed, if conſidered as a quality ariſing from the ſpecific forms of bodies, ought, together with ſympathy, antipathy, and the whole tribe of occult qualities, to be exploded. But when we have ſet theſe aſide, there will remain innumerable phenomena of nature, and particularly the gravity or weight of bodies, or their tendency to a centre, which argue a principle of action ſeemingly diſtinct from impulſe, or where at leaſt there is no ſenſible impulſion concerned. It is alſo well known, that this action differs, in ſome reſpects, from all impulſion we know of, the latter being always found to act in proportion to the ſurface of bodies; whereas gravity acts according to their ſolid contents; and conſequently muſt ariſe from ſome cauſe that penetrates or pervades their whole ſubſtances. This unknown principle, which can be conſidered ſo only with reſpect to its cauſe (for its phenomena and effects are moſt obvious), with all the ſpecies and modifications of it, is what we call attraction, which is a general name under which all mutual tendencies, where no phyſical impulſe appears, and which cannot therefore be accounted for from any known laws of nature, may be ranged; and here ariſe ſeveral particular kind of attractions, as gravity, magnetiſm, electricity, &c. which are ſo many different laws; and only agreeing in this, that we do not ſee any phyſical cauſes of them; but that as to our ſenſes, they may really ariſe from ſome power or efficacy in ſuch bodies, by which they are enabled to act, even upon diſtant bodies, though our reaſon abſolutely diſclaims of any ſuch action.

Attraction may be divided with reſpect to the law it obſerves, into two kind: 1. That which extends to ſenſible diſtances; ſuch are the attractions of gravity found in all bodies; and the attraction of magnetiſm and electricity found in ſome particular bodies; the laws and phenomena of which ſee under their reſpective articles.

Among theſe, the attraction of gravity, which is alſo called the centripetal force, is one of the greateſt and moſt univerſal principles in nature; we ſee and feel its operation on bodies near the earth, and find by obſervation, that the ſame power alſo obtains in the moon, and to bear the primary and ſecondary planets, as well as in the comets: and that this is the power by which they are all retained in their orbits, &c.: and hence, as gravity is found in all the bodies which come under our obſervation, it is eaſily inferred, by one of the ſettled rules of philoſophizing, that it obtains in all others; and as it is found to be as the quantity of matter in each body, it muſt be in every particle thereof; and hence, every particle in nature is proved to attract every other particle, &c. See the demonſtration of this laid down at large under the articles CENTRIFUGAL, CENTRIPETAL, COMET, MOON, NEWTONIAN *Philoſophy*, PLANET, SATELLITE, SUN, &c.

From this attraction ariſes all the motion, and conſequently all the mutation, in the univerſe; by this, heavy bodies deſcend and light ones aſcend, projectiles are directed, vapours and exhalations ariſe, and rains, &c. fall. Alſo from the ſame cauſe rivers glide, the air preſſes, the ocean ſwells, &c. In effect, the motions ariſing from this principle, make the ſubject of that extenſive branch of mathetics called *Mechanics* or *Statics*, with the parts or appendages thereof *Hydroſtatics*, *Pneumatics*. See MATHEMATICS, PHILOSOPHY, &c.

2. That which extends only to ſmall diſtances.—Such is found to obtain in the minute particles whereof all bodies are compoſed, which attract each other at or extremely near the point of contact, with a force much ſuperior to that of gravity; but which at any diſtance from it decreaſes much faſter than the power of gravity. This power is known by the name of the *Attraction of Coheſion*, as being that by which the atoms or inſenſible particles of bodies are united with larger and more ſenſible figures. See COHESION.

The latter kind of attraction owns Newton for its diſcoverer, as the former does for its improver. The laws of motion, percuſſion, &c. in ſenſible bodies under various circumſtances, as falling, projected, &c. aſcertained by the later philoſophers, do not reach to thoſe more remote inteſtine motions of the component particles of the ſame bodies, on which the changes of their texture, colour, properties, &c. depend; ſo that our philoſophy, if it were founded wholly on the principle of gravitation, and carried no farther than that would lead us, would neceſſarily be very deficient.

But beſide the common laws of ſenſible maſſes, the minute parts which they are compoſed of are found ſubject to ſome others which have been only of late taken notice of, and are yet very imperfectly known. Newton, to whoſe happy penetration we owe the hint, contents himſelf with eſtabliſhing that there are ſuch motions in the *minima naturæ*, and that they flow from certain powers or forces

not reducible to any of thoſe in the great world. By virtue of theſe powers it is, "that the ſmall particles act on each other even at a diſtance, and that many of the phenomena of nature are the effects of theſe powers. Bodies being, as we have already obſerved, act on each other ſeveral ways; and as we thus perceive the ſtructure of nature, it appears highly probable that there may be other powers of the like kind, nature being always uniform and conſiſtent with herſelf.—Thoſe juſt mentioned, reaching to ſenſible diſtances, have been generally obſerved; but there may be others, which reach to ſuch ſmall diſtances as have hitherto eſcaped obſervation; and this, it is probable, may be the caſe with electricity, even without being excited by friction.

He then proceeds to confirm the reality of theſe ſuſpicions from a great number of phenomena and experiments, which plainly ſhew ſuch powers and actions between the particles of bodies, e. g. of ſalts and water, oil of vitriol and water, aqua fortis and iron, ſpirit of vitriol and ſalt-petre, and many other chemical ſubſtances. He alſo ſhews that theſe powers are unequally ſtrong between different bodies; e. g. ſtronger between the particles of ſalt of tartar and thoſe of aqua fortis, than thoſe of ſilver; and between aqua fortis and lapis calaminaris, than iron; between iron and copper, than ſilver, or mercury, &c. So ſpirit of vitriol acts on water, but more on iron or copper, &c. The other experiments which countenance the exiſtence of ſuch principles of attraction in the particles of matter are innumerable, many of which may be found enumerated under the articles AFFINITY, ACID, MATTER, MENSTRUUM, SALT, &c.

Theſe actions, by virtue of which the particles of the bodies above mentioned tend towards each other, are called by the general indefinite name attraction, which is equally applicable to all actions by which diſtant bodies tend towards each other, whether by impulſe, or by any other more latent power; and hence we can account for an infinity of phenomena which would be otherwiſe inexplicable from the principle of gravity; ſuch as coheſion, diſſolution, coagulation, cryſtallization, the aſcent of fluids in capillary tubes, animal ſecretion, fluidity, fixity, fermentation, &c.; which ſee under their proper names.

"Thus" (adds our incomparable author) "will nature be found conformable to herſelf, and very ſimple, performing all the great motions of the heavenly bodies by the attraction of gravity which intercedes thoſe bodies, and almoſt all the ſmall ones of their parts, by ſome other attractive power diffuſed through their particles. Without ſuch principles, there never would have been any motion in the world; and without the continuance thereof, motion would ſoon periſh, there being otherwiſe a great decreaſe or diminution thereof which is only ſupplied by theſe active principles." Optics, p. 373.

For theſe reaſons it is certainly unjuſt to declare againſt a principle which furniſhes ſo beautiful a view, for no other reaſon but becauſe we cannot conceive how one body ſhould act on another at a diſtance. It is certain that philoſophy allows of no action but what is by immediate contact or impulſion (for how can a body exert any active power where it does not exiſt? to ſuppoſe this of any thing, even of the Supreme Being himſelf, would perhaps imply a contradiction); yet we ſee effects without ſeeing any ſuch impulſe; and where there are effects, we can eaſily infer there are cauſes, whether we ſee them or not. We may conſider ſuch effects, therefore, without entering into the conſideration of the cauſes, as indeed it ſeems the buſineſs of a philoſopher to do; for to exclude a number of phenomena which we ſee, would be to leave a great chaſm in the hiſtory of nature: and to argue about thoſe which we do not ſee, would be to build caſtles in the air. Hence it follows, that the phenomena of attraction are matter of phyſical conſideration, and as ſuch entitled to a ſhare in the ſyſtem of phyſics; but that the cauſes of them will only become ſo when they become ſenſible, i. e. when they appear to be the effect of ſome other higher cauſes (for a cauſe is no otherwiſe ſeen than as itſelf is an effect, ſo that the firſt cauſe muſt, from the nature of things, be inviſible); we are, therefore, at liberty to ſuppoſe the cauſes of attraction what we pleaſe, without any injury to the effects. The illuſtrious Newton himſelf ſeems, indeed, a little irreſolute as to the cauſes, inclining ſometimes to attribute gravity to the action of an immaterial cauſe, Optics, p. 343, &c.; and ſometimes to that of a material one, Ibid. p. 325.

In his philoſophy, the reſearch into cauſes is the laſt thing, and never comes under conſideration till the laws and phenomena of the effects be ſettled; it being to theſe phenomena that the cauſe is to be accommodated. The cauſe even of any of the groſſeſt and moſt ſenſible actions is not adequately known; how impulſe or percuſſion itſelf, for inſtance, produces its effect, that is, how motion is communicated by one body to another, confounds the deepeſt philoſophers; yet is impulſe received not only into philoſophy, but into mathematics; and accordingly the laws and phenomena of its effects make the greateſt part of common mechanics.

The other ſpecies of attraction, therefore, in which no impulſe is remarkable, when their phenomena are ſufficiently aſcertained, have the ſame title to be promoted from phyſical to mathematical conſideration; and this without any previous inquiry into their cauſes, which our conceptions may not be proportioned to; let them be occult, as all cauſes ſtrictly ſpeaking are, ſo that their effects, which alone immediately concern us, be but apparent. See CAUSE.

Our illuſtrious countryman, therefore, far from adulterating philoſophy with any thing foreign or metaphyſical, as many have reproached him with doing, has the glory of having thrown every thing of this kind out of his ſyſtem, and of having opened a new ſource of the moſt ſublime mechanics yet known; it is hence, therefore, that we muſt expect to learn the manner of the changes, productions, generations, corruptions, &c. of natural things; with all that ſcene of wonders which is opened to us by the operations of chemiſtry.

The cauſe of attraction was long accounted for, by ſuppoſing that there exiſted a certain unknown ſubſtance which impelled all bodies towards each other; an hypotheſis to which philoſophers had recourſe, from an opinion which had conſtantly been admitted as a firſt principle, "that no body can act where it is not;" as if it were more difficult to conceive why a change is produced in a body by another which is placed at a greater diſtance, than why it is produced by one which is ſituate at a ſmall diſtance; it being not only as impoſſible to explain the phenomena of attraction by impulſion as it is to conceive how bodies ſhould be urged towards each other by the action of an external ſubſtance, as how they ſhould be urged towards each other by a power inherent in themſelves. The fact is, that we can neither comprehend the one nor the other; nor can any reaſon be aſſigned why the Creator might not as eaſily beſtow upon matter the power of acting upon matter at a diſtance, as the power of being acted upon and changed by matter in actual contact.

But we have no reaſon beſides for ſuppoſing that bodies are ever in any caſe actually in contact. For all bodies are diminiſhed in bulk by cold, that is to ſay, their particles

are brought nearer each other, which would be impoſſible, unleſs they had been at ſome diſtance before the application of the cold. Almoſt all bodies are diminiſhed in bulk by preſſure, and conſequently their particles are brought nearer each other; and the diminution of bulk is always proportioned to the preſſure. Newton has alſo ſhewn that it requires a force of many pounds to bring two glaſſes within the 800th part of an inch of each other; that a much greater force is neceſſary to diminiſh that diſtance, and that no preſſure whatever is capable of diminiſhing it beyond a certain point. Conſequently there is a force which impedes the actual contact of bodies, which increaſes inverſely as ſome power or function of the diſtance, and which no power whatever is capable of overcoming. Boſcovich has likewiſe demonſtrated that a body in motion communicates part of its motion to another body before it actually reaches it. Hence we may conclude, that, as far as we know, there is no ſuch thing as actual contact in nature; and that bodies of courſe always act upon each other at a diſtance. Even impulſion, therefore, or preſſure, is an inſtance of bodies acting on each other without being in contact, and conſequently this is no better an explanation of attraction than the ſuppoſition that it is an inherent power. We muſt therefore be ſatisfied with conſidering attraction as an unknown power, by which all bodies are drawn towards each other, and which acts conſtantly and uniformly in all times and places, ſo as always to diminiſh the diſtance between them, unleſs when they are prevented from approaching each other by ſome force equally powerful. But why it diminiſhes as the diſtance increaſes, it is impoſſible to ſay; although the fact is certain, and is almoſt incompatible with the ſuppoſition of impulſion being the cauſe of attraction. The truth is, that we muſt not be too precipitate in drawing concluſions, but muſt wait, with patience, till future diſcoveries ſhall enable us to advance farther; ſatisfying ourſelves, in the mean time, in arranging the laws of nature which have been aſcertained, without attempting to develope the cauſes upon which they depend.

ATTRACTION, in *Chemiſtry*. See AFFINITY.

ATTRACTION, *Centre of*. See CENTRE.

ATTRACTION *of Mountains*. According to the Newtonian theory of attraction, this principle pervades the minuteſt particles of matter, and the combined action of all the parts of the earth forms the attraction of the whole. For the ſame reaſon, therefore, that a heavy body tends downwards in a perpendicular to the earth's ſurface, conſidered as ſmooth and even, it muſt be attracted towards the centre of a neighbouring mountain, by a force proportional to the quantity of matter contained in it; and the effect of this attraction, or the accelerative force produced by it, muſt depend on the nearneſs or diſtance of the mountain from the gravitating body, becauſe this force increaſes as the ſquares of the diſtances decreaſe. Upon theſe principles it is obvious, that the plumb-line of a quadrant, or of any other aſtronomical inſtrument, muſt be deflected from its proper ſituation, by a ſmall quantity, towards the mountain, and the apparent altitudes and zenith diſtances of the ſtars, taken with the inſtrument, be altered accordingly: e. g. if the zenith diſtance of a ſtar on the meridian were obſerved at two ſtations under the ſame meridian, one on the ſouth ſide of a mountain, the other on the north; and the plumb-line of the inſtrument were attracted out of its vertical poſition by the mountain, the ſtar muſt appear too much to the north, by the obſervation at the ſouthern ſtation, and too much to the ſouth by that at the northern ſtation; and conſequently the difference of the latitudes of the two ſtations, reſulting from theſe obſervations, would be greater than it really is. If then the true difference of their latitudes be determined by meaſuring the diſtance between the two ſtations on the ground, the excess of the difference, found by the obſervations of the ſtar above that found by this meaſurement, muſt have been produced by the attraction of the mountain; and the half of it will be the effect of ſuch attraction on the plumb-line at each obſervation, provided that the mountain attracts equally on both ſides.

The firſt hint for determining the quantity of this attraction was ſuggeſted by Newton in his Theory of the Syſtem of the World; and the firſt experiment for this purpoſe was conducted by M. Bouguer, and M. de la Condamine, in the year 1738. Whilſt they were employed in meaſuring three degrees of the meridian, near Quito in Peru, they endeavoured to aſcertain the effect of the attraction of Chimboraco, a mountain in that neighbourhood, which, by a rough computation, they ſuppoſed to be equal to about the 2000th part of the attraction of the whole earth. By obſerving the altitudes of fixed ſtars at two ſtations, one on the ſouth ſide of the mountain, and the other on the north, they found the quantity of $7\frac{1}{2}''$ in favour of the attraction of the mountain by a mean of their obſervations; whereas the plumb-line, according to the theory, ſhould have declined from the true vertical line $1' 43''$. However, though the general reſult is favourable to the Newtonian doctrine, the experiment was performed under ſo many diſadvantages, as not to afford the ſatisfaction which was to be wiſhed; and M. Bouguer terminates his account of their obſervations, with expreſſing his hopes, that the experiment might be repeated under more favourable circumſtances either in France or in England. Bouguer, Figure de la Terre.

Nothing was afterwards done, till Mr. (now Dr.) Maſkelyne, the preſent aſtronomer royal, made a propoſal to the Royal Society for this purpoſe in the year 1772; and in 1774, he was deputed to make the trial, accompanied with proper aſſiſtants, and furniſhed with the moſt accurate inſtruments. He made choice of the mountain Schehallien, in Scotland, for the ſcene of his operations; the direction of which is nearly from eaſt to weſt, its mean height above the ſurrounding valley about 2000 feet, and its higheſt part above the level of the ſea 3550 feet. Two ſtations for obſervations were ſelected, one on the north, and the other on the ſouth ſide of the mountain. Every circumſtance that could contribute to the accuracy of the experiment was regarded; and from the obſervations of ten ſtars near the zenith, Mr. Maſkelyne found the apparent difference of the altitudes of the two ſtations to be 54.6″; and from a meaſurement by triangles, formed from two baſes on different ſides of the mountain, he found the diſtance of their perpendiculars to be 4364 feet, which, in the latitude of Schehallien, viz. 56° 40′, anſwers to an arch of the meridian of $42''$, which is leſs by 11.6″ than that found by the ſector. Its half, therefore, or 5.8″ is the mean effect of the attraction of the mountain. From this experiment, conducted with great aſſiduity and accuracy, and tending to the eſtabliſhment of the Newtonian theory, Mr. Maſkelyne [illegible] the mountain Schehallien exerts a ſenſible attraction; and, therefore, that every mountain, and every particle of the earth, is endued with the ſame property, in proportion to its quantity of matter. The law of the variation of this force, in the inverſe ratio of the ſquares of the diſtances, is likewiſe confirmed by it; for if the force of the attraction of the hill had been only to that of the earth as the matter in the hill to that of the earth, and had not been greatly increaſed by the near approach to its centre, the attraction muſt have been wholly inſenſible. He infers alſo, that the mean denſity of the earth is at leaſt double of that at the

ſurface; and conſequently, that the denſity of the internal parts of the earth is much greater than that of thoſe near the ſurface; alſo that the whole quantity of matter in the earth will be at leaſt twice as great as if it were compoſed of matter of the ſame denſity with that at the ſurface; and therefore that the hypotheſis of thoſe naturaliſts, who ſuppoſe the earth to be only a great hollow ſhell of matter, is groundleſs. And finally, that the ſenſible deflections in the plumb-lines of aſtronomical inſtruments, by the denſity of the ſuperficial parts of the earth, muſt cauſe apparent inequalities in the menſuration of degrees in the meridian. He candidly acknowledges, however, that a ſingle experiment is not ſufficient to aſcertain a matter of ſuch importance, and recommends other experiments of a ſimilar kind to be repeated in various places, and attended with different circumſtances; ſince Schehallien may differ in its internal conſtitution from other mountains, as there is no appearance of its ever having been a volcano, which is the caſe of many others. Phil. Tranſ. vol. lxv. part 2. N° 48 and 49.

ATTREBATII, in *Ancient Geography*. See ATREBATII.

ATTRIBUTE, from *attribuo*, in a general ſenſe, that which agrees to ſome perſon or thing; or a quality which determines ſomething to be after a certain manner. Among logicians, it denotes the predicate of any ſubject, or whatever may be affirmed or denied concerning it. But more ſtrictly ſpeaking, an attribute is the ſame with an eſſential mode, or it is that which belongs to the nature or eſſence of the ſubjects in which it is. Thus, underſtanding is an attribute of mind; figure, an attribute of body, &c.

Of the ſeveral attributes belonging to any ſubſtance, that which preſents itſelf firſt, and which the mind conceives as the foundation of all the reſt, is called its *eſſential* attribute. Thus, extenſion is by ſome, and ſolidity by others, made the eſſential attribute of body or matter. The other attributes are called *accidental* ones; e. gr. roundneſs in wood, or learning in a man. Mr. Locke endeavours to prove, that thinking, which the Carteſians make the eſſential attribute of the mind, is only an accidental one.

Mr. Harris (Hermes, p. 29.) conſidering all things whatever that exiſt either as the energies or affections of ſome other thing, or as not being the energies or affections of ſomething elſe, refers the former to the denomination of attributes, and the latter to that of ſubſtances. Thus, to think is the attribute of a man; to be white, of a ſwan; to fly, of an eagle, &c. If they exiſt not after this manner, then they are called ſubſtances.

Spinoza makes the ſoul and the body to be of the ſame ſubſtance, with this only difference, that the ſoul is to be conceived under the attribute of thought, and the body under that of extenſion.

ATTRIBUTES, in *Theology*, denote the ſeveral qualities and perfections which we conceive in God, and which conſtitute his proper eſſence; as juſtice, goodneſs, wiſdom, &c. The perfections of God are called his attributes, becauſe he cannot be without them. Theological writers have diſtributed the attributes of the deity into natural, ſuch as knowledge and power; and moral, ſuch as juſtice and benevolence. Of theſe writers ſome have maintained that all the natural attributes are comprehended under power and knowledge; and that benevolence comprehends all thoſe that are denominated moral. Others, alleging that God always does that which is right and fit, have conſidered all his moral attributes, viz. juſtice, truth, faithfulneſs, mercy, patience, &c. as merely different modifications of rectitude. Others, again, have repreſented wiſdom as the ſpring of all the divine actions. Accordingly, they have ſtated the moral attributes of God to be only different ways of conſidering his will, as invariably determined by his wiſdom to that which is beſt in all poſſible circumſtances. The attributes diſcriminated by this denomination are goodneſs, juſtice, truth, and faithfulneſs. Goodneſs is the will of God, determined by his wiſdom, to the communication of being and happineſs, becauſe it is fit, and as far as it is fit; juſtice is the will of God, determined by his wiſdom, to maintain right and order, and for this purpoſe to do all that is neceſſary for convincing his reaſonable creatures of the regard he hath for the preſervation of his own rights, and of theirs; truth, or ſincerity, is the will of God determined by his wiſdom to avoid uſing all ſigns in his intercourſes with his intelligent creatures, from which they may not only take occaſion, without neceſſity, to deceive themſelves, but would have juſt ground to charge him with being their deceiver, having a meaning to himſelf quite different from that which the words or other ſigns he made uſe of naturally ſuggeſted, and were intended to ſuggeſt; faithfulneſs is the will of God, determined by his wiſdom to make good all his promiſes and engagements; and the holineſs of God ſeems to ſtand for all theſe perfections in conjunction, the Deity being ſeparated by them from all ſociety and friendſhip with falſe gods. According to this ſtatement it is alleged, that we have clear, diſtinct, and proper, though not adequate, ideas of the moral attributes of the divine nature; whereas ſome have maintained, that our notions of juſtice and goodneſs do not at all agree to theſe attributes as they pertain to the Deity, in whom they ſignify ſomething, of which we have only a confuſed or rather no apprehenſion, and very different from what they do when aſcribed to men. To this purpoſe, lord Bolingbroke (Works, vol. iv. and v.) founds his ſyſtem on this extravagant paradox, as it has been juſtly called, that we have no adequate ideas of God's moral attributes, his goodneſs and juſtice, as we have of his natural, his wiſdom and power; and accordingly he denies juſtice and goodneſs to be the ſame in *kind* in God as in man; and he pretends, that the ideas of God's moral attributes cannot be acquired by any reaſoning at all, either *a priori* or *a poſteriori*, and hence concludes, that if a man has ſuch ideas, they were not found but invented by him. See his objections ſtated and anſwered by the late biſhop Warburton, in his "View of Lord Bolingbroke's Philoſophy," Letter I. See Hartley's Obſ. on Man, p. 316. Bays on Divine Benevolence. Wollaſton's Rel. of Nat. p. 116—119. Grove's Wiſdom the firſt Spring of Action in the Deity, in his Works, vol. iv. p. 1—46, &c. Balguy's Divine Rectitude, p. 3—8.

The heathen mythologiſts divide the deity into as many diſtinct beings as he has attributes: thus the power of God was called *Jupiter*; the wrath of God, *Juno*; the abſolute will of God, *Fate*, or *Deſtiny*, to which even his power is ſubject.

ATTRIBUTES, in *Painting* and *Sculpture*, are ſymbols added to figures and ſtatues, to denote their particular office and character. Thus the club is an attribute of Hercules; the palm is an attribute of victory; the peacock, of Juno; the eagle, of Jupiter; the trident, of Neptune; the balance, of juſtice; the olive, of peace, &c. See PAINTING.

ATTRIBUTIVES, in *Grammar*, are words which are ſignificant of attributes; and thus include adjectives, verbs, and participles, which are attributes of ſubſtances, and adverbs, which denote the attributes only of attributes. Mr. Harris, who has introduced this diſtribution of words, denominates the former attributives of the firſt order, and the latter attributives of the ſecond order. Harris's Hermes.

ATTRITION, formed of *atterere*, *to wear*, triture or friction,

friction, expreſſes ſuch a motion of bodies againſt one another, as ſtrikes off ſome ſuperficial particles, whereby they gradually become leſs and leſs. The grinding and poliſhing of bodies is performed by attrition. The effects of attrition in exciting heat, light, electricity, &c. ſee under ELECTRICITY, FIRE, HEAT, and LIGHT.

ATTRITION, among *Divines*, denotes a ſorrow or regret for having offended God; ariſing from a ſenſe of the odiouſneſs of ſin, and the apprehenſions of puniſhment; i. e. of the loſs of heaven, and the pains of hell.

Attrition is eſteemed the loweſt degree of repentance, being a ſtep ſhort of contrition, which ſuppoſes the love of God an ingredient or motive of our ſorrow and repentance. Attrition, in the church of Rome, was conſidered as a ſufficient diſpoſition for a man in the ſacrament of penance to receive abſolution, and be juſtified before God, by removing his guilt, and the obligation to puniſhment. Hence Dr. Jer. Taylor mentions this notion as one of thoſe which accidentally taught or led to an ill life. Liberty of Prophecying, p. 252.

ATTROW, in *Botany*, a name given by the people of Guinea to a plant which they uſe in caſes of ſwellings, boiling the leaves in water, and uſing the decoction by way of a fomentation.

It is a ſpecies of KALI, and is called by Petiver *kali Guineenſe foliis polygoni, floribus verticillatis in multas digeſtis*, from its leaves reſembling the common knot-graſs, and its flowers growing in bundles round the ſtalks. Phil. Tranſ. N° 232.

ATTRUMMAPHOC, a name given by the people of Guinea to a ſhrub which they uſe in medicine; they boil it in water, and give the decoction in the venereal diſeaſe. The juice of it, when freſh preſſed out, is alſo uſed, ſnuffed up the noſtrils, to promote ſneezing, and cure ſeveral diſorders of the head and eyes. Phil. Tranſ. N° 232.

It is a ſpecies of COLUTEA, called by Petiver, COLUTEA *lanuginoſa floribus, parvis ſiliquis piloſis deorſum tendentibus*; and Dr. Herman calls it an *aſtragalus*.

ATTUARII, in *Ancient Geography*, a people of Germany, called by Strabo *Chattuarii*, and placed by him in the neighbourhood of Cattes. By Tacitus they are denominated *Chaſuari*. Julian marched againſt theſe people, and after an expedition of three months, defeated them.

ATTUIE, in *Geography*, a town of Arabia, 76 miles W. S. W. of Saade.

ATTUND, or OSTUND, a country of Sweden, being one of the three parts of Upland, between Stockholm, Upland, and the Baltic ſea; famous for its mines.

ATTURNATO *faciendo vel recipiendo*, in *Law*. See ATTORNATO, &c.

ATTUSA, in *Ancient Geography*, a town of Aſia Minor, on the confines of Bithynia and Myſia. Pliny.

ATUACA, or ATUATUCA, a town of Belgic Gaul, mentioned by Cæſar as belonging to the Eburones, and called by Antonin (Itin.) *Advoca Tungrorum*. This city, under the appellation of Tongres, was ruined by Attila in 451, and its epiſcopal ſee was transferred to Maeſtricht; and from thence, in 881, to Liege.

ATUED, or ATUET, in *Geography*, a town of Sweden, in Eaſt Gothland, having in its vicinity ſome good mines; ſix leagues ſouth-eaſt of Lindkoping.

ATUN-JAUXA. See JAUXA.

ATUN-CANAR, or GREAT CANAR, a village of South America, in the juriſdiction of Cuença, and province of Quito, famous for its fertility and the treaſures ſuppoſed to be buried in the earth. One of the Incas is ſaid to have built in this place ſeveral magnificent temples, ſplendid pa-

laces, and [illegible] of ſtone, [illegible] of Cuſco, and [illegible] placed the [illegible] of the [illegible] its ancient magnificence are [illegible]. Voyage to South America, by Adams, vol. i. p. 319.

ATURE, or [illegible] *graphy*, a town of Gaul, in the diſtrict of Novem-populana, ſeated on the river [illegible] now [illegible] the Adour.

ATURES, in [illegible], a ſmall [illegible] of [illegible] Orenoko, in South America.

ATURI, a town of European Turkey, in Beſſarabia, twenty [illegible] ſouth of [illegible].

ATURIA, or ATYRIA, in *Ancient Geography*, a [illegible] given by [illegible] to Aſſyria.

ATSMORE, in [illegible], a [illegible] of Germany, in the circle of the Lower Rhine [illegible] Liege.

ATWOOD's KEY, a [illegible] diſcovered by [illegible] twelve miles north-eaſt from Crooked iſland, and fifty eaſt from Yuma, or Long iſland, on the [illegible]. N. lat. 23° 28'. W. long. 73°.

ATYADÆ, in *Ancient Geography*, the [illegible] who reigned in Lydia, ſo called from Atys, the ſon of Cotys, and grandſon of Manes, who was ſaid to be the ſon of Jupiter and Tellus. The Atyadæ were ſucceeded by the Heraclidæ, or deſcendants of Hercules. See LYDIA.

ATYMNUS, in *Entomology*, a ſpecies of PAPILIO (*Rur.* Linn.) that inhabits China and Siam. The wings are tailed, fulvous; with the anterior ones black at the apex. Fabricius. Donovan's Inſ. China, &c. *Obſ.* This is *Heſperia Atymnus* of Fab.

ATYPOS, from α negative, and τυπος, *form*, or *tenor*, *erratic*, or *irregular*, a word uſed by the old writers in medicine, for ſuch diſeaſes as did not obſerve any regularity in their periods.

Others have alſo uſed the ſame word in a very different ſenſe, namely, for deformities and irregularities in the limbs; and others, for perſons who, from ſome defects in the organs of ſpeech, cannot articulate certain particular ſounds.

ATYS, in *Ancient Geography*, a river of Sicily, now called the Corbo.

ATYS, in *Zoology*, a ſpecies of SIMIA, in Audebert's Hiſtoire des Singes. (Fam. 4. ſec. 2. fig. 8.) It belongs to the family of *Guenons*, and meaſures one foot five inches from the muzzle to the tail. The whole body is of a dirty whitiſh colour; the feet, hands, face, and ears are of a fleſh colour; the muzzle is long; tail moderate; ears nearly ſquare. This is repreſented as a miſchievous and choleric animal; and capable of biting with great violence. It is conjectured to be the great white Eaſt Indian Ape figured by Albert Seba in his Theſaurus Rer. Natur. t. 1. pl. 48. fig. 3. by ſome modern French naturaliſts; and alſo the *Cercophithecus ſenex* of Erxleben. Syſt. Reg. Anim. p. 24.

ATZEL, ORIOLUS NOBILIS, in *Ornithology*, the name given in Merrem Beytr. to the bird called by Latham the long-billed Grakle; *Graccula longiroſtra* of Pallas and Gmelin. Merrem alſo calls it *Oriolus chryſocephalus* of Gmelin, *Goldkoepfige gelbſchulderichte Atzel*.

AU, in *Geography*, a town of Germany, in the archduchy of Auſtria, ſix miles north of [illegible]. Alſo a town in Lower Bavaria, twelve miles north-weſt of Moſburg.

AVA, a kingdom of Aſia, in the peninſula of India beyond the Ganges; for an account of which ſee BIRMAN *Empire*.

AVA, or *Aungiva*, the capital city of the kingdom of the ſame name, or of the whole of the Birman [illegible]

in N. lat. 22° 5′. E. long. 97° 54′. It is divided into an upper and lower city, both of which are fortified: the lower is the moſt extenſive, and is ſuppoſed to be about four miles in circumference; it is protected by a wall thirty feet high, with a broad and deep foſſé. The communication between the fort and the country is over a mound of earth, croſſing a ditch that ſupports a cauſeway; the upper or ſmaller fort, which may be called the citadel, and does not exceed a mile in circuit, was much ſtronger and more compact than the lower; but neither the upper nor the lower had a ditch on the ſide of the river. This ancient capital has been ſuffered to ſink into ruins, ſince the recent foundation of Ummerapoora. "The walls" ſays colonel Symes, "are now mouldering into decay; ivy clings to the ſides; and buſhes, ſuffered to grow at the bottom, undermine the foundation, and have already cauſed large chaſms in the different faces of the fort. The materials of the houſes, conſiſting chiefly of wood, had, on the firſt order for removing, been tranſported to the new city of Ummerapoora; but the ground, unleſs where it is covered with buſhes, or rank graſs, ſtill retains traces of former buildings and ſtreets. The lines of the royal palace of the Lotoo, or grand council hall, the apartments of the women, and the ſpot on which the piaſath, or imperial ſpire, had ſtood, were pointed out to us by our guide. Clumps of bamboos, a few plantain trees, and tall thorns, occupy the greater part of the area of this lately flouriſhing capital. We obſerved two dwelling-houſes of brick and mortar, the roofs of which had fallen in; theſe, our guide ſaid, had belonged to Colars, or foreigners: on entering one, we found it inhabited only by bats, which flew in our faces, whilſt our ſenſe of ſmelling was offended by their filth, and by the noiſome mildew that hung upon the walls. Numerous temples, on which the Birmans never lay ſacrilegious hands, were dilapidated by time. It is impoſſible to draw a more ſtriking picture of deſolation and ruin." To the gloomy and deſerted walls of Ava, a fine contraſt is exhibited by the new city of Ummerapoora.

Ava, *River of*, now called *Irrawaddy*, is the chief river of the Birman empire; according to major Rennell (Memoir, p. 298.), it is the Nou-Kian, little, if at all, inferior to the Ganges, and it runs to the ſouth through that angle of Yunan which approaches neareſt to Bengal. It is ſaid to be navigable from the city of Ava to Yunan; it paſſes by Moguang to Bamoo, and thence to Ummerapoora and Chagain, and thence to Prome towards the ſea, into which it diſcharges itſelf by many mouths, after a comparative courſe of near 1200 Britiſh miles. The two extreme branches of the Ava river are the Perſaim and Syrian rivers, which major Rennell (Mem. p. 39.) has been able to trace to the place where they ſeparate from the main river, at about 150 geographical miles from the ſea. The bearings of theſe two branches interſect each other at an angle of about ſixty degrees. The mouths of the Ava river form an aſſemblage of low iſlands like thoſe of the Ganges. M. D'Anville erroneouſly ſuppoſed the Sanpoo, Thibet river, or Burrampooter, to be the ſame with that which is called, in the loweſt part of its courſe, the river of Ava; and the Nou-Kian he ſuppoſes to be the ſame with the river of Pegu. This river of Pegu, according to Buchanan (ſee Symes's Embaſſy, vol. ii. p. 414.), which is ſuppoſed to come from China, riſes among hills about 100 miles from the ſea, which form the boundary between the Birman and Pegu kingdoms. The river coming from Thibet, ſuppoſed to be that of Arracan, is in reality the Keenduem, or the great weſtern branch of the Ava river. That which is ſuppoſed to be the weſtern branch of the Irrawaddy, is in fact the eaſtern one, which paſſes by Ava, and runs to the north, keeping weſt from the province of Yunan, and leaving between it and that part of China a country ſubject to the Birmans. He adds, that between the Pegu and Martaban rivers there is a lake from which two rivers proceed; the one runs north to Old Ava, where it joins the Myoungnya, a little river of Ava, which comes from mountains on the frontiers of China; the other river runs ſouth from the lake to the ſea, and is called Sitang. The country bordering on the Ava river, from the ſea to Lundſey, is flat, and the ſoil rich, and reſembles the lower parts of the courſes of the Ganges, Indus, and other capital rivers, formed out of the mud depoſited by the inundations of the river. This low tract is called Pegu. Rennell's Mem. p. 297. Symes's Embaſſy to Ava, vol. ii. p. 413.

Ava, *Cape*, a point of land in the iſland of Japan, in the eaſtern ocean, lying in N. lat. 34° 45′, and E. long. 140° 55′.

Ava Ava, in *Botany*, a plant ſo called by the inhabitants of Otaheite, in the South Sea, from the leaves of which they expreſs an intoxicating juice. It is drank very freely by the chiefs and other conſiderable perſons, who vie with each other in drinking the greateſt number of draughts, each draught being about a pint: but it is carefully kept from their women. Hawkeſworth's Voyages, vol. ii. p. 200.

AVADIÆ, in *Ancient Geography*, a people of Aſia, placed by Ptolemy in Bactriana.

AVADOUTAS, a ſect of Indian bramins, diſtinguiſhed by their auſterity and abſtinence, and depending on accidental beneficence for their neceſſary ſupplies.

AVAIL *of Marriage*, in *Scots Law*, denotes that caſualty in ward-holding, by which the ſuperior was entitled to a certain ſum from his vaſſal, upon his attaining the age of puberty, as the value or avail of his tocher.

AVAILLE, in *Geography*, a town of France, in the department of the Vienne, and chief place of a canton in the diſtrict of Civray; five leagues eaſt of Civray, and ſix and a half S. S. W. of Montmorillon.

AVAL, the largeſt of the iſlands in the gulf of Perſia, known to the Europeans by the name of Bahrein. In this iſland were once 360 towns and villages; but at preſent it contains, beſides Bahrein the capital, only ſixty wretched villages; the others having been ruined by a long ſeries of wars. This iſland produces great abundance of dates; but its chief dependence is upon the pearl-fiſhery, as the beſt pearls are ſupplied by it. The duties upon the two articles of dates and pearls affords its ſovereign a lack of rupees, out of which he is obliged to maintain a garriſon in the city.

AVALANCHES, a name given in Swiſſerland and Savoy to thoſe prodigious maſſes of ſnow, which are precipitated, with a noiſe like thunder, and in large torrents, from the mountains, and which deſtroy every thing in their courſe, and have ſometimes overwhelmed even whole villages. In 1719, an avalanche from a neighbouring glacier overſpread the greater part of the houſes and baths at Leuk, and deſtroyed a conſiderable number of inhabitants. The beſt preſervative againſt their effects being the foreſts, with which the Alps abound, there is ſcarcely a village ſituated at the foot of a mountain, that is not ſheltered by trees; which the inhabitants preſerve with uncommon reverence. Thus, what conſtitutes one of the principal beauties of the country, affords alſo ſecurity to the people.

Our readers may be gratified by the deſcription which Thomſon has given of the avalanches, in his "Seaſons:"

"Among

" Among theſe hilly regions, where embrac'd
In peaceful vales, the happy Grifons dwell;
Oft, ruſhing ſudden from the loaded cliffs,
Mountains of ſnow their gath'ring terrors roll
From ſteep to ſteep, loud thund'ring down they come,
A wintry waſte in dire commotion all;
And herds and flocks, and travellers and ſwains,
And ſometimes whole brigades of marching troops,
Or hamlets ſleeping in the dead of night,
Are deep beneath the ſmothering ruin hurl'd."

AVALAS, a town of Servia, twelve miles ſouth of Belgrade.

AVALITES Sinus, in *Ancient Geography*, a gulf on the right of the Erythræan ſea. In this gulf was a ſea-port, called Avalis, on the coaſt of Ethiopia: and the people of Ethiopia who lived near this gulf were called Avalites, and Abalites. Ptolemy.

AVALLON, in *Geography*, a town of France, in the department of the Yonne, and principal place of a diſtrict, ſeated on the river Couſin. This is a town of conſiderable trade in grain, wine, and cattle, with a cloth manufactory; twenty-three miles S. S. W. from Auxerre, and fifty ſouth of Troyes. N. lat. 47° 29'. E. long. 3° 5'.

AVALON, a peninſula of the iſland of Newfoundland, not far from the ſouth-eaſt part of it, with Placentia bay on the ſouth, and Trinity bay on the north.

AVANCAY, a juriſdiction in the dioceſe of Cuſco, in South America, lying north-eaſt from the city of Cuſco, and extending above thirty leagues. The climate is variable, but in general hot, and many parts of it are cultivated with canes, which yield a very rich ſugar. The more temperate parts abound in wheat, maize, and fruits, which are ſent to the city of Cuſco. In this province is the valley of Xaquijaguna, or Xaiguana, where Gonzalo Pizarro was defeated and taken priſoner by Pedro de la Gaſco.

AVANCHE. See Avenche.

AVANIA, in the *Turkiſh Legiſlature*, a fine for crimes, and on deaths, paid to the governor of the place. In the places where ſeveral nations live together under a Turkiſh governor, he takes this profitable method of puniſhing all crimes among the Chriſtians or Jews, unleſs it be the murder of a Turk. Pococke's Eg. vol. ii. part ii. p. 30.

AVANT, a French prepoſition, ſignifying *before*, or any priority either in reſpect of time or place; ſometimes uſed in compoſition in our language, but more uſually contracted, and wrote vaunt, or vant, or even van.

Avant *Foſſe*, &c. See Van *Foſſe*.

Avant *Guard*, &c. See *Van* Guard, &c.

AVANTICI, in *Ancient Geography*, a people reckoned among the inhabitants of the Alps, and, according to Pliny, comprehended by Galba within the province called Narbonenſis. Some have repreſented them as the inhabitants of Avanticum or Aventicum, the capital of Helvetia; but as Gallia Narbonnenſis never extended ſo far, Hardouin rejects this opinion. Menard (Mem de Liter. t. xxix. p. 248.) fixes them in a place, now called Avançon, between Gap and Embrum.

AVANTURINE, in *Natural Hiſtory*, a yellowiſh ſtone full of ſparkles, reſembling gold, very common in France. An artificial imitation of it is made by mixing ſparkles of copper with glaſs, whilſt it is in fuſion, which is uſed by enamellers, and to ſprinkle as ſand upon writing. Various ſtones have been known by this appellation. See Quartz, and Felspar.

AVAOU, in *Ichthyology*, the name given by the natives of Otaheite to a ſpecies of Gobius figured by Brouſſonnet in his decade of fiſhes. See Gobius Ocellaris.

AVARA, or Avera, in *Ancient Geography*, a river of Gaul, which paſſes by the town of Avaricum.

AVARAY, in *Geography*, a town of France, in the department of the Loir and Cher, and chief place of a canton in the diſtrict of Mer, 12 miles N. E. of Blois.

AUARCAVILLICA. See Guanavca.

AVARES, or Avari, a tribe of Sarmatian origin, denoting *far diſtant*, and formerly applied to a claſs of the inhabitants of the ſouthern parts of Ruſſia, from their dwelling farther to the eaſt than any of the Sarmatian ſtocks.

In the diſſertation of M. Peyſſonnel on the origin of the Sclavonian language, we are informed that the ſlaves, who poſſeſſed Macedonia, Greece, and Epirus, were alſo called *avares* or *avari*; and that they were unknown to the inhabitants of Conſtantinople till the end of the reign of Juſtinian. At this time, ſays Gibbon, A. D. 558. their ambaſſadors addreſſed the Roman emperor who admitted them to an audience, as the repreſentatives of the ſtrongeſt and moſt populous of nations, the invincible, the irreſiſtible Avars. Their friendſhip was purchaſed by the timid emperor, and Valentin, one of the emperor's guards, was ſent under the character of an ambaſſador to their camp at the foot of mount Caucaſus. He perſuaded them to invade the enemies of Rome. Theſe fugitives, who had fled before the Turkiſh arms, paſſed the Tanais and Boryſthenes, and boldly advanced into the heart of Poland and Germany, violating the law of nations and abuſing the rights of victory. Before ten years had elapſed, their camps were ſeated on the Danube and the Elbe, many Bulgarian and Sclavonian names were obliterated from the earth, and the remnants of their tribes are found, as tributaries and vaſſals, under the ſtandard of the Avars. The Chagan, by which appellation their king was diſtinguiſhed, ſtill affected to cultivate the friendſhip of the emperor; and Juſtinian entertained ſome thoughts of fixing them in Pannonia, to balance the prevailing power of the Lombards. But the virtue or treachery of an Avar betrayed the ſecret enmity and ambitious deſigns of their countrymen; and they loudly complained of the timid, though jealous policy of detaining their ambaſſadors, and denying the arms which they had been allowed to purchaſe in the capital of the empire. An embaſſy that was received about this time from the conquerors of the Avars, might poſſibly have produced an apparent change in the diſpoſition of the emperors. The Turkiſh ambaſſadors having purſued the footſteps of the vanquiſhed to the Jaik, the Volga, mount Caucaſus, the Euxine, and Conſtantinople, at length appeared before the ſucceſſor of Conſtantine, to requeſt that he would not eſpouſe the cauſe of rebels and fugitives. In conſequence of this embaſſy, the emperor renounced, or ſeemed to renounce, the fugitive Avars, and accepted the alliance of the Turks. In the year 566, Juſtin II. gave audience to the ambaſſadors of the Avars, and the ſcene was decorated to impreſs the barbarians with aſtoniſhment, veneration, and terror. After the firſt emotions of ſurpriſe, the chief of the embaſſy extolled the greatneſs of the Chagan, by whoſe clemency the kingdoms of the ſouth were permitted to exiſt, whoſe victorious ſubjects had traverſed the frozen rivers of Scythia, and who now covered the banks of the Danube with innumerable tents. It was alſo alleged, that the late emperor had cultivated, with annual and coſtly gifts, the friendſhip of a grateful monarch, and that the enemies of Rome had reſpected the allies of the Avars. The ſame prudence, it was intimated, would inſtruct the nephew of Juſtinian to imitate the liberality of his uncle, and to purchaſe the bleſſings of peace from an invincible people, who delighted and excelled in the exerciſe of war. To this addreſs the emperor replied in the ſame

ſame ſtrain of haughty defiance; and he derived his confidence from the God of the Chriſtians, the ancient glory of Rome, and the recent triumphs of Juſtinian. The Chagan was awed by the report of his ambaſſadors; and inſtead of exerciſing his threats againſt the eaſtern empire, he marched into the poor and ſavage countries of Germany, which were ſubject to the dominion of the Franks; but after two doubtful battles, he conſented to retire. The ſpirit of the Avars being chilled by repeated diſappointments, their power would have diſſolved away in the Sarmatian deſert, if the alliance of Alboin, king of the Lombards, had not given a new object to their arms, and a laſting ſettlement to their wearied fortunes. (See ALBOIN, and LOMBARDS.) By the departure of the Lombards, and the ruin of the Gepidæ, between the years 570 and 600, the balance of power was deſtroyed on the Danube; and the Avars, at this time, ſpread their permanent dominion from the foot of the Alps to the ſea-coaſt of the Euxine. The reign of Baian is the brighteſt æra of their monarchy; and the Chagan, who occupied the ruſtic palace of Attila, appears to have imitated his character and policy. The pride of Juſtin II., of Tiberius, and of Maurice, was humbled by a proud barbarian, more prompt to inflict, than expoſed to ſuffer, the injuries of war; and as often as Aſia was threatened by the Perſian arms, Europe was oppreſſed by the dangerous inroads, or coſtly friendſhip, of the Avars. As the ſucceſſor of the Lombards, the Chagan aſſerted his claim to the important city of Sirmium, the ancient bulwark of the Illyrian provinces. The plains of the Lower Hungary were covered with the Avar horſe, and a fleet of large boats were built in the Hercynian wood, for the purpoſe of deſcending the Danube, and tranſporting into the Save, the materials of a bridge. But as the ſtrong garriſon of Singidunum, which commanded the conflux of the two rivers, might have ſtopped their paſſage and baffled his deſigns, he diſpelled their apprehenſions by a ſolemn oath that his views were not hoſtile to the empire. Sirmium, however, was inveſted by the perfidious Baian, and its defence was prolonged above three years; but at length diſtreſſed by famine, a merciful capitulation allowed the eſcape of the naked and hungry inhabitants. Singidunum, at the diſtance of fifty miles, experienced a more cruel fate; its buildings were razed, and the vanquiſhed people condemned to ſervitude and exile. From Belgrade to the walls of Conſtantinople a line extended of 600 miles, which was marked with flames and blood. The horſes of the Avars were alternately bathed in the Euxine and the Adriatic; and the Roman pontiff, alarmed at the approach of a more ſavage enemy, was reduced to cheriſh the Lombards as the protectors of Italy. The deſpair of a captive, whom his country refuſed to ranſom, diſcloſed to the Avars the invention and practice of military engines, but in the firſt attempts they were rudely framed and aukwardly managed; and the reſiſtance of Diocletianopolis and Beræa, of Philipopolis and Adrianople, ſoon exhauſted the ſkill and patience of the beſiegers. Although the warfare of Baian was that of a Tartar, his mind was ſuſceptible of ſentiments that were generous and humane; accordingly, he ſpared Anchialus, by whoſe ſalutary waters the health of the beſt beloved of his wives was reſtored; and the Romans confeſs, that their ſtarving army was fed and diſmiſſed by the liberality of a foe. His empire extended over Hungary, Poland, and Pruſſia, from the mouth of the Danube to that of the Oder; and his new ſubjects were divided and tranſplanted by the jealous policy of the conqueror. The eaſtern regions of Germany, which had been left vacant by the emigration of the Vandals, were repleniſhed with Sclavonian conqueſts; the ſame tribes are diſcovered in the neighbourhood of the Adriatic and the Baltic, and with the name of Baian himſelf, the Illyrian cities of Neyſs and Liſſa are again found in the heart of Sileſia. In the diſpoſition both of his troops and provinces, the Chagan expoſed the vaſſals, whoſe lives he diſregarded, to the firſt aſſault, and the ſwords of the enemy were blunted before they encountered the native valour of the Avars. The emperor Maurice, after having, for ten years, ſupported the inſolence of the Chagan, declared his purpoſe of marching againſt the barbarians. Deaf to the advice and intreaty of the ſenate, the patriarch, and the empreſs Conſtantina, who diſſuaded him from perſonally encountering the fatigues and perils of a Scythian campaign, he boldly advanced ſeven miles from the capital; but Anchialus was the limit of his progreſs both by ſea and land. In five ſucceſſive battles, 17,200 barbarians were made priſoners; near 60,000, with four ſons of the Chagan, were ſlain; the Roman general, Priſcus, ſurpriſed a peaceful diſtrict of the Gepidæ, protected by the Avars; and his laſt trophies were erected on the banks of the Danube and the Teyſs. Baian, however, again prepared, with dauntleſs ſpirit and recruited forces, to avenge his defeat under the walls of Conſtantinople. In the reign of Heraclius, A. D. 610—622. Syria, Egypt, and the provinces of Aſia, were ſubdued by the Perſian arms under Choſroes; while Europe, from the confines of Iſtria to the long wall of Thrace, was oppreſſed by the Avars, unſatiated with the blood and rapine of the Italian war. They had coolly maſſacred their male captives in the field of Pannonia; the women and children were reduced to ſervitude, and the nobleſt virgins were abandoned to the promiſcuous luſt of the barbarians.

When Heraclius was preparing to abandon his capital, and to transfer his perſon and government to the more ſecure reſidence of Carthage, the Chagan was encamped in the plains of Thrace; and diſſembling his perfidious deſigns, ſolicited an interview, for the purpoſe of reconciliation, with the emperor, near the town of Heraclea. On a ſudden, the Hippodrome was encompaſſed by the Scythian cavalry; the tremendous ſound of the Chagan's whip gave the ſignal of aſſault; and Heraclius was ſaved by the fleetneſs of his horſe. So rapid was the purſuit, that the Avars almoſt entered the golden gate of Conſtantinople with the flying crowds; but the plunder of the ſuburbs rewarded their treaſon, and they tranſported beyond the Danube 270,000 captives. The Perſian king having ratified a treaty of alliance and partition with the Chagan, A. D. 626; 30,000 Barbarians, the vanguard of the Avars, forced the long wall of Conſtantinople, and drove into the city a promiſcous crowd of peaſants, citizens and ſoldiers. In the mean while the magiſtrates of the capital repeatedly ſtrove to purchaſe the retreat of the Chagan; but their deputies were rejected and inſulted; and he ſuffered the patricians to ſtand before his throne, while the Perſian envoys, richly dreſſed, were ſeated by his ſide. For ten ſucceſſive days, the capital was aſſaulted by the Avars, who had made ſome progreſs in the ſcience of attack. At length however, by the vigorous reſiſtance of the inhabitants, the Avars were repulſed; a fleet of Sclavonian canoes was alſo deſtroyed in the harbour; the vaſſals of the Chagan threatened to deſert; his proviſions were exhauſted, and after burning his engines, he gave the ſignal of a ſlow and formidable retreat. To the hoſtile league of Choſroes with the Avars, the Roman emperor oppoſed the honourable and uſeful alliance of the Turks; and the Perſians were then reduced to the neceſſity of retreating with precipitation. Gibbon's Hiſt. vol. vii. viii.

From the annals of France, cited by Bolandus, we learn, that Thudun, a leader of the Avars, ſent ambaſſadors to Charle-

Charlemagne, in 795, with propofals for furrendering himſelf and his people to that prince, and for embracing Chriſtianity under his auſpices.

At this day there exiſts an Avarian nation in Dagheſtan, in the diſtrict of Derbent and Kubet, who, though by their cohabitation for ſeveral centuries with various nations, they have adopted their language and the Mahometan religion, have nevertheleſs retained ſome Sarmatian words that prove their ancient origin. They marched, ſays Mr. Tooke (Hiſt. Ruſſ. vol. i. p. 9.), in the fourth century to Pannonia, diſpoſſeſſed the ſlaves, and eſtabliſhed themſelves with thoſe that remained. On the arrival of the Maſhares and Komanes, they collectively aſſumed the name Maſhares, and by this name they are ſtill diſtinguiſhed.

AVARICUM, called alſo Bituriges, now *Bourges*, the capital of the Bituriges-Cubi, and afterwards of Aquitania Prima, was one of the moſt conſiderable cities of Gaul at the time of the Roman conqueſt. About the forty-ſeventh Olympiad, or 592 years before the Chriſtian æra, it was the capital of Gaul, or of that part of it which was ſubject to the Celtes. The Romans erected an amphitheatre in this place, which was not demoliſhed before the year 800; and alſo a capitol.

AVARILLO, *Cape*, lies N. E. from Padaran bay, and nearly in the ſouth-eaſt extremity of Cambodia. N. lat. 11° 35'. E. long. 109° 21'. See Cochin-China.

AVAROMO Temo, in *Botany*, the name of a ſiliquoſe tree, which grows in the Braſils. The bark is externally of a cineritious, and internally of a deep red colour; and is the only part of the plant uſed by the ſkilful for medicinal purpoſes: though the ſame aſtringent qualities are by ſome applied to the leaves: for the bark, which is of a bitter taſte, whether reduced to a powder, or boiled and uſed by way of fomentation, happily cures inveterate and obſtinate ulcers, and, as it is ſaid, has been found to cure cancers themſelves, by means of its remarkably cleanſing and drying nature.

Beſide theſe purpoſes, it is alſo made uſe of on account of its effectually aſtringent quality, for baths deſigned to ſtrengthen and invigorate the muſcular parts of the body, when weakened, or too much relaxed. Ray ſays it is much uſed by courtezans for contracting the *pudenda*.

AVARUM, in *Ancient Geography*, a promontory of Hiſpania Tarragonenſis. Ptolemy.

AVAS. See Athamania.

Avas, in *Geography*, a mountain of Hungary, in the diſtrict of Marmaruſs.

AVAST, a term frequently uſed on board a ſhip, ſignifying, to ſtop, hold, or ſtay. The word is formed of the Italian *baſta*, or *baſta*, *it is enough*, *it ſuffices*.

AVASTOMATES, in *Ancient Geography*, a people of Africa, in Mauritania. Amm. Marc.

AVATSCHA or Awatska, called alſo *St. Peter and St. Paul*, in *Geography*, a ſea-port of Kamtſchatka, lying in N. lat. 52° 51'. and E. long. 158° 48'. The bay of Avatſcha lies in the bight of another formed by cape Gavareea to the ſouth, and Cheeponſkoi Noſs to the north: the latter bearing from the former N. E. by N. and diſtant from it thirty-two leagues. From cape Gavareea to the entrance of Avatſcha bay the coaſt bears to the north, extends about eleven leagues, conſiſts of a chain of ragged cliffs and rocks, and preſents in many parts an appearance of bays or inlets, which on a nearer approach are found to be low grounds connecting the head-lands. From the entrance of Avatſcha bay, Cheeponſkoi-noſs bears E. N. E., at the diſtance of ſeventeen leagues. The ſhore on this ſide is flat and low, with hills behind that riſe gradually to a conſiderable height. When navigators approach the bay from the ſouthward, this diſtance of the land [illegible] 52° 21', and doubt [illegible] approach it from the northward, Cheeponſkoi-noſs becomes very conſpicuous, [illegible] uniting to the [illegible] low: the [illegible] both [illegible] may be alſo [illegible] mountain to the [illegible] bay is in the form of a [illegible] ſo high. [illegible] on the north ſide of the bay; that to the weſt being the higheſt; the next, [illegible] cluſter of mountains, with ſeveral flat tops. Within the capes, the entrance of Avatſcha bay to the north is pointed out by a light-houſe on a perpendicular headland, to the eaſtward of which are many ſunken rocks, ſtretching two or three [illegible] high pointed rocks. The entrance into the bay is at firſt about three miles wide, and in the narroweſt part 1½; the length in a north-weſt direction is four miles. Within the mouth is a noble baſon about twenty-five miles in circumference; in which are the harbours of Rakoweera to the eaſt, Tarcinſka to the weſt, and St. Peter and St. Paul to the north. Such is the account of Avatſcha given in the continuation of Cook's voyages. The bay of Avatſcha, according to the relation of La Perouſe, who viſited it in 1787, is certainly the fineſt, moſt commodious, and ſafeſt that can poſſibly be met with in any part of the world. Its mouth is narrow, and ſhips would be compelled to paſs under the guns of the fort, which might be erected there. It has excellent holding ground, as the bottom is of mud. Two vaſt harbours, one on the eaſt, and the other on the weſtern coaſt, would contain all the ſhips of England and France. The rivers of Avatſcha and Paratounha empty themſelves into this bay; but they are impeded by ſand banks, and can only be entered at high water. The village of St. Peter and St. Paul is ſituated on a tongue of land, which, like an artificial bank, forms behind the village a little harbour, incloſed like a circle, which might accomodate three or four diſmantled ſhips during the winter: its entrance is leſs than twenty-five toiſes wide. On the ſide of this baſon M. Kaſloff, the governor, propoſed to mark out the plan of a town deſtined to be the capital of Kamtſchatka, and perhaps the grand centre of commerce with China, Japan, the Philippines, and America. A large lake of ſoft water lies to the north of the ſite of this projected city, and at the diſtance of only 300 toiſes are many ſmall brooks, the junction of which would facilitate the conveyance of all the commodities neceſſary for a large eſtabliſhment. M. Kaſloff gave orders for announcing, that an union of ſeveral diſtricts with that of St. Peter and St. Paul would ſoon take place, and that he intended immediately to build a church. The ice in the bay of Avatſcha never extends within 3 or 400 toiſes from the bank; and during the winter it often happens, that the land winds diſperſe that which obſtructs the paſſage into the rivers of Paratounha and Avatſcha, when the navigation again becomes practicable. This bay is ſaid to bear a great reſemblance to [illegible] of Brest, but it affords better anchorage by the mud of its bottom; its mouth is narrower, and [illegible] The two ſhoals at the entrance of this bay, which are ſeparated by a large channel for the paſſage of ſhips, may be eaſily avoided, by leaving two detached [illegible] open with

the light-houſe point, and by keeping, on the contrary, ſhut in with the weſt ſhore, a large rock on the larboard-hand, and which is only ſeparated from the ſhore by a channel leſs than a cable's length wide. The tides in this bay are very regular; and the greateſt riſe of high water, which happens at half paſt three on the days of new and full moon, is four feet. From M. Dagelet's obſervations, the governor's houſe at St. Peter and St. Paul, is ſituated in N. lat. 53° 1′. and E. long. from Paris, 156° 30′. La Perouſe's Voyage, vol. ii. ch. 22. p. 117, &c. Eng. Tranſl.

AVATHA, in *Ancient Geography*, a town of Arabia Petræa. Ptolemy.——Alſo a town of Phœnicia. Notit. Imp.

AVATICI, a people of Europe, in Gallia Narbonnenſis, whoſe capital according to Pliny was *Maritima;* or as Steph. Byz. has it, *Maſtramela.*

AVAUNCHERS, among *Hunters*, the ſecond branches of a hart's horn.

AUAXA, or Auaza, in *Ancient Geography*, a town of Aſia, in Pontus. Not. Imp.

AUB, in *Geography*, a town of Germany, in the circle of Franconia, and biſhopric of Wurzburg, on the river Gollach, ſeventeen miles ſouth of Wurzburg, and twenty-eight north-weſt of Anſpach.

AUBADE, Fr. in *Muſic*, a concert given at day-break in hot climates, in the open air; generally by a lover under the window of his miſtreſs. The Italians term this harmonical morning ſalutation, *mattinata;* a noon ſong of the ſame kind, *giornata;* evening ſong or concert, *ſerenata;* a midnight concert, *notturno.*

AUBAGNE, in *Geography*, a town of France, in the department of the mouths of the Rhone, and chief place of a canton in the diſtrict of Aix; three leagues eaſt of Marſeilles and five S. S. E. of Aix. N. lat. 43° 17′. E. long. 5° 52′.

AUBAINE, in the *French Cuſtoms*, a right veſted in the king, of being heir to a foreigner, who died within his dominions.

The word is formed of *aubain*, a *foreigner;* which Menage derives farther from the Latin, *alibi natus;* Cujas, from *advena*, which is the name foreigners bear in the capitularies of Charlemagne; Du-Cange, from *Albanus*, a Scot, or Iriſhman; becauſe theſe were anciently much given to travelling and living abroad.

The king of France, by the right of aubaine, claimed the inheritance of all foreigners in his dominions; excluſive of all other lords, and even of any teſtament the deceaſed could make. An ambaſſador, though not naturalized, is not ſubject to the right of aubaine. The Swiſs, Savoyards, Scots, and Portugueſe, are alſo exempted from the aubaine, as being reputed natives and regnicoles.

M. de Lauriere (Gloſſaire du Droit François, art. Aubaine, p. 92.) produces ſeveral ancient deeds which prove, that in different provinces of France, ſtrangers became the ſlaves of the lord on whoſe lands they ſettled. Beaumanoir ſays (Couſt. de Beauv. ch. 45. p. 254.), that there are ſeveral places in France, in which if a ſtranger fixes his reſidence for a year and a day, he becomes the ſlave of the lord of the manor. As a practice ſo contrary to humanity could not ſubſiſt, the ſuperior lords found it neceſſary to reſt ſatisfied with levying certain annual taxes from aliens, or impoſing upon them ſome extraordinary duties or ſervices. But when any ſtranger died, he could not convey his effects by a will; and all his real as well as perſonal eſtate fell to the king, or to the lord of the barony, to the excluſion of his natural heirs. This practice of confiſcating the eſtates of ſtrangers upon their death, was very ancient. It is mentioned, though very obſcurely, in a law of Charlemagne, A. D. 813. Not only perſons who were born in a foreign country were ſubject to the droit d'aubaine, but in ſome countries ſuch as removed from one dioceſe to another, or from the lands of one baron to another. "It is ſcarcely poſſible," ſays Dr. Robertſon (Hiſt. Ch. V. vol. i. p. 397.), "to conceive any law more unfavourable to the intercourſe between nations. Something ſimilar to it may be found in the ancient laws of every kingdom in Europe. With reſpect to Italy, ſee Murat. Ant. vol. ii. p. 14." It is no ſmall diſgrace to the French juriſprudence, that this barbarous, inhoſpitable cuſtom, ſhould have ſo long remained in a nation ſo highly civilized.

AUBAIS, in *Geography*, a town of France, in the department of the Gard, one league S. E. of Sommieres, and three and a half S. W. of Niſmes.

AUBE, a river of France, which riſes near Auberive, in the department of the Upper Marne, paſſes by Fert ſur Aube, Bar ſur Arbe, Dienville, Arcis, &c. and joins the Seine ſeven miles below Mery. Aube gives name to a department which it waters. This department is one of the four into which the province of Champaigne is diſtributed. It is bounded on the north by the departments of Upper Marne, Marne and Seine, and Marne; on the eaſt by that of the Upper Marne; on the ſouth by thoſe of Cotè d'Or and the Yonne; and on the weſt by this laſt, and that of the Seine and Marne. The ſuperficies is about 1,196,370 ſquare acres, or 610,608 hectares; its population conſiſts of 228,814 perſons; and it is divided into five communal diſtricts.

AUBENAS, a town of France, in the department of the Ardeche, and chief place of a canton, in the diſtrict of Coiron, three and a half leagues S. W. of Privas. N. lat. 44° 32′. E. long. 4° 32′.

AUBENTON, a town of France, in the department of the Aiſne, and chief place of a canton, in the diſtrict of Vervins, nine leagues N. E. of Laon, and three and three quarters eaſt of Vervins.

AUBERG, a town of Germany, in the archduchy of Auſtria, on the north ſide of the Danube, oppoſite to Lintz.

AUBERIVE, a town of France, in the department of the Marne, and chief place of a canton, in the diſtrict of Rheims, on the Suippe, 15 miles north of Chalons.—Alſo, a town of France, in the department of the Upper Marne, and chief place of a canton in the diſtrict of Langres, 12 miles ſouth-weſt of Langres.—Alſo, a town of France, in the department of the Iſere, and chief place of a canton in the diſtrict of Vienne, five miles ſouth of Vienne.

AUBERT, Peter, in *Biography*, a French lawyer, was born at Lyons in 1642, and at an early age diſcovered marks of genius, and a fondneſs for books. He was diſtinguiſhed by reputation and ſucceſs in his profeſſion, and employed in ſeveral offices in his native city. His library, which was large and valuable, he left for public uſe to the city of Lyons. He publiſhed, beſides a ſmall romance which he wrote at ſeventeen, intitled "Retour de l'Iſle Amour," a collection of "Factums" of various advocates, in 2 vols. 4to., printed at Lyons in 1710; and a much improved edition of "Richelet's Dictionary," publiſhed in 1728, in 3 vols. fol. Nouv. Dict. Hiſt.

AUBERTIN, Edmund, a learned French divine of the reformed church, was born at Chalons on the Marne, in 1595, choſen miniſter of the church of Chartres, in 1618; and removed to the church of Paris, in 1631. His famous work, intitled "L'Euchariſtie de l'Ancienne Egliſe," and printed in folio in 1633, was highly eſteemed by the reformers, but gave great offence to the catholics. In this work

work he diſcuſſes the ſubject of the ancient church, on the grounds of reaſon and ſcripture, and examines the faith of the church for the ſix firſt centuries, in order to ſhew, that, through the whole of this period, the doctrines of tranſubſtantiation and of the real perſon were unknown. The hiſtorical part of this performance was anſwered by Arnaud, and other Port Royal divines, in a work intitled "La Perpetuité de la Foi." Aubertin became the object of clerical odium; a proceſs was inſtituted againſt him for ſtyling himſelf paſtor of the reformed church of Paris, and he was ſuſpended two or three years for ſome expreſſions which he uſed in the pulpit. Intolerant bigotry purſued him to his laſt moments. On his death-bed, and when he was juſt expiring, Ollerius, the curate of St. Sulpice, with a bailiff and an armed mob, conſiſting of forty perſons, intruded on his retirement; under a pretence, that he wiſhed to make an abjuration before a prieſt, which he was prevented from doing, and that they would give him an opportunity of diſburdening his conſcience. The leader of this gang obtained admittance by feigning himſelf to be a phyſician. The honeſt Aubertin, rouzed by this intruſion and aſſault, diſtinctly declared his perſeverance in the faith of the reformed church. When the curate and bailiff withdrew, the mob were with difficulty perſuaded to depart without plundering the houſe. In theſe happier days this extreme of bigotry, which would not allow a man of diſtinguiſhed probity and worth to die in peace, and which at a ſeaſon, when

"Claudicat ingenium, delirat linguaque menſque,"
Lucret. l. iii. v. 454.

"When reaſon halts, and thought and ſpeech are wild," endeavoured to extort from him a declaration, which his ſound reaſon had diſclaimed, will be univerſally reprobated and condemned. This good man died at Paris in the year 1652, at the age of 57 years. A Latin tranſlation of his work by himſelf, was publiſhed at Deventer in 1654, folio. Gen. Dict.

AUBERY, or AUBRY, JOHN, was phyſician to the Duc de Montpenſier. He was educated under the famous Du Laurens; publiſhed in 1604, "Les Bains de Bourbon-Lancy;" and in 1608, "De reſtituenda et vindicanda Medicinæ Dignitate;" both at Paris: but the work which gained him moſt reputation, and which is ſtill in requeſt, is his "Antidote de l'Amour," 12mo., firſt printed in 1599, and ſince at Delft, 1663.

AUBERY, ANTHONY, a French hiſtorian, was born in 1617, and after having been educated at Paris for the law, retired into the tranquillity of private life, and devoted himſelf to hiſtorical reſearches. In 1642, his "General Hiſtory of the Cardinals" was publiſhed in 5 vols. 4to.; in 1649, appeared his hiſtorical treatiſe "On the Pre-eminence of the Kings of France above the Kings of Spain and the Emperors;" in 1654, the "Hiſtory of the Cardinal de Joyeuſe, and Collection of Letters written by that Cardinal to Henry III.;" and in 1660, his "Hiſtory of Cardinal Richelieu, containing the principal events in the reign of Louis XIII." in folio, which was accompanied by two other volumes of titles, letters, diſpatches, inſtructions, and memoirs, ſerving as documents and vouchers to the general hiſtory. When Bertier the printer waited upon the queen regent, requeſting her authority for the publication of the work, which contained ſevere ſtrictures on many perſons in high life, it is ſaid that the queen replied, "Finiſh your work without fear; and put vice to the bluſh, that virtue alone may dare to ſhew her face in France." Aubery, notwithſtanding the freedom with which he wrote, has been charged with drawing, in this work, too flattering a picture of Cardinal Richelieu, and it has been ſaid that this was done, from lucrative motives, for gratifying the vanity of the duke d'Angoulême, the cardinal's niece. A book, written by Aubery in 1667, on the juſt pretenſions of the king of France to the empire, and dedicated to Louis XIV. alarmed the princes of the empire, and excited complaints againſt the author, who was committed to the Baſtile, in order to ſilence and conciliate them, but he was ſoon releaſed. This work was followed by a treatiſe "On the dignity of Cardinal," and another of little value, "On the Regale, or the right of enjoying the Revenues of vacant Biſhoprics." His laſt work, publiſhed in 4 vols. 12mo. in 1751, was "The Hiſtory of Cardinal Mazarin." The facts collected in this publication from the registers of parliament, now no longer to be found, conſtitute its chief excellence; for neither the ſtyle nor method of it have much to recommend them, and the author had not ſufficient independence of mind or ſituation to write with impartiality. While he was preparing for the preſs other hiſtorical collections, his life, which had been ſpent in a courſe of literary labour and induſtry, was terminated by an accident in 1695, at the age of 78. Journal des Scavans, t. xxiii. p. 185. Nouv. Dict. Hiſt.

AUBERY, LOUIS DU MAURIER, a French hiſtorian of the 17th century, accompanied his father, who went, whilſt he was young, as ambaſſador to Holland, and viſited Germany, Poland, and Italy. On his return to Paris, he obtained the favour of the queen regent; but having no public employment, he retired, after the death of Richelieu, to his family manſion, and ſpent his time in literary avocations. He died in 1687, and his works were "Memoirs for the hiſtory of Holland," publiſhed in two vols. 12mo. in 1682; and "Memoirs of Hamburg, Lubeck, Holſtein, Denmark, Sweden, and Poland," publiſhed after his death, and both printed together at Amſterdam in 1736. The former work contains intereſting facts, though it gave offence to the Dutch. Nouv. Dict. Hiſt.

AUBETERRE, in *Geography*, a town of France, in the department of the Charente, and chief place of a canton in the diſtrict of Barbeſieux, ſix leagues ſouth-eaſt of Barbeſieux, and 7½ ſouth of Angouleſme. N. lat. 45° 15'. E. long. 0° 10'.

AUBETTE, a river of France, which runs into the Seine, near Rouen.

AUBEVILLIERS, a town of France, in the department of the Somme, and chief place of a canton in the diſtrict of Montdidier, thirteen miles S.S.E. of Amiens.

AUBEVILLIERS (*Les*), a town of France, one league N.N.E. of Paris.

AUBIERES, a town of France, in the department of Puy de Dome, and chief place of a canton in the diſtrict of Clermont-Serand, one league ſouth-eaſt of Clermont.

AUBIERES (*Les*), a town of France, in the department of the Two Sevres, and chief place of a canton in the diſtrict of Chatillon ſur Sevre, 2½ leagues E.N.E. of Chatillon.

AUBIGNÉ, THEODORE-AGRIPPA D', in *Biography*, was born at St. Maury, near Pons, in Saintonge, in 1550; but, although he was betimes a proficient in literature, the circumſtances of his family, on the death of his father, obliged him to recur to the profeſſion of arms. In the ſervice of Henry IV. of France, then king of Navarre, he ſo far recommended himſelf to the royal favour, as to obtain ſeveral conſiderable poſts, both of honour and profit. Such was his known and approved fidelity, that his royal maſter received his remonſtrances on ſuch parts of his private and public conduct as deſerved animadverſion, without offence. "The word of D'Aubigné diſcontented (ſaid Henry on one occaſion) is worth as much as the gratitude of another man."

and when he was reproached for his friendſhip for La Tremouille, whom Henry had diſgraced and baniſhed, he excuſed himſelf by ſaying. "Sire, he is unfortunate enough to have loſt the favour of his maſter—could I withdraw from him my friendſhip when he has moſt need of it?" D'Aubigné, however, found at length that extreme frankneſs becomes not only unacceptable but offenſive to the beſt of princes. He therefore quitted the court and the kingdom, and retired to Geneva, where he died much honoured and regretted, in 1630, at the age of 80 years. By his wife, Suſanna de Lezai, he had ſeveral children, one of whom was the father of the famous madame de Maintenon. The principal of his works is "An Univerſal Hiſtory from 1550 to 1601, with an abridged account of the death of Henry IV." in 3 vols. folio, printed in 1616, 1618, and 1620. The ſtyle is exceptionable, being partly vulgar and partly affected and turgid, but the ſentiments are free, and the repreſentations of the tranſactions and characters of the times in general are impartial. On the appearance of the firſt volume, in which the character of Henry III. is repreſented in an odious and contemptible light, the parliament of Paris condemned it to the flames. The detail of the military operations is the part of the work that has been moſt eſteemed for its accuracy. The "Confeſſion of Sancy," and the "Baron de Fœneſte," are two ſatirical poems; the firſt of which is commended for its vein of ingenious and delicate raillery; but the ſecond, though not leſs acrimonious, is of a groſſer kind. Beſides miſcellanous pieces, tragedies, poems, &c. D'Aubigne alſo wrote "Memoirs of his own life," which were not publiſhed till 1731. They abound with curious and free anecdotes, and exhibit a lively picture of the man. Of theſe we have an Engliſh tranſlation. Gen. Dict. Nouv. Dict. Hiſtor.

AUBIGNY, in *Geography*, a town of France, in the department of the ſtraits of Calais, and chief place of a canton in the diſtrict of St. Pol, eight miles W.N.W. of St. Pol.—Alſo, a town of France, and chief place of a diſtrict in the department of the Cher, ſix leagues north-weſt of Sancerre, and 7½ north of Bourges. In 1442, Charles VII. granted the eſtate of Aubigny to John Stuart, conſtable of England and his heirs male, as a recompence for ſervices rendered to him in France, with remainder to the crown on failure of male iſſue. This reverſionary clauſe took effect in the 16th century, by the death of Charles Stuart without iſſue. Lewis XIV. made a new grant in favour of Charles II. king of England, the deſcendant of John Stuart, and made the eſtate a duchy-annexing a peerage to it in favour of Charles Lenox, duke of Richmond, (natural ſon of Charles II. by Louiſa de Quervuaille, the dutcheſs of Portſmouth), from whom it deſcended to the preſent duke. The right of peerage to this eſtate was guaranteed by the treaty of Utrecht, confirmed to the preſent duke, and regiſtered in the parliament of Paris, in 1777. N. lat. 47° 29'. E. long. 2° 20'.

AUBIN, in French *Hobbin*, in the *Manege*, is derived from the Italian word *Ubino*, ſignifying a little horſe. Accordingly the light-armed troops were termed in unclaſſical Latin *Hoblearii*, in contradiſtinction to the cataphracti, or heavy-armed troops. Berenger. See Hobby.

Aubin's, St., *Bay*, in *Geography*, lies on the iſland of of Jerſey, in the Engliſh channel; and at the bottom of it is a town of the ſame name with a good harbour, defended by a fort near the ſouth-weſt extremity; three miles weſt from St. Helier's. N. lat. 49° 7'. W. long. 2° 15'.

Aubin, St., is alſo a town of Swiſſerland, in the principality of Neuchatel.

AUBLETIA, in *Botany* (named after M. F. Aublet, author of the Hiſtory of Plants in Guiana). Schreb. 889. Apeiba, Aubl. 213. Swartz. Prod. 82. Sloanea, Læſl. 311. Claſs, *polyandria monogynia*. Gen. Char. *Cal.* perianth five-leaved, rigid, ſpreading, coloured within, pubeſcent without, deciduous, five-parted; parts linear-lanceolate, acute, with thick margins, which before flowering are contiguous. *Cor.* petals five, roundiſh-oblong, ſmaller than the calyx, with very ſhort claws. *Stam.* filaments very many, very ſhort; anthers ovate-oblong, outwardly gibbous, gaping on the inner ſide, foliaceous at the tip, acute, the exterior ones ſterile, lanceolate, ending in a foliaceous point, ſhorter than the corolla. *Piſt.* germ roundiſh, depreſſed; ſtyle long, ſtriated, gradually thickening, ſlightly incurved; ſtigma ſpreading, perforated, ten-toothed. *Per.* capſule large, orbiculate, depreſſed, coriaceous, echinate, ten-celled, gaping at the baſe. *Seeds*, very many, ſmall, roundiſh, ſomewhat compreſſed; receptacle of the ſeeds, fleſhy.

Eſſ. Gen. Char. *Cal.* five-leaved. *Cor.* five-petalled. *Capſ.* many-celled, echinate, with many ſeeds in each cell.

Species, 1. A. *Tibourbou*, apeiba tibourbou. Aubl. l. c. Swartz. l. c. "Leaves acutely ſerrate, hirſute." A tree of a middling ſize, having a trunk ſeven or eight feet high, and a foot in diameter, with irregular, chopped, ſoft bark, which is fibrous, and fit for making ropes. Wood white and light; branches ſpreading in all directions, and bent down; twigs villoſe; leaves alternate, ovate-oblong, cordate at the baſe, green above, on ſhort petioles; ſtipules in pairs, acute; flowers in racemes, oppoſite to the leaves. A pair of oppoſite bractes is placed at the origin of each twig, and four at the peduncle. The raceme, peduncles, and under ſide of the leaves, are covered with ruſſet-coloured hairs. A native of Braſil, Guiana, the iſlands of Cayenne and Tobago. Apeiba is the Braſilian name, and Tibourbou the Caribbean. 2. A. *Petoumo*, apeiba potoumo. Aubl. l. c. Swartz. l. c. "Leaves elliptic, acute, ſerrulate, hoary beneath." This tree often riſes forty feet high, with a brown, thick, filamentoſe bark, fit for cordage. Wood whitiſh, ſoft; branches ſpreading, ariſing from the top of the trunk; leaves alternate, nine inches long, and four broad, entire, ſmooth, ending in a point, petiolated; flowers yellow, in racemes oppoſite to the leaves, on long peduncles, ſurrounded by four large ſcales at the baſe. A native of Guiana, in the vaſt foreſts of Sinemari. It is called petoumo by the Caribbees. 3. A. *aſpera*. Aubl. and Swartz. l. c. "Leaves quite entire, pubeſcent beneath; fruit compreſſed." A tree from thirty to forty feet high, with bark and wood like thoſe of the preceding. Leaves alternate, ovate, ſmooth, pointed, rounded at the baſe, five inches long, on a ſhort footſtalk, at the baſe of which are two ſtipules, which ſoon fall off; flowers at the extremities of the branches, in racemes which have at the baſe two bractes, and at the diviſions three or four ſcales, from which ſpring three yellow flowers. A native of Guiana and Cayenne. It is alſo called petoumo by the Caribbees. 4. A. *lævis*. Aubl. l. c. t. 214. (apeiba glabra) "Leaves quite entire, ſmooth on both ſides; fruit rough, depreſſed." A tree of middling ſize, with a trunk from ten to twelve feet high; its wood is very light; leaves ovate, acuminate, on ſhort footſtalks; ſtipules in pairs, ſhort, deciduous; flowers in racemes, greeniſh. A native of Guiana, flowering in May. The inhabitants call it Ivouyra, and uſe pieces of the wood rounded and pointed to procure fire: hence the Creoles call it bois de mèche.

AUBONDAGE, in *Geography*, a town of France, in the department of the Meurte, and chief place of a canton in the diſtrict of Chateau-Salins, ſix miles N.N.E. of Chateau-Salins.

AUBONNE, the name of a government and of a town in the canton of Berne, in Swiſſerland, which was formerly a lordſhip, belonging to the marquis du Quéſne, purchaſed by him of the famous traveller, Tavernier, and afterwards ſold

to Berne; eleven miles W.S.W. of Lauſanne. The town is ſituated near a river of the ſame name, on an eminence, with a gentle declivity, at the foot of which the river runs with an impetuous torrent. The form of the town is that of an amphitheatre, and in its upper part is a handſome caſtle, from the top of which may be ſeen not only the town and its adjacent fields, but the whole lake of Geneva, and the land that ſurrounds it. In the caſtle of Aubonne, as well as at Thonen in Savoy, which is oppoſite to it on the other ſide of the lake, is a tower covered with tin, which makes a glittering appearance when the ſun ſhines upon it. In the balliage of Aubonne are ſeveral villages, moſt of which lie at the foot of mount Jura; and in one part of this mountain is a deep cave, which forms a natural ice-houſe; and from the bottom of it aſcends the noiſe of a ſubterraneous river, ſuppoſed to be the river Aubonne, becauſe it firſt appears, with ſeveral ſources, about 100 paces from the foot of this mountain.

AUBREY, in Latin ALBERICUS, JOHN, in *Biography*, an eminent Engliſh antiquary, was born at Eaſton Piercy in Wiltſhire, in 1625 or 1626; and after preparatory education at Malmeſbury, entered in 1642 as a gentleman commoner of Trinity college at Oxford. Whilſt he was at the univerſity, he aſſiſted in compiling materials for the "Monaſticon Anglicanum." In 1646, he was admitted a ſtudent in the Middle Temple; but the death of his father, and the derangement of his affairs, devolved upon him much buſineſs and many perplexing law-ſuits, which prevented him from proſecuting his legal ſtudies. However he did not abandon his favourite purſuit, but maintained a regular correſpondence with the lovers of antiquities, and furniſhed Antony Wood with many valuable materials for his great work. He alſo preſerved an intimacy with ſeveral of thoſe philoſophical friends, who formed the Royal Society, of which he became a member in 1662. His domeſtic circumſtances were peculiarly diſtreſſing; for he married unſuitably, and by the total loſs of his patrimony he was reduced to abſolute indigence. But he had the wiſdom and fortitude to adapt his mind to his circumſtances; and accordingly he ſays of himſelf, "From 1670, I have, I thank God, enjoyed a happy deliteſcency." "This obſcurity, which he calls happy, conſiſted in following the bent of his genius, while he owed his ſubſiſtence to the kindneſs of his friends; and in labouring to inform the world, in which he knew not how to live." The principal of thoſe who contributed to his ſupport was lady Long of Draycot in Wiltſhire, in whoſe houſe he had an apartment till his death, which happened about the year 1700, as he was on a journey to Oxford. Aubrey was a good claſſical ſcholar, a tolerable naturaliſt, and a moſt laborious antiquarian; but he was credulous, and addicted to ſuperſtition. His works were numerous, but moſt of them were left behind him in MS. Theſe are 1. "The life of Thomas Hobbes of Malmeſbury," never publiſhed, but having ſupplied materials for Dr. Blackbourne's account of this philoſopher. 2. "Miſcellanies upon the following ſubjects; viz. Day-fatality, Local-fatality, Oſtenta, Omens, Dreams, Apparitions, Voices, &c. &c. Corpſe-candles in Wales, Magic, &c. Second-ſighted perſons, &c." This work, the title of which ſufficiently indicates the trifling taſte and credulous diſpoſition of the author, was printed in 1696, and Aubrey left corrections and additions for a ſecond edition, which was not printed till the year 1721. 3. "A Perambulation of the county of Surrey, begun 1673, ended 1692;" printed in 1719, in 5 vols. 8vo., and often referred to by topographical writers. 4. "The Natural Hiſtory of the north diviſion of Wiltſhire," never publiſhed. 5. "Monumenta Britannica, or a diſcourſe concerning Stonehenge, and [illegible] ſtones in Oxfordſhire," MS. On the ſubject, Aubrey's judgment was [illegible] by Mr. Toland; and it was his opinion that theſe remains are druidical, and [illegible] the Roman [illegible]. 6. "Architectonica Sacra, a diſſertation concerning the manner of our church-building in England." MS. 7. "The idea of [illegible]," and [illegible] philoſophy, and other [illegible] "Letters," by Dodwell, and [illegible]. MSS. at Oxford, there is one which is an account of Engliſh writers, eſpecially poets, with many of whom the author was well acquainted. This MS. "was lent to Wood, while he was drawing up his "Athenæ;" but Wood greatly [illegible] poſſeſſion. Wood's account of Milton, the firſt that ever appeared in print, and which has ſince furniſhed the ſubſtance of all the materials now extant of Milton's life, was literally taken from this MS." See Wharton's Life of Dr. [illegible], p. 151—153. Biog. Brit.

AUBURG, in *Geography*, a town of [illegible], in the circle of Weſtphalia, and county of Diepholz, [illegible] of Diepholz.

AUBURN, or AUBOURN, is a ſmall town in [illegible], 76 miles weſt from London. It is ſeated on a branch of the river Kennet, and has a ſmall market on Tueſdays. Its inhabitants are principally employed in the manufacture of fuſtians, a conſiderable quantity of which is annually ſent to the metropolis. The ſoil of Auburn and its vicinity is chiefly gravel, with a ſubſtratum of chalk. About one mile from the town is a very extenſive rabbit warren, whence many hundred couple of rabbits are ſent to London during the proper ſeaſon. Auburn ſuffered materially in its trade and buildings by a furious fire that occurred here on the twelfth of September 1760, when ſeventy-two houſes, and other property, to the eſtimated amount of 20.000l., were conſumed. By means of a public ſubſcription, the diſtreſſed inhabitants obtained ſome remuneration for their loſſes; but the town has never recovered the ſerious injury it then ſuſtained.

AUBUSSON, a town of France, and chief place of a diſtrict in the department of the Creuſe, fourteen leagues weſt of Clermont. Its manufacture of tapeſtry renders the town populous. N. lat. 45° 58′. E. long. 2° 15′.

AUCA, a town of Aſia, in the kingdom of Candahar, forty-five leagues north-eaſt of Zareng.

AUCAGUERELE, a town of Africa, in the country of Adel. N. lat. 9° 10′. E. long. 44° 25′.

AUCAS, the name of a warlike and independent tribe in South America, occupying the ſame parts of Paraguay with the [illegible], and reſembling them in their [illegible] tion and manners.

AUCH, a city of France, and capital of the [illegible] of Gers. Before the revolution it was the capital of Armagnac, and the ſee of an archbiſhop, who had the title of primate of Aquitaine; and it was the metropolis of Gaſcogny. It is ſeated near the Gers, on the declivity of a hill. Some of the ſtreets are ſtraight, well paved, and full of neat buildings. The cathedral is a [illegible] building, adorned with painted windows, whoſe colourings are bright and ſuperior to moſt of the kind. The number of inhabitants has been eſtimated at 6.000. The country round Auch conſiſts of high limeſtone hills, with narrow vallies, in which are many vines, and in the vineyards are alſo fig-trees. N. lat. 43° 40′. E. long. 0° 40′.

AUCHA, in *Ancient Geography*, a river, upon which was ſeated the town of Gaſtis.

AUCHASES, in *Geography*, the name of a tribe of mount Caucaſus, called alſo Abaſes, or Abaſgæ, who lived

on the ſouthern ſide of the Kuban, and on the eaſtern coaſts of the Euxine. The proper Auchaſia or Abaſa is under the Ottoman ſupremacy, having a prince, who reſides at Anchopia. The weſtern races of the Auchaſians acknowledge the paramount ſovereignty of the khan of the Crimea; and theſe are they who at preſent belong to the Ruſſian Kuban. They moſtly live about the river Laba. See ABASSA.

AUCHATÆ, in *Ancient Geography*, a people of Aſia, in Scythia.

AUCHENIA, in *Entomology*, the name of a genus of coleopterous inſects, adopted after profeſſor Thunberg, by Mr. Marſham, in his late and very excellent work intitled Entomologia Britannica. It comprehends a tribe of inſects before arranged with the Linnæan chryſomelæ, and among them ſeveral which Linnæus had himſelf aſſigned to that genus; ſuch as merdigera, 12-punctata, aſparagi, cyanella, melanopa, flavipes, hirta, 4-maculata, and tenella; to which Mr. Marſham adds the ſubſpinoſa and ruſipes (*criocerides*) of Fabricius; and a new ſpecies which he names flavicollis. The character of the auchenia genus is, antennæ filiform; head advanced; thorax cylindrical, and narrower than the wing-caſes; and the body oblong. T. 1. p. 213.

AUCHISÆ, in *Ancient Geography*, a people of Africa, in the Cyrenaic territory.

AUCKLAND, or BISHOP AUCKLAND, in *Geography*, is a neat market and corporate town ſituated about ten miles ſouth-weſt from Durham, and 246 N. by W. from London. This place obtained the latter name at the time of biſhop Bec, who is ſaid to have built a magnificent caſtellated edifice here during his prelacy, which continued from 1283 to 1310. But this building has been wholly deſtroyed, and ſucceeding biſhops have erected and enlarged another noble manſion where the preſent dioceſan occaſionally reſides. Mr. Pennant deſcribes the palace and grounds as peculiarly beautiful and grand. "Nothing" he obſerves, "can equal the approach to the former through the latter, which is varied with verdant ſlopes, riſing hills, woods, and deep precipices impending over the Wear." The ground on which the town and caſtle are placed is of an angular form, and the ſtreets are extended on the ſides of the angle, having the caſtle at one of the terminating points. The eminence is waſhed on the north ſide by the river Wear, and on the ſouth-eaſt by the river Gaineleſs; the banks are formed into hanging gardens, and the whole aſpect is extremely beautiful. The town is built on high ground, which riſes nearly one hundred and forty feet from the level of the plain below, and the ſteepneſs of the roads that approach the town renders them very diſagreeable and difficult for the paſſage of carriages. A free grammar ſchool was founded here by Anne Swyfte, under letters patent from James I. in the ſecond year of his reign. It has been further endowed in 1783, and is held in an apartment under a ſmall and neat chapel which was then rebuilt by a ſubſcription of the inhabitants, and dedicated to St. Ann. As the pariſh church is at St. Andrew Auckland, a village about one mile diſtant from the town, this was a neceſſary improvement. Here are a weekly market on Thurſday, and three annual fairs. The market place is a large open ſpace in the middle of the town, and on its weſtern ſide has lately been erected and eſtabliſhed a large manufactory for printing all kinds of cottons, callicoes, muſlins, &c. On the north-weſt is a ſubſtantial old bridge, built by biſhop Skirlaw about 1403, over the river Wear; and in the vicinity of the town are four or five reſpectable and handſome gentlemen's ſeats. Leland's Itin. vol. i. and Hutchins's Hiſtory of the County of Durham, vol. iii.

AUCTA, in *Entomology*, a ſpecies of CHRYSOMELA, with an azure ſhining thorax; wing-caſes blue, dotted, with a red margin. Fabricius. A native of Europe. In ſize and appearance it reſembles CHRYSOMELA *marginata*.

AUCTA, a ſpecies of VESPA, of a black colour, with the anterior margin yellow; two yellow dots and a tranſverſe line on the ſcutel; and ſix yellow bands, the firſt with a dot on each ſide, upon the abdomen. This kind inhabits Germany. Gmel. &c.

AUCTION, in *Commerce*, denotes a kind of public ſale, much in uſe for eſtates, houſes, houſehold goods, and other commodities, ſubject to certain conditions, in which the higheſt bidder is the buyer. Theſe ſales are ſubject to legal regulations. By 19 G. III. c. 56. an auctioneer is required to take out a licence, ſetting forth his true name and place of abode; and for the ſaid licence, if it be within the limits of the chief office of exciſe in London, he ſhall immediately pay the ſum of 20 s. and elſewhere 5 s. over and beſides any other duties or payments for trading in or vending any gold or ſilver plate, or otherwiſe; and acting without ſuch a licence incurs, within the bills, a forfeiture of 100 l. and elſewhere 50 l. The ſaid licence muſt be renewed annually; and bond muſt be given at the time of taking it out with two ſureties in the ſum of 200 l. within the bills, and elſewhere in 50 l.; that he will deliver in a juſt account, and make payment of the duties. Theſe duties are as follow: viz. for every 20 s. of the purchaſe money ariſing by virtue of any ſale by auction of any intereſt in poſſeſſion or reverſion, in any freehold, copyhold, or leaſehold lands, tenements, houſes, or hereditaments, and of any annuities, or money charged thereon; and of any utenſils in huſbandry and farming ſtock, ſhips and veſſels; and of any reverſionary intereſt in the public funds; and of any plate or jewels, ſhall be paid by the auctioneer or agent 6 d. viz. 3½ d. by 27 G. III. c. 13. and 2½ d. more by 37 G. III. c. 14. And for every 20 s. of the purchaſe money ariſing or payable by virtue of any ſale by auction, of furniture, fixtures, pictures, books, horſes, and carriages, and all other goods and chattels whatever, 10 d. viz. 7 d. by 27 G. III. c. 13. and 3 d. more by 37 G. III. c. 14. Piece goods are exempted from duty by 29 G. III. c. 63.; and alſo all goods imported from Yucatan, and ſundry commodities imported from Africa in Britiſh ſhips, or from any Britiſh ſettlement abroad by 32 G. III. c. 41. There are alſo further exemptions ſpecified in the ſtatutes 17 G. III. c. 50. § 11, 12, 13. and 19 G. III. c. 56. § 13, 14, 15. The auctioneer is required to give previous notice to the office of exciſe of the day of ſale, and deliver a written or printed catalogue ſpecifying the ſeveral articles to be ſold, atteſted and ſigned by himſelf or his known clerk, under a penalty of 20 l. 19 G. III. c. 56. § 9. He ſhall alſo within 28 days, within the limits of the chief exciſe office in London, and elſewhere within ſix weeks, deliver in an account in writing of the total amount of the money bid at each ſale, and of the ſeveral articles or lots there ſold, and the price of each; and at the ſame time make payment of the duties: the truth of the account to be atteſted upon oath. And by 38 G. III. c. 54. every auctioneer, neglecting to make payment within the limited time, ſhall forfeit double the duty.

AUCTION, or *Auctio*, was originally a kind of ſale among the ancient Romans, performed by the public crier "*ſub haſta*," that is under a ſpear ſtuck up on that occaſion, and by ſome magiſtrate, who made good the ſale by delivery of the goods. This cuſtom of ſetting up a ſpear at an auction ſeems to have been derived from this circumſtance, that at firſt only thoſe things which were taken in war were ſold in that manner. Hence *haſta* is put for a public ſale, and "*ſub haſtam venire*" denotes to be publicly ſold. This was termed *auctio*, q. d. *increaſe*; becauſe, according to Sigonius, the goods

goods were ſold to him, "*qui plurimum rem augeret*," who would bid moſt for them. The day, and ſometimes the hour, and the terms of the auction, were advertiſed, either by a common crier, or in writing; and there were courts in the forum, called "*atria auctionaria*," where auctions were made; and to theſe Juvenal is ſuppoſed to allude. (Sat. vii. 7.) A money-broker, "argentarius," was alſo preſent, who marked down what was bidden, and to whom the purchaſers either paid down the price, or gave ſecurity for it. The ſeller was called "auctor," and the right of property conveyed to the purchaſer was called "auctoritas."

AUCTION *by Inch of Candle*. See CANDLE.

AUCTORATI, in *Roman Antiquity*, an appellation given to ſuch as entered the liſt as gladiators, and who received wages; or who hired themſelves for money to perform in the games or ſpectacles. The auctorati degraded themſelves by the act, and became ſervile and infamous.

AUCTORATI *Milites* alſo denoted ſoldiers bound by oath, and the receipt of wages, to ſerve in war. In this ſenſe auctorati ſtand oppoſed to exauctorati, who were diſbanded. The ſtipend they received for their ſervice was denominated *auctoramentum*.

AUCTORITAS SENATUS, in *Roman Antiquity*. See SENATUS *Auctoritas*.

AUCTUS, in *Botany*, an epithet applied to the calyx, when it has the addition of another ſmaller calyx; or when it is augmented by a ſeries of diſtinct leaves ſhorter than its own, that ſurround its baſe.

AUCTUS, in *Entomology*, a ſpecies of CIMEX (*Lygæus* Fabr.), the thorax of which is ſlightly ſpinous, black, with two fulvous ſpots; a yellow band on the upper wings; ſhanks of the poſterior legs membranaceous and yellow. Inhabits Cayenne.

AUCUBA, in *Botany*, a large Japaneſe tree. Thunb. Jap. 4. Nov. Gen. 61. Schreb. 1414. Juſſ. 382. Claſs, *monoecia tetrandria*. Gen. Char. * Male flowers. *Cal.* perianth one-leafed, truncate, obſcurely four-toothed, villoſe, very ſhort, permanent. *Cor.* four-petalled; petals ovate, acute, ſpreading; underneath concave, hairy; above convex, deciduous. *Stam.* filaments four, inſerted into the receptacle among the petals, thick, erect, very ſhort; anthers ovate, twin, with four furrows. *Recept.* plano-convex, ſmooth, with a ſquare hole impreſſed upon the middle. Female flowers on the ſame tree. *Cal.* and *Cor.* as in the male. *Piſt.* germ inferior; ſtyle thick, ſhort; ſtigma ſimple, capitate. *Per.* nut ovate, one-celled.

Eſſ. Gen. Char. Male. *Calyx* four-toothed. *Cor.* four-petalled; berry one-ſeeded.

Species, 1. A. *japonica*. Thunb. Jap. 64. t. 12, 13. Kæmpf. Am. faſc. 5. 775. Ic. ſelect. t. 6. A large tree. Branches and ſubdiviſions dichotomous, ſmooth, divaricate, erect, angular; leaves aggregate at the tops of the branches, petiolate, oppoſite, oblong, ſharp, remotely ſerrate, ſmooth, nerved; flowers terminal, panicled; peduncles and pedicels villoſe; bractes lanceolate. It varies with brown green unſpotted leaves, and bright green leaves, variegated with white. It is diſtinguiſhed from the ſerpicula by the receptacle of the male being ſmooth, not toruloſe, but perforated in the middle. A native of Japan. Introduced by Mr. John Græfer in 1783.

AUDARISTENSES, in *Ancient Geography*, a people of Macedonia, in Pelagonia. Pliny.

AUDATTHA, a town of Arabia Deſerta. Ptolemy.

AUDE, in *Geography*, a river of France, which riſes in the Pyrenées, paſſes by Quilan, Alet, Limoux, Carcaſſonne, &c. and diſcharges itſelf into the Mediterranean, about ten miles eaſt of Narbonne. It gives name to a department through which it flows. This department is one of the ſeven formed by Languedoc, Commange, &c. It is bounded on the north by the departments of Herault, Tarn, and Upper Garonne; on the eaſt, by the Mediterranean; on the ſouth, by the departments of the Eaſtern Pyrenees and Arriege; and on the weſt, by thoſe of Arriege and Upper Garonne. Its ſuperficies is about 1,275,593 ſquare acres, or 650,996 hectares; its population conſiſts of 213,101 perſons; and it is divided into four communal diſtricts.

AUDELA, in *Ancient Geography*, a town of Aſia, in Meſopotamia.

AUDENA, a river of Italy, in Liguria.

AUDIA, a town of Arabia Petræa. Ptolemy.

AUDIANISM, in *Eccleſiaſtical Hiſtory*, the ſyſtem or ſentiments of Audius, and his followers; particularly as to the belief of the human figure of the deity. See ANTHROPOMORPHITES, and AUDIUS.

AUDIENCE, in a general ſenſe. See HEARING.

The word is formed from *audire, to hear*.

AUDIENCE is alſo uſed for the ceremonies practiſed in courts, at the admiſſion of ambaſſadors and public miniſters to a hearing. In England, audience is given to ambaſſadors in the preſence chamber; to envoys and reſidents, in a gallery, cloſet, or any place where the king happens to be. At their admiſſion, the way in all courts is to make three bows after which they cover and ſit down, the king firſt covering and ſitting down, and giving them the ſign to put on their hats. When the king cares not to have them be covered and ſit, he continues uncovered himſelf, and ſtanding all the while, which is taken as a ſlight and an affront. After the firſt audience, it does not look well to be too haſty in demanding another. At Conſtantinople, miniſters uſually have audience of the prime vizir; in his abſence the caimacan admits them to audience.

AUDIENCE is alſo a name of courts of juſtice or tribunals eſtabliſhed by the Spaniards in America, and formed upon the model of the court of chancery in Spain. Of theſe there are eleven, which diſpenſe juſtice to as many diſtricts, into which the Spaniſh dominions in America are divided. They are eſtabliſhed at the following places; viz. St. Domingo in the iſland of Hiſpaniola, Mexico in New Spain, Lima in Peru, Panama in Terra Firma, Santingo in Guatimala, Guadalaxara in New Galicia, Santa Fe in the new kingdom of Granada, La Plata in the country of Los Charcas, St. Franciſco de Quito, St. Jago de Chili, and Buenos Ayres. To each of theſe are ſubjected ſeveral large provinces; and ſome ſo far removed from the cities where the courts are fixed, that they can derive little benefit from their juriſdiction. The Spaniſh writers commonly reckon twelve courts of audience, including that of Manila in the Philippine iſlands. The number of judges is various, according to the extent and importance of their juriſdiction. Both civil and criminal cauſes come under their cognizance; and for each peculiar judges are ſet apart. The Spaniſh viceroys have often attempted to intrude themſelves into the ſeat of juſtice; and, therefore, in order to check this interference, which muſt have annihilated juſtice and ſecurity in the Spaniſh colonies, the viceroys have been prohibited by repeated laws, from interfering in the judicial proceedings of the courts of audience, or from delivering an opinion, or giving a voice with reſpect to any point litigated before them. Theſe courts of audience are ſubject to reſtraint and limitation. They may adviſe, they may remonſtrate; but in the event of a direct colliſion between their opinion and the will of the viceroy, what he determines muſt be executed, and nothing remains for them but to lay the matter before the king and the council of the

Indies.

Indies. But to be entitled to remonſtrate and to inform againſt a perſon, before whom all others muſt be ſilent and tamely ſubmit to his decrees, is a privilege which adds dignity to the courts of audience. Beſides, upon the death of a viceroy, without any proviſion of a ſucceſſor by the king, the ſupreme power is veſted in the court of audience reſident in the capital of the viceroyalty; and the ſenior judge, aſſiſted by his brethren, exerciſes all the functions of the viceroy, while the office continues vacant. In matters which come under the cognizance of the audiences, in the courſe of their ordinary juriſdiction as courts of juſtice, their ſentences are final in every litigation concerning property of leſs value than 6000 peſos; but when the ſubject in diſpute exceeds that ſum, their deciſions are ſubject to review, and may be carried by appeal before the royal council of the Indies. Robertſon's Hiſt. Amer. vol. iii. p. 286, &c.

AUDIENCE is alſo the name of one of the eccleſiaſtical courts in England, which is held wherever the archbiſhop calls a cauſe to his own hearing.

The two archbiſhops have their courts of audience: that of the archbiſhop of Canterbury is under the direction of the dean of the arches, who is official of the audience, and keeps his court in the hall of Doctors Commons.

The court of audience is chiefly concerned in differences ariſing upon elections, conſecrations, inſtitutions, marriages, &c.

AUDIENCES, *Chamber of.* See CHAMBER.

AUDIENDO *& terminando*, a writ, or rather commiſſion, directed to certain perſons, when an inſurrection or great miſdemeanour is committed in any place, for the appeaſing and puniſhment thereof.

AUDIENTS, or AUDITORES, in *Eccleſiaſtical Hiſtory*, an order of catechumens; conſiſting of thoſe who were newly inſtructed in the myſteries of the Chriſtian religion, and not yet admitted to baptiſm.

AUDIERNE, in *Geography*, a town of France, in the department of Finiſterre, and chief place of a canton in the diſtrict of Ponteroix, five and a half leagues weſt of Quimper.

AUDIFRET, JOHN-BAPTIST, in *Biography*, a French geographer, was a native of Draguignan, in Provence, or of Marſeilles, and flouriſhed at the end of the ſeventeenth, or beginning of the eighteenth centuries. He was appointed by Louis XIV. in 1698, envoy extraordinary to the courts of Mantua, Parma, and Modena. He died at Nancy, in 1733, at the age of ſeventy-ſix years. His much eſteemed work, intitled, "Geographie Ancienne, Moderne, et Hiſtorique," was printed in three volumes, 4to., at Paris, in 1689 and 1691, and in 12mo., at Paris in 1694. This work, which unites geography and hiſtory, comprehends only Europe, and, being left unfiniſhed, it wants Spain, Italy, and part of Turkey in Europe. Nouv. Dict. Hiſt.

AUDIGUIER, VITAL DE, a French noble, was born at Naive, near Villefranche de Rouergue, about the year 1565, and united literature with the profeſſion of arms. Of his writings, the principal are, "A Treatiſe on the true and ancient Uſage of Duels," printed in 8vo. at Paris, in 1617, ſhewing the injuſtice of common duels, and recommending a revival of the ancient practice of public combats on great occaſions, under royal authority; "Poems," in two volumes, 8vo, printed in Paris, in 1614; and two romances under the titles of "The Loves of Lyſander and Caliſta," printed at Lyons, in 1622; and "The Loves of Ariſtander and Cleonice," at Paris, in 1625. His ſtyle is clear and ſprightly; and his romances were much read. He is ſaid to have been aſſaſſinated about the year 1630. Nouv. Dict. Hiſt.

AUDIT, a regular hearing and examining of an account, by officers appointed for that purpoſe. See AUDITOR.

AUDITA *Querela*, in *Law*, is a writ by which a defendant, againſt whom judgment is recovered, and who is, therefore, in danger of execution, or perhaps actually in execution (or on a ſtatute-merchant, ſtatute-ſtaple, or recognizance), may be relieved upon good matter of diſcharge, which has happened ſince the judgment; as if the plaintiff hath given him a general releaſe; or if the defendant hath paid the debt to the plaintiff, without procuring ſatisfaction to be entered upon the record. In theſe and the like caſes, wherein the defendant hath good matter to plead, but hath had no opportunity of pleading it (either at the beginning of the ſuit, or *puis darrein continuance*, which muſt always be before judgment), an *audita querela* lies, in the nature of a bill in equity, to be relieved againſt the oppreſſion of a plaintiff. It is a writ directed to the court, ſtating, that the complaint of the defendant hath been heard, *audita querela defendentis*, and then ſetting out the matter of the complaint, it at length enjoins the court to call the parties before them, and having heard their allegations and proofs, to cauſe juſtice to be done between them. Finch. L. 488. F. N. B. 102. It alſo lies for bail, when judgment is obtained againſt them by *ſcire facias*, to anſwer the debt of their principal, and it happens afterwards that the original judgment againſt their principal is reverſed; for here the bail, after judgment had againſt them, have an opportunity to *plead* this ſpecial matter, and therefore they ſhall have redreſs by *audita querela* (1 Roll. Abr. 308.); which is a writ of a moſt remedial nature, and ſeems to have been invented, leſt in any caſe there ſhould be an oppreſſive defect of juſtice, where a party, who hath a good defence, is too late to make it in the ordinary forms of law. But the indulgence now ſhewn by the courts in granting a ſummary relief upon motion, in caſes of ſuch evident oppreſſion (Lord Raym. 439.), has almoſt rendered uſeleſs the writ of *audita querela*, and driven it quite out of practice. Blackſt. Com. vol. iii. p. 406.

AUDITIONALIS *Scholaſticus*, in *Middle Age Writers*, is uſed for an advocate who pleads cauſes for his clients in audiences. Du-Cange.

AUDITOR, a hearer, one who liſtens or attends to any thing.

AUDITOR is alſo uſed for ſeveral officers, appointed to audit or hear accounts, pleadings, &c.

Anciently the word auditor was alſo uſed for a judge, and even for an inquiſitor, appointed by judges to examine and find out the truth of ſome matter in conteſt. Notaries are alſo frequently called auditores.

AUDITOR, in our *Law*, is an officer of the king, or ſome other perſon, or corporation, who yearly, by examining the accounts of under-officers that are accountable, makes up a general book, with the difference between the receipts and charges, and their allowances or allocations.

Receivers-general of fee-farm rents, &c. are alſo termed *auditors*, and hold their audits for adjuſting the accounts of the ſaid rents, at certain times and places appointed. There are alſo *auditors* aſſigned by the court to audit and ſettle accounts, in actions of account, and other caſes, who are proper judges of the cauſe, and pleas are made before them, &c. 1 Brownl. 24. See ACCOUNT, and ASSUMPSIT.

AUDITORS *of the Revenue*, or *of the Exchequer*, are officers who take the accounts of thoſe who collect the revenues, taxes, &c. raiſed by parliament; as alſo of the ſheriffs, eſcheators,

cheators, collectors, tenants, and cuſtomers; and ſet them down, and perfect them.

AUDITORS *of the Preſt*, or *Impreſt*, are officers in the exchequer, who formerly had the charge of auditing the great accounts of the kings cuſtoms, naval and military expences, and of all monies impreſſed to any man for the king's ſervice: but they are now ſuperſeded by the commiſſioners for auditing the public accounts. See *Public* ACCOUNTS.

AUDITOR *of the Receipt* is an officer of the exchequer who files the tellers' bills, and makes an entry of them, and gives the lord-treaſurer a certificate of the money received the week before. He makes debentures to every teller, before they receive any money, and takes their accounts. He alſo keeps the black book of receipts, and the treaſurer's key of the treaſury (where the ancient leagues of the realm, and many records of the king's bench, and common pleas, are repoſited); and ſees every teller's money locked up in the new treaſury. 4 Inſt. 107. All the exchequer bills, orders, debentures, patents, and other inſtruments which paſs the office of the exchequer, are ſigned by him.

There are alſo auditors of the firſt fruits; of the principality of Wales; of the duchy of Cornwall, &c. See FIRST *Fruits*, &c.

AUDITOR *of the Rota*, the apoſtolic chamber, the chatelet, &c. See ROTA, CHAMBER, &c.

AUDITORS, in *Church Hiſtory*. See AUDIENTS.

The auditors formed one branch of the Manichean ſect, which was divided into elect and auditors; correſponding, according to ſome writers, to clergy and laity; and, according to others, to the faithful and catechumens among the catholics. By the Manichean rule, a different courſe of life was preſcribed to the elect from that of the auditors. The latter might eat fleſh, drink wine, bathe, marry, traffic, poſſeſs eſtates, bear magiſtracy, and the like; all which things were forbidden to the elect. The auditors were obliged to maintain the elect, and kneeled down to aſk their bleſſing. Beauſobre obſerves, that the elect were eccleſiaſtics, and in general ſuch as made profeſſion of obſerving certain counſels, called evangelic; ſuch as the clergy and monks; and they were called the *perfect* by Theodoret. The auditors were the laity, and ſo denominated, becauſe they heard in the church, whilſt others taught and inſtructed. Lardner's Works, vol. iii. p. 404, &c.

AUDITORS, *Conventual*, *Collegiate*, &c. were officers formerly appointed among the religious, to examine and paſs the accounts of the houſe.

AUDITORIUS MEATUS, or AUDITORY *Paſſage*, in *Anatomy*. There are two paſſages diſtinguiſhed by this title; an external one, by which the air has acceſs to the tympanum; and an internal one, by which the ſeventh pair of nerves paſs from the brain into the petrous part of the temporal bone. See *the Deſcription of the* EAR.

AUDITORY, in an adjective ſenſe, ſomething belonging to the ſenſe of HEARING.

AUDITORY, AUDIENCE, is alſo a collective name, denoting an aſſembly of perſons, hearing or attending to a perſon who ſpeaks in public.

AUDITORY is alſo uſed for the ſeat or bench where a magiſtrate or judge hears cauſes.

At Rome, the ſeveral magiſtrates had auditories, or ſeats of juſtice, according to their dignity.—Thoſe of the ſuperior officers were called *tribunals;* thoſe of the inferior, *ſubſellia*.

The pedanei had their benches or auditories in the portico of the imperial palace. Thoſe of the Hebrews, at the gates of cities. The judges appointed by the ancient lords diſtributed juſtice under an elm, which was uſually planted before the manor-houſe, and ſerved them for an auditory.

AUDITORY, *Auditorium*, in the *Ancient Churches*, was that part of the church where the audientes ſtood to hear, and be inſtructed: and it was that part now called *navis eccleſiæ*. See NAVE. In the primitive times, the church was ſo ſtrict in keeping the people together in that place, that the perſon who went from thence in ſermon-time was ordered by the council of Carthage to be excommunicated.

AUDITORY *Paſſage*, or *Canal*, *Deſcription of*, in *Anatomy*, are deſcribed under the articles EAR, and DESCRIPTION.

AUDITORY *Nerves*, the ſeventh pair. See NERVES, *Deſcription of the*.

AUDIUS, in *Biography*, the founder of a Chriſtian ſect, was a native of Meſopotamia, and flouriſhed about the year 350. In his own country he was much eſteemed on account of the holineſs of his life, and zeal for the faith; but he expoſed himſelf to ill-treatment by his freedom in admoniſhing the biſhops and preſbyters, and particularly in reproving the rich clergy, who purſued a luxurious courſe of life. At length, he ſeparated from the church, formed an aſſembly of thoſe who were attached to him, and became their biſhop. The clergy, offended by his rebukes, and jealous of his popularity, accuſed him to the emperor, either Conſtantine or one of his ſucceſſors, who baniſhed him into Scythia; and here he converted many Goths to the Chriſtian faith. His followers, who were called Audians, adopted ſome peculiar tenets and cuſtoms. They celebrated Eaſter, or the paſchal feaſt, with the Jews, on the fourteenth day of the moon, alleging that this was the ancient cuſtom, confirmed by the apoſtolical conſtitutions, and that the council of Nice had innovated in complaiſance to Conſtantine; and they are alſo ſaid to have uſed the apocryphal books in their aſſemblies. They have been likewiſe charged with ſome errors in point of doctrine, and particularly with attributing to the deity a human form; whence they have been claſſed with the Anthropomorphites. Moſheim E. H. vol. i. p. 630. Lardner's Works, vol. iv. p. 304.

AUDON, in *Ancient Geography*, a promontory of Africa, in Mauritania Cæſarienſis. Ptolemy.

AUDRAN, in *Biography*, the name of a celebrated family of artiſts, who acquired eminence in painting and engraving. *Claude*, the firſt of the family, was the ſon of Louis, who lived in the reign of Henry IV. of France. He was born at Paris in 1592; but as he made no great progreſs in the art of engraving, his prints are held in little or no eſtimation. He reſided at Lyons, and died there in 1677.

Carl, or *Karl*, was the brother, or as ſome ſay, the couſin-german of Claude, and born at Paris in 1594. For the purpoſe of gratifying and improving an early taſte for the arts, he went to Rome, and at his return adopted that ſpecies of engraving, which is performed merely with the graver. His ſtyle was that of Cornelius Gloemart, but neater. The abbé Marolles, who ſpeaks of this artiſt in terms of high commendation, attributes 130 prints to him, amongſt which "The Annunciation," a middling-ſized print, after [illegible] Annabale Caracci; and "The Aſſumption," in a circle from Dominichino, are the moſt eſteemed. His firſt prints were marked with the letter C; and he afterwards, by way of diſtinguiſhing his prints from thoſe of his brother Claude, uſed the letter K. He died at Paris, in 1674.

Germain was the eldeſt ſon of Claude, firſt mentioned, and born at Lyons in 1631. At Paris he perfected himſelf under his uncle Carl, and on his return to Lyons, publiſhed ſeveral prints which did honour to his graver. Such was the eſtimation in which he was held, that [illegible] and profeſſor of the Academy eſtabliſhed in this town. He died at Lyons in 1710, and left four ſons, all artiſts.

Claude

Claude was the ſecond ſon of Claude, and born at Lyons in 1639: having ſtudied painting at Rome, he was, on his return, employed by Le Brun, to aſſiſt him in the battles of Alexander, which he was then painting for the king of France. He was admitted into the Royal Academy in 1675, and died at Paris in 1684, applauded no leſs for his virtues than his talents.

Girard, the moſt celebrated artiſt of the whole family of Audrans, was the third ſon of Claude, and born at Lyons in 1640. Having learned from his father the firſt principles of deſign and engraving, he removed to Paris, where his reputation introduced him to the acquaintance of Le Brun, by whom he was employed in engraving the battle of Conſtantine, and the triumph of that emperor. At Rome, he ſtudied under Carlo Maratti, and engraved ſeveral fine plates, and particularly the portrait of pope Clement IX. Recalled to Paris by Louis XIV. at the inſtigation of M. Colbert, after a reſidence of three years at Rome, he aſſiduouſly applied to engraving, and was appointed engraver to the king, who greatly encouraged him. In 1681, he was named counſellor of the Royal Academy, and died at Paris in 1703. Strutt conſiders him as one of the greateſt engravers, without any exception, that ever exiſted in the hiſtorical line; and a careful examination, he ſays, of the battles of Alexander, engraved by this artiſt, will of itſelf juſtify this aſſertion. His diſtinguiſhing excellence conſiſts in his contracting no manner of his own, but tranſcribing on copper ſimply, with great truth and ſpirit, the ſtyle of the maſter whoſe pictures he copied. "On viewing his prints, you loſe ſight of the engraver, and naturally ſay, it is Le Brun, it is Pouſſin, it is Mignard, or it is Le Seur, &c. as you turn to the prints which he engraved from thoſe maſters." His works, excluſively of his portraits, are diſtributed into four claſſes; viz. 1. his ſlight prints or etchings, to which little or nothing was done with the graver, among which are the "deluge," the "paſſage through the red ſea;" the "combat of Joſhua againſt the Amalekites;" the "empire of Flora;" the "preſervation of Pyrrhus;" a "ceiling" from Le Brun, repreſenting the "four ſeaſons" of the year. 2. Thoſe more finiſhed, but in a rough, bold manner; e. g. "Paul and Barnabas at Lyſtra;" "Coriolanus appeaſed by his family;" "Time ſupporting Truth;" the ceiling of the chapel de Saulx, repreſenting the "Accompliſhment of the old law by the new one," engraved in 1681, from Le Brun, wonderfully uniting great ſpirit, character, expreſſion, and beautiful drawing; and the "death of St. Francis." 3. Thoſe in his moſt finiſhed manner; as the "battles of Alexander," from Le Brun; viz. "The paſſage of the Granicus;" "the battle of Arbela;" "Porus brought to Alexander" after his defeat;" "Alexander entering the tent of Darius;" and "the triumphal entry of Alexander into Babylon;" the "Peſt," from Peter Mignard; the "baptiſm of the Pharifees," from N. Pouſſin; the "martyrdom of St. Laurence," from Le Sueur; the "martyrdom of St. Agnes," from Dominichino. 4. Such as he did with the graver only, which are few, and of inferior merit; ſuch as "Æneas ſaving his father Anchiſes," after Dominichino; and a ſmall folio "Frontiſpiece" to the effigies of the popes and cardinals, from Cyro Ferri.

Benoit, ſecond ſon of Germain Audran, was born at Lyons in 1661, and after receiving inſtruction from his father, removed to Paris, to enjoy the tuition of his uncle Girard, where he acquired great reputation. He died at Louzouer in 1721. "His manner was founded upon the bold clear ſtyle of his uncle. His outlines were firm, and determined; his drawing correct; the heads of his figures are in general very expreſſive; and the other extremities well marked." But his works, compared with thoſe of his uncle, want the mellowneſs and harmony, which are ſo conſpicuous in the latter. Among his neateſt prints may be reckoned that which repreſents "Alexander ſick," from Le Sueur.

John, the third ſon of Germain, was born at Lyons in 1667, and perfected himſelf in the art of engraving, at Paris, under his uncle Girard. His reputation began to diſplay itſelf at the age of twenty years; and ſuch was his future ſucceſs, that in 1707, he obtained the title of engraver to the king, and had a penſion from his majeſty, with apartments in the Gobelins; and in 1708, he was made a member of the royal academy. He was eighty years of age before he quitted the graver, and near ninety when he died. In his moſt maſterly and beſt prints, the etching conſtitutes a great part; and he has finiſhed them in a bold, rough ſtyle. The drawing of the human figure is correct; the heads are expreſſive, and finely finiſhed; the other extremities are well marked; but he is inferior to his uncle. He wants that harmony in the effect; his lights are too much and too equally covered; and there is not ſufficient difference in the ſtyle, in which he has engraved his back grounds, and his draperies. The following prints, beſides many others, are uſually much eſteemed; viz. "Moſes ſaved by Pharoah's daughter," "Athaliah rending her clothes, on diſcovering the king in the temple;" "Eſther before Ahaſuerus;" "Cupid and Pſyche;" all from Ant. Coypel. "The preſentation of Chriſt in the temple," from Corneille. "The miraculous draught of fiſhes," and its companion "The reſurrection of Lazarus," from Jouvenet. "The battles of Alexander," ſmall, from the large prints; "Moſes defending the daughters of Jethro," and its companion, "Moſes eſpouſing the daughter of Jethro;" the miracle of the five loaves;" "Chriſt healing the ſick and lame;" and "Chriſt carrying the croſs," both from Ant. Dieu, &c.

Louis, the laſt ſon of Germain, was born at Lyons in 1670, and ſtudied at Paris in the ſchool of his uncle Girard. He died ſuddenly at Paris in 1712. Among his moſt eſteemed prints are, "The ſeven acts of mercy," from Seb. Bourdon, and "The Cadavre or Corps," from R. A. Houaſſe. Strutt's Dict.

AUDRUICK, in *Geography*, a town of France, in the department of the ſtraits of Calais, and chief place of a canton in the diſtrict of Calais, 3½ leagues north-weſt of St. Omer.

AUDUN Le Romant, a town of France, in the department of the Moſelle, and chief place of a canton in the diſtrict of Longwy, 3½ leagues weſt of Thionville.

AUDUS, in *Ancient Geography*, a river of Africa, placed by Ptolemy at the bottom of the Sinus Numidicus, but no traces of it now remain.—Alſo, a mountainous diſtrict in the interior part of Mauritania Sitifenſis. the Mons Auraſius of the middle age, and Jibbel-Aureſs, as the Turks pronounce it. It is a chain of eminences running one into another, with ſeveral beautiful little plains and vallies intervening. The higher and the lower parts of it are very fertile, and are regarded as the garden of this province. The whole mountainous tract is reckoned to be about 120 miles in circuit, and the northern part, which is viſited every year by a flying camp of the Algerines, is poſſeſſed by ſuch a number of clans, viz. the Boozeenah, Laſhaſh, Maiſah, and Booaref, that it requires 40 of their ſtations to bring them all under contribution. Shaw's Trav. p. 57. This mountain, according to Bruce (Travels, &c. Introd. p. 28.), is inhabited by a ſavage tribe, of fair complexion, red hair, and blue eyes; called Neardie, and ſuppoſed to be a remnant of Vandals, who have maintained themſelves in the faſtneſſes, in defiance of the Moors and Arabs. Each of the people of this tribe have in the middle of the face, between their eyes, a Greek croſs, marked with antimony; and

and this mark seems to be the chief vestige of Christianity among them, which religion they not only acknowledge, but boast that their ancestors possessed it. Procopius (Bell. Vand. l. ii. c. 13.) mentions the defeat of an army of the Vandal nation near this place, of which these are probably remains. They pay no taxes to the Bey, but live in constant defiance of him. In this mountain is the Laribesa of Ptolemy.—Also, the name of a small port in the eastern part of Mauritania Cæsariensis, mentioned by Ptolemy, and placed by him in the promontory Jarsath, north-east of the mouth of the river Nasavah.

AUE, in *Geography*, a river of Germany, which runs into the Weser, three miles south of Nienburg, in the circle of Westphalia.—Also, a river of Germany, in Lower Saxony, which runs into the Fuhse, two miles S.S.E. of Zell.—Also, a town of Germany, in Upper Saxony, and circle of Erzgebirg, five miles north-west of Schwartzenberg.

AVE, a river of Portugal, which runs into the sea near Villa de Conde, in the province of Entre Duero è Minho.

AVEBURY, or ABURY, a name given to a village in England, situated in the county of Wilts, about five miles west of the town of Marlborough, nineteen north of Stonehenge, and eighty west from London. As a village it presents no particular claims to public notice, but as the site of the most remarkable and stupendous monument of *British Antiquity* in the island, it becomes exceedingly interesting to the antiquary and historian.

The British bards and druids have been repeatedly noticed and often described by our ancient historians; some of whom have given very copious accounts of their religious and juridical rites and ceremonies; but none of them have left complete and satisfactory information relating to the men, their manners, or monuments. Hence arises the great difficulty of giving decisive descriptions of those subjects; and the repeated wars and invasions that have harassed this country, have nearly destroyed all documents and monuments of British antiquity. Among the vestiges of former times, we recognize the stupendous temple at Avebury, which was unquestionably the most considerable and important in Great Britain. It consisted of a number of large unhewn stones placed perpendicularly in the ground, and disposed in parallel rows and circles. There were four of the latter included within a fifth of larger circumference, and at the end of the southern avenue, about one mile distant from the great circle, were two concentric oval arrangements of stones. The number of stones originally employed in the whole work amounted to six hundred and fifty, and most of them measured from ten to nineteen feet in height above the ground, forty feet in circumference, and weighed from forty to fifty-four tons each. The large circle, and the principal part of the temple, were surrounded with a very considerable vallum and ditch, which included an area of twenty-two acres of ground, and measured about 1400 feet in a transverse diameter. This bank and ditch must have been produced with immense labour, and its peculiarity of formation proves that it was never intended for a fortified place in time of war, as the bank is thrown up on the outer verge of the ditch; whereas all military encampments have the bank within the ditch, to give an advantageous height of ground to the besieged inhabitants. The vallum measures about 30 feet in height from the top to the middle of the ditch. Supposing that it was raised for spectators to behold any ceremonies performed in the inclosed area, it would accommodate above 70,000 persons, and allow two square feet to each. This boundary embraced one large, and four small circular arrangements of stones. The first was about thirty-five feet within the ditch, and consisted of 100 stones, placed at nearly regular distances from each other. Within this circle were two double concentric circles composed with eighty-eight [illegible], three others called the cove, and one called the central obelisk. From the large circle proceeded two avenues, or double rows of large upright stones, placed at nearly regular distances in each row, and from one row to the other. These consisted of 200 stones, extended about one mile in length each way, and were called the Beckhampton and Kennett avenues. The first proceeded from the temple in a westerly direction, and was terminated with a single stone; whilst the other took a south-eastern course, and had two oval rows of stones at the extremity. The objects we have already described, are considered by some [illegible] the whole of this extraordinary monument; but it seems very probable that Silbury Hill, some cromlechs, other circles, and numerous relics, were originally connected with it. Silbury Hill is considered as the largest tumulus, or barrow, in England, and its situation implies that it was intended to mark the meridian line from the centre of the temple. Dr. Stukeley states, that it is directly south of the great circle. It measures 105 feet diameter at top, 560 feet at the base, 240 feet in height, following the surface of its northern side, and 1680 feet in circumference at the bottom. From the top of this artificial hill a spectator commands a view of the western avenue, and the whole area of the temple, with a considerable tract of flat country to the north and west. This barrow has been dug into by some persons, who expected to make interesting discoveries; but for want of perseverance, or well-directed research, they discontinued their operations, without gratifying their curiosity, or rewarding their labour.

The Goths, Vandals, and Turks, have often been stigmatized as the merciless destroyers of every venerable and interesting monument of antiquity; but surely they are not more reprehensible than many of the inhabitants of this highly-civilized and refined country; some of whom have exercised much ingenuity and labour in wantonly and deliberately destroying this singular monument of ancient customs. We have already stated that it originally consisted of 650 stones, but most of these have been broken to pieces, by means of fire and manual labour, and the dissevered fragments appropriated to the construction of walls, hovels, and common roads. In 1722, only forty remained of the great circle, of which number seventeen were standing; but these are now reduced to nine. The interior circles were almost entire in 1716, but in 1723 only two stones were left erect belonging to the outward circle of the northern temple. Of the Kennett avenue, there were seventy-two stones in 1772, of which only eight or ten remain; and only two of the Beckhampton avenue.

The stones used in forming this temple are called by the inhabitants, Bolderstones and Sarsons. They are of siliceous grit, being of the same species as those that accompany the great stratum of chalk, which [illegible] England from E. N. E. to W.S.W. These stones lie on the surface of the ground in detached masses, unconnected with any stratum of rock.

Having shewn what the temple was, and what it is, we will next endeavour to explain its appropriation and uses; in doing which, we found our deductions principally on the traditions and traditions of the Welsh bards, a class of people more likely to preserve correct memorials of the ancient British, than will be found in any of the Roman histories. By these writers we learn that Avebury was the great national temple, or circle of convention of the Ancient Britons; in which they assembled from all parts of the island, on the [illegible] festivals, which were held at the time of the two [illegible]

and the two equinoxes, but more particularly on midſummer day, and new-year's day, or the winter ſolſtice. The Bardic triads call the temple at Avebury, one of the three primary *Gorſeddau*, or ſupreme ſeats of the iſland of Britain; the other two were thoſe of *Bryſgawen* and *Mod Evor*.

The circles at Avebury and Silbury Hill had their names reciprocally from each other, for the former was termed *Gorſez-Bryn-Gwyzon*, or the ſupreme ſeat of the Hill of preſence, or cognition; and the other was called *Clader-Cyvrangon*, or the tumulus of the circle of conventions. In this place the legiſlative, ſacerdotal, and ſcientific claſſes, which formed the ancient Britiſh conſtitution, held their meetings, under the appellations of *Beirz*, *Derwyzon*, and *Ovizion*, or Bards, Druids, and Ovates. We are informed by Cæſar, that the Druids of Gaul, "who wiſhed to be perfectly ſkilled in the Druidical ſcience," occaſionally viſited England to learn it. From the magnitude and ſituation of Avebury, we are induced to believe that it was their place of meeting or convention. The ſituation was the moſt convenient of any in Great Britain; and that it was the grand metropolitan ſtation, ſeems ſatisfactorily aſcertained by its magnitude above all others in the iſland; by the various Britiſh roads or ridgeways which converged to this ſpot; by the vaſt number of barrows ſcattered all over theſe plains, and by ſeveral other relics of remote antiquity to be found in the neighbourhood. To Dr. Stukeley we are indebted for much information concerning this place, and but for his diligent inquiries and reſearches in 1722, &c. we ſhould never have been able to aſcertain the figure and dimenſions of the temple; with his aſſiſtance, aided by repeated examination of the ſpot, we are enabled to preſent our readers with an account which we hope will prove as ſatisfactory as it is faithful. To thoſe who wiſh for a more minute deſcription, we muſt refer to Britton's Beauties of Wiltſhire, vol. iii.; and for accounts of ſome ſubjects collaterally connected with this, ſee BARD, BARROW, CROMLECH, DRUID, KISTVAEN, STONEHENGE, &c.

AVEHEN, a town of North America, in the country of Mexico, and diſtrict of Chiametlan.

AVEIA, in *Ancient Geography*, a town of Italy, in Samnium, ſouth of Amiternum.

AVEIN, in *Geography*, a village of the Netherlands, in the duchy of Luxemburg, near which the army of France defeated the Spaniards; two leagues from Rochefort.

AVEIRO, or BRAGANZA NOVA, a ſea-port town of Portugal, in the province of Beira, ſituated in a flat and marſhy country, at the mouth of the Vouga, and containing about 1400 houſes, divided into four pariſhes, and ſix monaſteries. The river Vouga flows through the town, where it is very narrow; but it is adorned with a handſome quay. Near the town it divides into two branches, one to the left and running ſouthward to the ſea, the other flowing northward to Ovar. Its trade is inconſiderable, as ſmall boats only come to the town; and as the bar is continually ſhifting, none but ſmall ſhips can paſs it. The fiſhery of this place is alone worthy of notice; for Aveiro chiefly ſupplies the province of Beira with Sardinhas, which are carried by large troops of mules into the higher parts of the province. Salt is alſo produced here in large quantities; though it is not reckoned ſo good as that at St. Ubes and Liſbon. The town is, on account of its marſhy ſituation, unhealthy, which expoſes the inhabitants to frequent attacks of agues and putrid diſorders. Aveiro is nine leagues from Coimbra, and eleven ſouth of Oporto. N. lat. 40° 30'. W. long. 9° 8'.

AVEIRO, a river of France, which runs into the Tarn, four leagues below Montauban.

AVELINE, in *Conchology*, a name given by French naturaliſts to one kind of land-ſnail found in Amboyna, and called by Linnæus *helix ſcarabæus*.

AVELLA, in *Geography*, a town of Italy, in the kingdom of Naples, and country of Lavora, four miles north-eaſt of Nola. The ſituation of this town, with its caſtle, is delightful, and it commands a view as far as Naples. Not far from this place are the ruins of Abella. It now gives the title of prince to the family of Doria.

AVELLANA, in *Botany*. See CORYLUS.

AVELLANA, in *Conchology*, a ſpecies of HELIX, with a ſlightly umbilicated ſhell, of an obtuſe and ſomewhat triangular form, rough, plaited, and ſilvery within; aperture ſmooth and eared; and an elevated circle on the firſt whorls of the ſpire.

AVELLANA, a ſpecies of PATELLA with a thin white ſhell, very finely ſtriated; and an oblong perforation divided by a ligament. Native place unknown. Meuſchen. Naturf.

AVELLANA, in *Entomology*, a ſpecies of PHALÆNA (*Tortrix*) found on the nut-tree in the north of Europe. The wings teſtaceous, with three ſhort bands. Linn. Gmel. &c.

AVELLANÆ, a ſpecies of ATTELABUS, of a black colour, with the wing-caſes, thorax, and legs red. This inſect Gmelin conjectures, may be only a variety of *attelabus coryli*; it inhabits Germany, and is called by Scopoli *curculio collaris*.

AVELLANÆ, a ſpecies of CIMEX, of a black colour, with brown upper-wings that are white at the baſe and tip; legs fulvous. Found on the nut-tree. Gmel. Scop. &c.

AVELLANÆ, a ſpecies of PHALÆNA (*Bombyx*) that is found on the nut-trees in Europe. The wings are dull aſh-coloured, with an obſcure ſinous band, and without ſpots. Fabr. Gmel. &c.

AVELLANE, in *Heraldry*, is a term peculiar to the form of a croſs, whoſe quarters reſemble the *nux avellana*, or filberd-nut.

AVELLINO, in *Geography*, a town of Italy, in the kingdom of Naples, and Principato Ultra, the ſee of a biſhop, and ſuffragan of the archbiſhop of Benevento. Avellino, which was probably founded by the Lombards, is a conſiderable city, extending a mile in length down the cavity of a hill, with ugly ſtreets, but tolerable houſes. The churches are crowded with monſtrous ornaments in a barbarous ſtyle, which the Neapolitans ſeem to have borrowed from the Spaniards. The cathedral is a poor building, adorned merely with uncouth Latin diſtichs, and ſhapeleſs Gothic ſculpture. The inhabitants have acceſs to a ſtatue of St. Laurence, with a phial of his blood, which for eight days in the month of Auguſt entertains them with a miraculous liquefaction ſimilar to that of St. Januarius at Naples. The only edifice of note is a public granary, of the compoſite order, adorned with antique ſtatues, and an elegant bronze one of Charles II. king of Spain, while a boy, caſt by Cavalier Coſimo. The number of inhabitants amounts to 8 or 10,000. The biſhop's revenue is about 6000 ducats or 1,125 l. a year. The magiſtracy conſiſts of a ſyndic and four eletti, who are choſen annually; but theſe offices are engroſſed by a certain number of families of ſome diſtinction, who neither intermarry nor aſſociate with the other burghers. The eſtates of the prince amount to the yearly value of 20,000 ducats or 3,750 l. and 2000 ariſe from duties on the dye of cloth, which is made of various qualities and colours, but chiefly blue. The fineſt ſells for thirty carlini a canna, and pays twenty-ſix grana duty of entrance into Naples. Many wealthy merchants are concerned in this cloth manufacture, ſome of whom employ in it a capital of 80,000 ducats, or 15,000 l. The poor women who ſpin the wool, muſt work very diligently to earn about four grana.

grana a day. The ſecond article of trade is maccaroni and paſte of many kinds, which are of excellent quality, and much eſteemed through the country. Wooden chairs are alſo made and ſold here in great quantities. Avellino abounds with all ſorts of proviſions; each ſtreet is ſupplied with freſh water; but the wine is indifferent. The ſoil of this diſtrict, conſiſting chiefly of volcanic ſubſtance, produces little corn, but abundance of fruit, of which the apple is held in high eſtimation. The moſt profitable of all fruit-trees, however, is the hazel. Nut-buſhes cover the face of the valley, and in good years yield a profit of 60,000 ducats or 11,250l. The nuts are moſtly of the large round ſpecies of filberd, which we call Spaniſh; and the buſhes were originally imported into Italy from Pontus, and known among the Romans by the appellation of "Nux Pontica," which, in progreſs of time, was changed into that of "Nux Avellana," from the place where they had been moſt ſucceſsfully propagated. The proprietors plant them in rows, and by dreſſing, form them into large buſhes of many ſtems. Every year they refreſh the roots with new earth, and prune off the ſtraggling roots with great attention. Swinburne's Travels, vol. i. p. 171, &c.

AVE-MARIA, or Ave-Mary, the angel Gabriel's ſalutation of the Virgin Mary, at his bringing her the tidings of the incarnation; thus called, as beginning with theſe words, *Ave, Maria*, q. d. *Hail, Mary*.

The ave-mary is a prayer or formula of devotion very uſual in the Romiſh church. It was added to their prayers by order of pope John XXII. in the fourteenth century.—Their chaplets and roſaries are divided into ſo many *ave-marys*, and ſo many *pater-noſters*; and hence the beads themſelves which indicate them, are alſo called *aves*, or *avemarys*.

AVENA, in *Botany*, oat-graſs (ſuppoſed from *aveo*, to deſire, or covet; cattle being fond of it). Lin. g. 91. Schreb. 122. Juſſ. 32. Claſs, *triandria digynia*. Nat. Ord. *gramina*. Gen Char. *Cal.* glume generally many-flowered, two-valved, looſely collecting the flowers; valves lanceolate, acute, ventricoſe, looſe, large, awnleſs. *Cor.* two-valved; lower valve harder than the calyx, the ſize of the calyx, roundiſh, ventricoſe, acuminate at both ends, emitting from the back an awn ſpirally twiſted, reflex; nectary two-leaved; leaflets lanceolate, gibbous at the baſe. *Stam.* filaments three, capillary; anthers oblong, forked. *Piſt.* germ obtuſe; ſtyles two, reflex, hairy; ſtigma ſimple. *Per.* none. *Cor.* moſt firmly cloſed, grows to the ſeed and does not gape. *Seed*, one, ſlender, oblong, acuminate at both ends, marked with a longitudinal furrow.

Eſſ. Gen. Char. *Cal.* two-valved, many-flowered; awn from the back of the corolla, jointed, twiſted.

Species, 1. A. *ſibirica*, Siberian oat-graſs; feſtuca glumis villoſis, ariſtis calyce triplo longioribus. Gmel. Sib. i. 113. t. 22. "Panicled; calyxes one-flowered; ſeeds hirſute; awns thrice the length of the calyx." Culms very ſlender, from two to three feet high; leaves rolled up at the edges, from ſix to twelve inches long; panicle reſembling a ſpike, often directed to one ſide; glumes of the calyx almoſt equal, dagger-pointed, membranaceous towards the point; glumes of the corolla of the ſame length, extremely villoſe. A native of Siberia, introduced in 1777 by Meſſ. Kennedy and Lee. It flowers in July and Auguſt. 2. A. *elatior*, tall oat-graſs. Hudſ. With. Curt. Lond. 3. 6. (β) gramen caninum nodoſum; Ger. "Panicled; calyxes two-flowered; hermaphrodite, floſcule almoſt awnleſs, male awned." Root perennial; ſtems erect, round, ſmooth, with four or five purpliſh joints, above three feet high; leaves ſtriated from ſeven inches to a foot in length; panicle erect, ſhining, numerouſly branched; ſpikelets two-flowered, one male and the other hermaphrodite; valves of the calyx unequal, the larger marked with three, the ſmalleſt with one green nerve. In the hermaphrodite flower, the midrib of the outer valve forms a ſhort awn, and the bottom [illegible] ſmall lanceolate glumes, ſomewhat globular at bottom; germ villoſe. It is common [illegible] borders of fields, and [illegible] flowers in June and July. It is an early graſs, very productive, and yields a plentiful aftermath. In particular ſituations the leaf of the [illegible] the variety above noticed, which, in ſome arable land, is very troubleſome, and is one of the ſeveral [illegible] under the name of *gith*. 3. A. [illegible] cled; calyxes two-flowered, awned at the [illegible] feed; culm branching." Culms a foot high, often reclining, ſmooth, with [illegible] one glume of the calyx lanceolate, the other ovate; florets two, ſeſſile; corolla ſmooth, except the outer glume, which is rough with hairs. A native of the Cape. 4. A. *pennſylvanica*. Pennſylvanian oat-graſs. "Panicled; calyxes two-flowered; [illegible] of the calyx." Obſerved in Pennſylvania by [illegible] troduced here in 1785, by Dr. Pitcairn. 5. A. *leoſtingiana*. Spaniſh oat-graſs. Cavan. Icon. t. 47, f. 1. "[illegible] tracted; florets in pairs, hirſute; one-peduncled, with two awns at the top, the middle awn largeſt." Root annual, capillary; culms ſeveral, ſlender, from two to four inches high; leaves ſhort, [illegible] other on a villoſe pedicel; valves of the corolla briſtle-ſhaped at the tip, with a twiſted awn on the back twice the length of the valve. It grows near Madrid, and at the cape of Good Hope. Introduced here by Monſ. Richard, in 1770. 6. A. *ſativa*, cultivated oat. Of this there are four varieties, the white, black, brown or red, and the blue oat. "Panicled; calyxes two-ſeeded; ſeeds very [illegible]" Annual; culm or ſtraw upwards of two feet high; paniele various in different varieties, but always looſe and pendulous; the two glumes or chaffs of the calyx are marked with lines, pointed at the end, longer than the flower, and unequal. There are uſually two flowers and ſeeds in each calyx; they are alternate, conical, the ſmaller one is awnleſs, the larger puts forth a ſtrong, two coloured, bent awn, from the middle of the back. No botaniſt has been able to aſcertain ſatisfactorily the native place of growth of this, or indeed of any other ſort of grain now commonly cultivated in Europe. The varieties mentioned above have been long known, and others have been introduced, as the Poland, the Frieſland or Dutch, and the Siberian or Tartarian oat. The blue oat is probably what is called Scotch greys. The white ſort is moſt common about London, and thoſe countries where the inhabitants live much upon oat-cakes, as it makes the whiteſt meal. The black is more cultivated in the northern parts of England, and is eſteemed a hearty food for horſes. The red oat is much cultivated in Derbyſhire, Staffordſhire, and Cheſhire; it is a very hardy ſort, and gives a good increaſe. The ſtraw is of a browniſh red colour, very heavy, and eſteemed better food for horſes than either of the former ſorts. In Lincolnſhire they cultivate the ſort called the Scotch greys. The Poland oat has a ſhort plump grain, but the thickneſs of the ſkin ſeems to have brought it into diſrepute among farmers. Add to this the ſtraw is very ſhort. It was ſown by Mr. Liſle, in 1709. Frieſland, or Dutch, oat affords more ſtraw, and is thinner ſkinned, and the grains [illegible] oat, called *the potatoe oat* in Cumberland, where it was lately diſcovered, promiſes, from the ſize of the grain and the length of the ſtraw, to be [illegible]

is now very generally bought for ſowing. The oat is a very profitable grain, and a great improvement to many eſtates in the north of England, Scotland, and Wales; for it will thrive in cold barren ſoils, which will produce no other ſort of grain; it will alſo thrive on the hotteſt land; in ſhort there is no ſoil too rich, or too poor, too hot, or too cold for it; and in wet harveſts, when other grain is ſpoiled, this will receive little or no damage. The meal of this grain makes a tolerably good bread, and is the common food of the country people in the north. It is alſo eſteemed for pottage and other meſſes, and in ſome places they make beer with it. 7. A. *nuda*, naked oat, pilcorn, or pillis. "Panicled; calyxes three-flowered; receptacle exceeding the calyx; petals awned at the back; the third floret awnleſs." This has been conſidered as a Britiſh plant by Ray, Hudſon, and Withering; but Dr. Smith ſays it is by no means to be claſſed among our indigenous plants. Linnæus obſerves it is very nearly allied to the *ſativa*; and Haller remarks that the calyx is ſometimes two-flowered, but that the awn is neither twiſted nor jointed. We are told the ſeeds have been cultivated, and for the uſes of the poor anſwer all the purpoſes of oatmeal. 8. A. *fatua*, wild oat or haver. Hudſ. With. Smith. Brit. 139. Mart. Fl. Ruſt. 81. "Panicled; calyxes moſtly three-flowed; florets awned, and hairy at the baſe." Annual; culm erect, ſimple, three feet high, a little leafy, ſtriated, very ſmooth; leaves linear, patent, nervoſe, ſcabrous; ſheaths thin, nervoſe, ſmooth; ſtipules obtuſe, tooth-letted, lacerated; panicle erect, much branched, and ſpreading; peduncles alternate, capillary, ſcabrous, thickened towards the apex, nodding; calycine glumes equal, lanceolate, acute, nerved, ſmooth, longer than the florets; florets for the moſt part three, remote, gradually diminiſhing, roundiſh, beſet with tufts of hair at the baſe, awned from the middle of the back, awn twice the length of the calyx, rough, jointed, twiſted at the end; interior glume concave, naked, ciliated. Seed has a ſoft hairy covering. It grows in fields and hedges, and is one of our moſt deſtructive annual weeds among corn. The awns are ſometimes uſed for hydrometers, and the ſeeds inſtead of artificial flies, in fiſhing for trout. 9. A. *ſeſquitertia*. Scheuch. Gram. 220. t. 4. f. 17. "Panicled; calyxes moſtly three-flowered; all the florets awned; receptacles bearded." Panicle oblong; the flowers appear to be hairy, but all the hairs ſit on pedicels or receptacles within the calyx among the flowers. The third flower is imperfect. Haller thinks it to be only a variety of the *flaveſcens*. A native of Germany, Swiſſerland, &c. 10. A. *pubeſcens*, ſoft oat-graſs. Hudſ. With. Smith. "Panicle erect, almoſt ſimple, calyxes commonly three-flowered, receptacle bearded, leaves flat, pubeſcent." Perennial; culm one or two feet high, erect, ſimple, roundiſh, ſmooth, ſtriated, leafy; leaves ſpreading, ſhort, obtuſe, flat, which together with the ſheaths are covered with a ſoft down; ſtipule ſhort, deltoid; panicle contracted ſo as to appear like a ſpike; calycine glumes very unequal, keeled, ſcabrous, pointed, membranaceous, naked; interior much longer, three-nerved; florets three, the third often abortive, remotiſh, clubbed-cylindric, nervoſe, roughiſh, diaphanous, awned towards the middle of the back; interior glume ſmaller and weaker, rough at the edge; common receptacle elongated above the florets, beſet with white hairs. It grows in dry meadows and chalky paſtures, flowering in June. 11. A. *ſterilis*, great wild, or bearded oat-graſs. "Panicled; calyxes five-flowered; the outer florets and awns hairy at the baſe, the inner ones awnleſs." Annual; culms three or four feet high, ſmooth; leaves ſmooth, flat, ſharp, very long; flowers pendulous; calyxes four or five-flowered; valves lanceolate, acuminate, concave, equal, ſmooth, white with green ſtreaks. In the two outer florets, the outer valve of the corolla reſembles a valve of the calyx in form, but ſhorter, and puts forth an awn two inches long. The other florets are awnleſs. A native of Barbary and Spain. Introduced into the Kew garden by M. Thouin, in 1777. 12. A. *flaveſcens*, yellow oat-graſs. Hudſ. With. Smith. Curt. Lond. 3. t. 5. "Panicle much branched, looſe, calyxes moſtly three-flowered, unequal; receptacle hairy; leaves flat, ſubpubeſcent." Culm erect, but curved at the baſe, a foot and a half high, ſtriated, jointed; leaves flat, acute, ſtriated, more or leſs pubeſcent; panicle ſomewhat nodding, ſpreading, branched very much, many-flowered, of a ſhining gold colour; calycine glumes acute, keeled, ſcabrous on the back, one twice the ſize of the other, three-nerved; florets two or three, remotiſh, lanceolate, compreſſed, obſcurely nervoſe, awned; awn twice the length of the floret, ſcabrous; interior glume narrower; receptacle hairy. It grows in meadows, paſtures, and the ſides of roads, flowering in June and July. In many of our counties, this ſpecies forms the principal part of the fineſt paſturage on the downs, and in ſome meadows it contributes to the goodneſs as well as greatneſs of the crop. 13. A. *biſpida*. "Panicled; calyxes three-flowered, hairy." Culms a foot high, ſmooth; ſheaths hairy; panicle or raceme with undivided pedicels, three or four; glumes oblong, acuminate, hairy, upright; corolla awl-ſhaped; awns twiſted, twice or three times the length of the flowers. 14. A. *capenſis*. "Panicle contracted; calyxes three-flowered, ſubulate; corolla pubeſcent; middle awn twiſted, curved." Root creeping; leaves few, ſmooth, with a rugged edge; culms a foot high, ſmooth; panicle ſpike-like, ovate-oblong, purple; the laſt pedicels capillary; calyx the length of the flower; valves equal, attenuated into an awn; outer valve of the corolla ſubpubeſcent, bifid, terminated by two ſtraight awns, and an intermediate one twiſted, double the length of the others; inner valve ſhort. This and the hiſpida are natives of the Cape. 15. A. *purpurea*. "Panicle contracted; calyxes two flowered, ovate; corollas villoſe; outer glume bifid; awn terminal, bent in." A very little, ſmooth, jointed graſs; leaves briſtle-ſhaped, ſmooth, tufted, ſhort, like thoſe of feſtuca ovina; panicle ſmall; glumes of the calyx purple; valves lanceolate, keeled, ſmooth; all the florets are awned, and covered with a white down. A native of Martinico. 16. A. *lutea*. "Panicle ſpreading; calyxes two-flowered, ſubulate; corollas naked, three-awned, middle awn flexuoſe." This reſembles aira flexuoſa both in habit and colour. A native of Martinico. 17. A. *lupulina*. "Panicle contracted, ovate; calyxes three-flowered, lanceolate; corollas villoſe, outer glume biſubulate; middle awn reflex." This is not readily diſtinguiſhed from the 15th. It is larger, with ſheaths extremely tomentoſe. Panicle yellow, cloſely crowded; flowers longer than thoſe of the 15th, with the corollas bifid and more hirſute; the diviſions ſubulate, awned. A native of the Cape, found by Thunberg. 18. A. *fragilis*, brittle oat-graſs. Schreb. Gram. t. 24. "Spiked; calyxes four-flowered, longer than the floret." Culms many, ſmooth, with three joints, ſix or ſeven inches high; leaves flat, ciliate; ſpike the length of the culm; florets in a double row, preſſed cloſe, and alternate; calyx two or four-flowered, lateral, oblong, pubeſcent; one valve twice the length of the other; outer valve of the corolla ſharp, with an awn from the back. This is the only avena truly ſpiked. A native of Spain. Introduced by Monſ. Richard, in 1770. 19. A. *pratenſis*, narrow-leaved oat-graſs. Hudſ. With. Smith. Gramen aven, &c. Ray Syn. t. 21. f. 1. ed. 2. 252. n. 2. & 345. Scheuch. Agr. 230. "Spike erect; calyxes moſtly five-flowered; receptacles hairy; leaves involute,

lute, ferrulate, naked." Root perennial; culms many, a foot or a foot and a half high, erect, ſimple, with a ſingle joint near the baſe, above naked, ſtriated, roughiſh; radical leaves linear, acute, rigid, incurved, ſmooth on both ſides, with the edges ferrulate-ſcabrous; thoſe on the culms broadeſt, nervoſe, with long ſheaths which are nerved and ſmooth; ſtipule lanceolate; ſpike erect, commonly very ſimple; upper ſpikelets ſubſeſſile; under ones long, pedunculated; calycine glumes ſubequal, acute, three-nerved, a little keeled, ſcabrous of the length of the lower floret; florets four or more, ſubremote, roundiſh, roughiſh, nerved at the apex, membranaceous, lacerated, awned from above the middle of the back; awn double the length of the floret, purple, with a white apex; interior glume ſmaller, very ſlender, minutely ciliate; receptacle under the florets, beſet with ſhort hairs. It grows on dry paſtures and heaths, flowering in July. 20. A. *ſtricta*. "Spiked; calyxes five-flowered, longer than the outer petal, which is awned and forked at top." Spike compounded of three or four remote upright ſpikelets; flowers ſix, ſeſſile, upright; calyx ſubulate, equal, longer than the ſpikelet; outer petal bifid at the top, with a jointed awn between the diviſions, the length of the ſpikelet. It has the habit of feſtuca decumbens. A native of Pennſylvania. 21. A. *bromoides*, Gr. alpinum aven. &c. Scheuch. Gram. 228. t. 4. f. 21. "Subſpiked; ſpicules binate, one pedunculed; awns divaricate; calyxes eight-flowered." Two feet high; culm ſlender; ſpikelets round, generally in pairs, one ſeſſile, the other pedunculed; calyxes from four to eight-flowered; awns from the middle of the back, twiſted. A native of Switzerland, and about Montpellier. 22. A. *ſtrigoſa*. "Panicled; calyxes two-flowered; corolla ſmooth at the baſe; outer valve ending in two awns, ſhorter than the valve, and with a bent awn from the back." Annual; culm and leaves bare; peduncles from one to four, rough; calyx the length of the florets; valves ſeven or ten-ribbed, bordered with a row of minute dots; valve of the corolla ſmooth below; ſegments terminating in purple awns white at the tip; ſeeds hairy. This has been found growing with the cultivated oat, but it is not a native of this country. See Smith. 23. A. *aurata*, golden oat-graſs. "Calyxes two-flowered; panicle ſcattered, erect; corollas golden, villoſe at the baſe." A handſome graſs, nine inches high; leaves very ſlender, briſtle-ſhaped; panicle ſtiff, with mucronate ſpikelets, one ſhorter than the other; corolla elliptic, pubeſcent at the baſe; top plaited, ſerrate; at the baſe of the outer glume, a jointed awn, longer than the flower. When this graſs arrives at maturity, it is of a reſplendent gold colour. A native of the Alps, of Switzerland, and Piedmont. 24. A. *ſcheuchzeri*. Scheuch. Gram. 23. t. 3. "Spikelets five-flowered, pubeſcent at the baſe; peduncles branching." Culm from ſix to twelve inches high; leaves ſmooth, two lines broad, keeled; panicle narrow like a ſpike; calyx purple, ſhining, curved at the top; glumes unequal, mucronate; outer glume of the corolla mucronate, green, variegated with bay and gold colour; inner with a gold and ſilver colour, membranaceous, awn long, brown, jointed, twiſted. A native of the ſame places as A. aurata. 25. A. *filiformis*. Forſt. Flor. n. 46. "Panicle erect, very ſlender; calyxes one-flowered; awns twice the length of the calyx." A native of New Zealand and Eaſter Iſland.

Propagation and Culture. For the graſſes, ſee Grass.

Oat. The beſt time for ſowing oats is in February or March, according as the ſeaſon is early or late. The black and red oats may be ſown a month earlier than the white, becauſe they are hardier. The advantage of early ſowing is proved by experiment to be found in the papers of the Bath Agricultural Society. White oats ſown the 1ſt week in May have produced ſeven quarters the acre, and in Hertfordſhire they do not ſow them till after they have done ſowing barley, which is found to be a good practice; the oat being more tender than the others. Mr. [illegible] mentions the blowing of the wind as a [illegible] to the ſowing of this grain. He ſays, "[illegible] allow four buſhels of oats to an acre, but I [illegible], that three buſhels are more than enough; the uſual produce is about twenty-five buſhels to an acre, though I have ſometimes known more than thirty." But forty buſhels and more are certainly no unuſual crop. It appears from Mr. Young's "Farmer's Calendar," that the quantity of oats ſown varies from [illegible] to two buſhels and a half, and that the produce follows:

	C.	L.	F.
From 5 buſhels and upwards	[illegible]	6	[illegible]
4 buſhels	4	[illegible]	[illegible]
4 to 5 buſhels	[illegible]	6	[illegible]
3 buſhels and a half	2	2	[illegible]
2 buſhels and a half	[illegible]	[illegible]	[illegible]

He thinks the quantity of ſeed ſhould be proportioned to the poverty of the ground; for to ſow [illegible] much as apparently to cover the field; but [illegible] does not tiller at all, conſequently the [illegible] much the nearer. Mr. Young, in his "Northern Tour," gives another table of the different quantities of ſeed corn, with their reſpective average produce, as follow:

From 7 buſhels ſown, average produce	6	0	3
6 buſhels	[illegible]	0	1
5 buſhels	5	4	2
4 buſhels and a half	4	5	1
4 buſhels	[illegible]	[illegible]	[illegible]
3 buſhels	4	1	0

Or thus:

From 6 and 7 buſhels	6	0	2
4 buſhels and a half and five	4	4	3
3 and 4 buſhels	4	[illegible]	2

Hence it appears, that although ſome points remain doubtful, yet the ſuperiority of ſix or ſeven buſhels is ſo great, that there is abundant reaſon to think the other quantities are not equal to theſe in advantage, and that the modern ideas of ſowing ſmall quantities of ſeed are not univerſally to be adopted. Mr. Young therefore recommends that experiments ſhould be tried on all ſorts of ſoils, and in every ſituation, on ſmall pieces of land, to decide this important point.

AVENACEA, in *Conchology*, a ſpecies of Anomia, with a pyriform ſhell, protracted, and ſomewhat compreſſed near the hinges. Müll. Zool. Dan. A native of the North ſeas.

AVENE, in *Entomology*, a ſpecies of Musca, of a black colour and ſhining; eyes browniſh; wings red and green and very ſhining. Inhabits Sweden. Gmelin, &c.

AVENAGE, formed of the Latin [illegible], in *Law*, a certain quantity of oats paid to a lord in lieu of ſome other duties, or as a rent, from the tenant.

AVENAY, in *Geography*, a town of France, in the department of the Marne, ſituated on the river Marne, one league and a half north-eaſt of Epernay, and five W.N.W. of Chalons ſur Marne.

AVENCHE, or Avanche, a town of Switzerland, in the canton of Bern, and the principal bailiage of a bailiwic in the Pays de Vaud. Some contend that it was the capital of Helvetia, becauſe Tacitus (Hiſt. l. i. c. 68.) calls it "Aventicum gentis caput;" while others have endeavoured to prove that by this expreſſion the hiſtorian only intended to denote

denote the capital town of its particular diſtrict. According to ſome accounts, the city was built, and a Roman colony founded, by Veſpaſian; but with greater probability, according to others, it was only repaired and beautified by Veſpaſian, after it had been laid waſte and almoſt ruined by Cæcina, one of the lieutenants of Vitellius, when many thouſands were ſlain, and many thouſands ſold for ſlaves. It was afterwards taken and pillaged by the Burgundians; and reduced to a heap of ruins by Attila. Without doubt it was formerly a very conſiderable town, and ſubject to the dominion of the Romans, as we may conclude not only from ſeveral mile ſtones found in many parts of the Pays de Vaud, moſt of which are numbered from Aventicum, as the principal place of reference, and more particularly from the preſent ruins. The ancient walls appear to have incloſed a ſpace near five miles in circumference; of which the preſent town occupies but a very ſmall ſpot; the remainder being covered with corn fields and meadows. In an adjoining field is a moſaic pavement, which was the floor of an ancient bath, about ſixty feet long, and forty broad; conſiſting of three compartments, in which are repreſented human figures in various attitudes, but chiefly bacchanals. From a glory that ſurrounds the head of Bacchus in this Moſaic, it has been inferred that it was wrought during ſome part of the intervening age between Veſpaſian and Marcus Aurelius; becauſe that mark of divinity is not uſual upon monuments of Roman antiquity before that period. Beſides, the head-dreſs of a Bacchanalian woman repreſented in this Moſaic, reſembles the head-dreſs on the medals of the empreſſes Plotina and Sabina. The ancient amphitheatre appears, from the ruins that remain, to have had an arena of about 80 yards in diameter; and under a tower is a cell from which the animals were probably let looſe upon the arena. On the outſide, remains of five dens are viſible; and the walls are adorned with ſeveral pieces of rude ſculpture dilapidated. Not far from theſe ruins ſtands a column of white marble about fifty feet high, compoſed of large maſſes neatly joined without cement; and near it lies a conſiderable fragment of defaced ſculpture, which ſeems once to have formed part of the portal belonging to a magnificent temple. There are alſo ſeveral other relics of the ancient extent and grandeur of this place. Coxe's Travels in Switzerland, vol. ii. p. 175, &c. Avenché is ſituated at the ſouth end of the lake Morat, 16 miles ſouth-weſt of Bern. N. lat. 46° 50′ E. long 7° 7′.

AVENIA Folia, in *Botany*, denote leaves which have no viſible veins.

AVENIO, now *Avignon*, in *Ancient Geography*, a town of Gallia Narbonnenſis, upon the left bank of the Rhone. See Avignon.

AVENOR, in *Antiquity*, an officer under the maſter of the horſe, who by order or warrant from him, made up the accounts of the ſtables, and iſſued debentures for paying the officers and ſervants.

In a ſtat. Car. II. we find the avenor mentioned as an officer who provides oats for the ſtables. In the Rot. Parl. Edw. III. we alſo read of avenor of the queen, of the prince, &c.

AVENPACE, in *Biography*, a philoſopher among the Spaniſh Saracens, who flouriſhed about the middle of the twelfth century, and was a follower of Ariſtotle. He wrote a commentary upon Euclid, as well as philoſophical and theological epiſtles. He was intimately converſant with the Peripatetic philoſophy, and applied it to the illuſtration of the Iſlamic ſyſtem of theology, and to the explanation of the Koran; and on this account he was ſuſpected of hereſy, and thrown into priſon at Corduba. It is ſaid that he was poiſoned at Fez, in the year of the Hegira 533, A.D. 1138; or, according to others, 525, A.D. 1130. Pococke Spec. Hiſt. Arab. p. 373. Gen. Dict. Among the Arabian writers he is commonly known by the name of Ebn al Sayegh; and was born in Spain, of Jewiſh anceſtors.

AVENS, in *Botany*. See Geum.

Avens, in *Ancient Geography*, a river of Italy, in the Sabine territory, which diſcharged itſelf into the Tiber, and which is ſuppoſed to have given the name of Ager Aventinus to the neighbouring diſtrict.

AVENTIA, now *Ave*, a river of Italy, in Etruria.

AVENTINE, John, in *Biography*, a German hiſtorian, was the ſon of an inn-keeper at Abenſperg in Bavaria, and born in 1466. Having ſtudied at Ingoldſtadt and Paris, he gave private lectures on eloquence and poetry at Vienna, in 1503, and in 1507 taught the Greek language at Cracow in Poland. After ſpending ſome time at Ratiſbon, upon his return to Germany, he removed to Ingoldſtadt, in 1509, and explained ſome books of Cicero; and in 1512, he was ſent to Munich to undertake the office of preceptor to prince Lewis and prince Erneſt. His remaining time was principally devoted to the collection and compilation of materials for the work, intitled, "Annales Boiorum," or "Annals of the Bavarians," by which he gained great reputation. This work, which was not publiſhed till the year 1554, ſeveral years after his death, contained ſome ſevere ſtrictures on the conduct of the Romiſh clergy, and portions of ſecret clerical hiſtory, which Zieglerus, the firſt editor, choſe to ſuppreſs, but which were afterwards publiſhed from an unmutilated MS. by Ciſner, at Baſil, in 1580. In the year 1529, Aventine, for ſome reaſon now unknown, was committed to priſon, but he was ſoon releaſed by the duke of Bavaria; and after a celibacy of ſixty-four years, he formed an imprudent matrimonial connection, which diſturbed the tranquillity of his latter days. He died in the year 1534. The catholics charged him with being ſecretly a proteſtant; but though he correſponded with ſome of the reformers, and diſapproved ſome of the popiſh doctrines, it does not appear that he ever abandoned the Romiſh church. On the contrary, his adherence to it may be inferred from his having been buried at Ratiſbon, in the monaſtery of St. Hemeran, with the uſual popiſh ceremonies. Like Eraſmus, he ſeems to have been well inclined to the reformation; but he contented himſelf with ſerving it within the pale of the church, by laſhing the vices of the monks and clergy. Another curious work of Aventine, intitled, "Numerandi per digitos manuſque, &c." was publiſhed in 1532, at Ratiſbon, together with heads of a plan for a large work on the antiquities of Germany. His "Annals of Bavaria" were reprinted in folio, in 1710. Gen. Dict. Nouv. Dict. Hiſt.

AVENTINUS Mons, in *Ancient Geography*, one of the ſeven hills which formed the ſite of ancient Rome, and the fourteenth region of the city. The origin of the name is uncertain; but ſome have derived it from Avens, the river which watered the diſtrict, whoſe inhabitants were afterwards tranſplanted thither. It was alſo called "Murcius," from Murcia, the goddeſs of ſloth, who had a little chapel there; and "Collis Dianæ," from the temple of Diana; and alſo "Remuria," from the time when Remus reſolved to build the city there. But Dionyſius of Halicarnaſſus ſpeaks of mount Aventine and Remuria as two different places; and Stephanus ſays, that Remuria was a city in the neighbourhood of Rome. The Aventine mount was taken within the compaſs of the city by Ancus Martius, who, thinking it might ſerve as a place of defence againſt ſurpriſe, ſurrounded it with a wall and a ditch. To the eaſt, it had the city walls; to the ſouth the campus Figulinus; to the weſt, the Tiber;

Tiber; and to the north, Mons Palatinus. It had a good height, and was 18 ſtadia in compaſs. It is now called the mount of St. Sabine; and it is thought that the church of St. Sabine was built on the ruins of the temple of Diana. The ſtreet that paſſed from the gate of Ottia to the amphitheatre and Coliſeum, divided the Aventine mount into two ſummits; whence it was called "Biceps."

AVENTURÆ, in our *Ancient Writers*, ſignify tournaments, or military exerciſes on horſeback.

AVENTURE, or rather ADVENTURE, in our *Law Books*, a miſchance, cauſing the death of a man, without felony; as, when he is ſuddenly drowned, or burnt by an accident or miſchance, falling into the water or fire. See MISAVENTURE, and CHANCE-MEDLEY.

AVENTURINE, in *Mineralogy*. See QUARTZ, and FELSPAR.

AVENUE, formed of *avenir*, or *advenir*, to *arrive at*, in *Fortification*, an opening or inlet into a fort, baſtion, or the like place; or the paſſes and ways to and from it. See FORT, and BASTION.

AVENUE, in *Ornamental Gardening*, is a large and generally ſtraight walk, bounded on each ſide by one, two, or more rows of foreſt or other trees, deſigned ſometimes as a principal way from the common road to the manſion houſe of a country-ſeat, and often to form views, or to lead to different diſtricts of the neighbouring country. But though avenues of the more regular kind, when formed about extenſive ſeats, or detached in parks, or other extenſive pleaſure-grounds, always exhibit an air of grandeur, it is more agreeable to the preſent taſte to have the principal front of the manſion entirely open, and unincumbered with theſe or any other kind of plantation, as it is certainly a great abſurdity to hide a good front, and obſtruct the proſpect; an avenue can therefore ſeldom be admitted with propriety in that part of the ground. A ſpacious lawn of graſs ſhould, as frequently as poſſible, be exhibited in due extenſion in the moſt conſpicuous fronts of ſuch dwellings. See LAWN.

But in directions from the wings, detached at conſiderable diſtance, avenues may perhaps with propriety be occaſionally introduced, and extended on the ſides of ſpacious lawns, ſerving by way of boundaries, being backed up next the lawns with ſhrubs and lower trees, diſpoſed irregularly; and if they be carried in an oblique direction, the lawns will widen gradually, and the proſpects be more comprehenſive.

Avenues may alſo be admitted at ſome diſtance from either the ends or the back fronts of the dwellings, in either of which ſituations, one may be extended towards any common road, village, or town, ſerving as the common entrance to the habitation, or merely by way of ornament, &c. And in ſtill more extenſive ſituations, they may occupy different parts at a diſtance, being directed towards woods, groves, edifices, or particular diſtricts about an eſtate; which, when formed of conſiderable width, and bounded on each ſide by a proper variety of trees, the nobleſt of the foreſt, and other kinds, afford a ſtriking effect as well as an air of dignity to the ſite.

Avenues of this ſort ſhould always be planted with the ſtatelieſt trees; an aſſemblage of the different ſorts of which effects the moſt agreeable variety.

The width of the avenue in ſuch caſes ſhould ſeldom be leſs than ſixty feet; and when it is to be extended any conſiderable length, an hundred feet in width is not too much; as when the trees grow up, the branches on the oppoſite ſides continue to approach each other, which by degrees greatly contract the views; ſo that if a conſiderable width be not at firſt allowed, the avenues in time appear narrow and confined.

The trees in the rows on the ſides ſhould be planted at leaſt thirty feet diſtant from each other, that they may have room to ſpread to diſplay their heads, and even but exactly [illegible] conſecutively, according to its natural form and habit.

The ſorts of trees moſt proper for the purpoſe are the kinds of the deciduous tribe; as the *elm*, *beech*, *lime*, *horſe-cheſnut*, *white poplar*, *ſycamore*, *maple*, *walnut*, *chiny*, &c. all of which, as being of lofty growth, when diſpoſed in a proper manner, will have a fine effect. Sometime, even trees are mixed among theſe: where [illegible] intended, the moſt proper are the various ſpecies of the pine, including all the different varieties of the firs, moſt of which attain a great height and magnitude, with beautiful ſpreading heads, that are extremely ornamental and pleaſing.

Avenues of the more rural kind, ſuch as common ways or roads through parks or other pleaſure grounds, to houſes, &c. may be continued either in a direct line, or carried on in a moderate ſweep, or the centre doubled in two, three, or more very gentle bends, or only by pendant turns, each ſide being ornamented with different ſorts of trees, thinly diſpoſed, here ſingly, others in cluſters or groups of two, three, or more together, extending their branches freely, and breaking forward, others ſtanding more backward; to add the finer greater diverſity, a cluſter of tall flowering ſhrubs may here and there be introduced; but the whole muſt be conſiderably detached, as to admit a full proſpect of the adjacent lawns, fields, or plantations, in the wider extent. This is the moſt modern manner of forming avenues, but it cannot be practiſed with full effect except where the ſituations is of conſiderable extent. In ſhort, in walks and confined ſituations, the row method is mainly to be preferred, as having a better effect.

All the trees that are employed in this way, whether deciduous or evergreen, ſhould be permitted to take their natural growth, without being much cut or pruned.

AVENZOAR, whoſe true name was, Al Wazir Abu Merwan Abdelmelech ben Zohar, in Spaniſh, was the ſon of a phyſician of conſiderable eminence of Seville in Spain, under whom he received the firſt rudiments of his education, which he afterwards improved by cloſe application and by travel. He appears alſo to have had the care of an hoſpital, and to have acquired an uncommon ſhare of knowledge for the age in which he lived, both in the theory and practice of medicine. He was for ſome time under the diſpleaſure of Yuſuf, the governor of Seville, by whom he was impriſoned, but ſeems at length to have ſurmounted all his difficulties, as he was made [illegible] which poſt he continued [illegible] to the end of his life. He is ſaid to have died at Seville in 1162, at the great age of 137 years; though [illegible] who ſucceeded to his fame and practice, included in that term. From [illegible] cited by Mr. Kendall in the appendix to [illegible] vol. iv. p. 332. it appears that Avenzoar died in Seville and not at Morocco, [illegible] that he had lived to the age of [illegible] practiſe very young, he muſt have made a figure in the 11th century, and been both a cotemporary and friend of the ſon of Avicenna. He prepared his own medicines, reduced luxated bones, and performed other chirurgical operations, but did not cut for the ſtone; the Mahometan religion, which he profeſſed, prohibiting him from inſpecting or handling the naked genitals.

The work by which he is principally known, called "Al Theſir," is a compendium of the practice of medicine, in which ſome diſeaſes are deſcribed, and [illegible]

writers. It includes a number of cafes, candidly, it ſhould ſeem, related, as the author does not conceal thoſe in which he was unſucceſsful. Averrhoes, not ordinarily profuſe in his commendation of other writers, ſpeaks very favourably of our author, whom he eſteemed as the beſt phyſician that had appeared ſince the time of Galen. From his active and inquiſitive turn of mind, and the pains he took to learn from practice the real powers of the medicines he uſed, he was called the "Experimenter."

"Al Theiſer," which has been ſeveral times reprinted, was firſt published at Venice, in folio, 1490. In 1628, J. Celle publiſhed "De cognitu difficilibus in praxi ex libro Avenzoar," 4to. Venet. Le Clerc Hiſtoire de Med. Haller Bib. Med. Pract.

AVER, in *Agriculture*, a general name, in ſome diſtricts, for a labouring beaſt of any kind.

AVER, in *Geography*, a river of Lithuanian Ruſſia, which runs into the Pregel, twelve miles weſt of Inſterburg.

AVERA, in *Domeſday-Book*, denotes a day's work of a ploughman, or other labourer, which the king's tenants in his demeſne lands were obliged to pay the ſheriff, and which was valued at eight-pence.

AVERAGE, in *Agriculture*, a term uſed by the farmers in many parts of England, for the ſtubble, or remainder of ſtraw or graſs left in corn fields after the harveſt is carried away. In Kent, it is called gratten, in other places roughings, &c. In this ſenſe it may be derived from *haver*, an Engliſh name for oats; or from *averia*, *beaſts*; being as much as feeding for cattle, or paſturage. Ray.

Average, Averagium, in *Law*, that duty or ſervice which the tenant is to pay the king, or other lord, by his beaſts and carriages. The word is derived from the baſe Latin *averia*, *cattle* or *goods*; or the French *œuvre*, *work*.

Average, or *Averidge*, in *Navigation* and *Commerce*, is uſed to denote the damage which happens to ſhips and their cargoes, from the time of their loading and ſailing, till their return and unlading. It is divided into three kinds. 1. The ſimple average, which conſiſts in the extraordinary expences incurred for the ſhip, ſuch as the loſs of anchors, maſts, and rigging, by common accidents at ſea; or for the merchandize, ſuch as the damages which they have ſuſtained by ſtorms, capture, ſhipwreck, wet, or rotting; all which muſt be defrayed by the thing that ſuffered the damage. 2. The large and common average, being expences incurred, and damage ſuſtained, for the common ſecurity both of the merchandize and ſhip, which were to be borne by the ſhip and cargo: ſuch are ranſom-money, goods thrown overboard, expences of unlading, or entering into a river or harbour, and the proviſions and hire of the ſailors, when the ſhip is detained by embargo. 3. The ſmall averages, which are charges of towing and piloting the ſhip, one third of which muſt be charged to the ſhip, and two-thirds to the cargo.

Average, is more particularly uſed for the quota or proportion which each merchant or proprietor in the ſhip or loading is adjudged, upon a reaſonable eſtimation, to contribute to a common average.

Such ſum ſhall be divided among the ſeveral claimers, by way of average, in proportion to their reſpective intereſts and demands. 10 Ann. cap. 17.

Average is alſo a ſmall duty, which thoſe merchants who ſend goods in another man's ſhip pay to the maſter thereof, for his care of them, over and above the freight.

Hence, in bills of lading it is expreſſed:—Paying ſo much for the ſaid goods, with primage and average accuſtomed.

AVERANI, Benedict, in *Biography*, a learned Florentine, was born in 1652, and taught the Greek language with great reputation in the univerſity of Piſa. He wrote excellent "Diſſertations," on the "Anthologia" on Thucydides, on Euripides, and other ancient Greek claſſics. His acquaintance with Roman literature was accurate and profound, as appears from his "Remarks and Diſcourſes on Livy, Cicero, and Virgil;" and his lectures and writings were well calculated to promote a correct and elegant taſte in polite literature; ſo that he contributed much to reform the bad taſte of his age, and to bring back in Italy the golden period of the 16th century. Averani died at Piſa in 1707, in the 55th year of his age. His works were collected and printed at Florence, in 3 large volumes, in 1716 and 1717. Gen. Biog.

AVERANO, in *Ornithology*, the name of the variegated Chatterer (*Ampelis variegata*, Gmel.), in Buffon's Hiſtory of Birds.

AUERBACH, in *Geography*, a town of Germany, in the circle of Upper Saxony, 14 miles ſouth of Zwickau, and 60 W. S. W. of Dreſden. N. lat. 50° 26′. E. long. 12° 26′.

AVER-CORN, in *Ancient Writings*, ſuch corn as by cuſtom is brought by the tenants' carriages, to the lord's granary.

AVERDUPOIS *Pound*. See Pound.

Averdupois *Weight*. See Weight.

AUERHAHN, in *Ornithology*, a name aſſigned by Friſch, Bloch, and others, to the wood grous, or Mountain cock, *tetroa urogallus* of Linnæus.

AVERIA, in our *Law Books*, properly ſignify oxen or horſes uſed for the plough; but, in a general ſenſe, any cattle; and ſometimes the term includes all perſonal eſtate.

When mention is made of one beaſt, they ſay, *quidam equus*, *vel quidam bos*: when of two or more, they do not ſay, *equi* or *boves*, but *averia*.

Averia, in *Commerce*, a branch of the Spaniſh revenue, denotes a tax paid on account of convoys to guard the ſhips ſailing to and from America, which was firſt impoſed when ſir Francis Drake filled the New World with terror by his expedition to the South ſea. It amounts to 2 *per cent.* on the value of goods. Robertſon's Amer. vol. iii. p. 490.

Averia, *Replegiare de Averiis*. See Replegiare.

AVERIIS *captis in Withernam*, in *Law*, a writ for the taking of cattle to his uſe who hath cattle unlawfully diſtrained by another, and driven out of the county where they were taken, ſo that they cannot be replevied by the ſheriff. Reg. Orig. 82. See Distress.

AVERIUM. See Heriot.

AVER-LAND, a term employed, under the feudal ſyſtem, to ſignify ſuch lands as were ploughed by the tenants for the uſe of their lords.

AVERMENT, in *Law*, uſually ſignifies an offer of the defendant to make good or juſtify an exception, pleaded in abatement or bar of the plaintiff's action.

The word alſo ſometimes ſignifies the act, as well as the offer, of juſtifying the exception; and not only the form, but the matter thereof. Co. Litt. 362. Averment is either general or particular.

Averment, *general*, is the concluſion of every plea to the writ, or in bar of replications or other pleadings (for counts, or avowries in nature of counts, need not to be averred), containing matter affirmative; and ought to be with the words, "*hoc paratus eſt verificare*." See Pleading.

Averment, *particular*, is when the life of a tenant for life, or tenant in tail, or the parſon of a church, is *averred*, &c.

&c. The uſe of averment being to aſcertain what is alleged doubtfully, deeds may ſometimes be made good by averment, where a perſon is not certainly named; but where the deed itſelf is void for uncertainty, it cannot be made good by averment. 5 Rep. 155. Averment, which is merely the allegation of a party, cannot be made againſt a record, which imports an uncontroulable verity. Co. Lit. 246. Jenk. 232. Lil. P. R. 155. Averment does not lie againſt the proceedings of a court of record. 2 Hawk. P. C. c. i. § 14. Nor ſhall it be admitted againſt a will concerning lands. 5 Rep. 68. And an averment ſhall not be allowed where the intent of the teſtator cannot be collected out of the words of the will. 4 Rep. 44. Nor ſhall any one aver a thing contrary to the condition of an obligation, which is ſuppoſed to be made upon good deliberation, and before witneſſes, and therefore not to be contradicted by a bare averment. 1 Lill. Abr. 156. If an heir is ſued on the bond of his anceſtor, it muſt be averred that the heirs of the obligor were expreſsly bound. 2 Saund. 136. Another conſideration than that mentioned in a deed may be averred, where it is not repugnant or contrary to the deed. Dyer, 1.56. But a conſideration may not be averred, that is againſt a particular expreſs conſideration; nor may averment be made againſt a conſideration mentioned in the deed, that there was no conſideration given. 1 Rep. 176. 8 Rep. 155. If one has two manors known by the name of W. and levies a fine, or grants an annuity out of his manor of W., he ſhall by averment aſcertain which of them it was. 6 Mod. 235. Cha. Rep. 138. If a piece of ground was anciently called by one name, and of late is called by another, and it is granted to me by this new name, an averment that it is the ſame will make it good. Dyer, 37. 44. No averment lies againſt any returns of writs, that are definitive to the trial of the thing returned; as the return of a ſheriff upon his writs, &c.; but it may be where ſuch are not definitive; and againſt certificates upon commiſſions out of any court; alſo againſt the returns of bailiffs of franchiſes, ſo that the lords be not prejudiced by it. Dyer, 348. 8 Rep. 121. 2 Cro. 13. A ſpecial averment muſt be made upon the pleading of a general pardon, for the party to bring himſelf within the pardon. Hob. 67. A perſon may aver he is not the ſame perſon on appeal of death in favour of life. 1 Nelſ. Abr. 305. Where a man is to take a benefit by an act of parliament, he muſt aver in pleading, that he is not a perſon excepted. Plow. Com. 87. 488. Pleas merely in the negative ſhall not be averred, becauſe they cannot be proved; nor ſhall what is againſt preſumption of law or any thing apparent to the court. Co. Litt. 362. 373. By ſtat. 4 & 5 Ann. c. 16. no exception or advantage ſhall be taken upon a demurrer, for want of averment *hoc paratus eſt*, &c. except the ſame be ſpecially ſet down for cauſe of demurrer.

AVERNI, among the *Ancient Naturaliſts*, certain lakes, grottoes, and other places, which infect the air with poiſonous ſteams or vapours; called alſo *mephites*.

The word is formed of the privative α, and ορνις, *bird*, as intimating that birds could not fly over them, but dropped down dead. *Avernus*, q. d. *avernus, locus ſine avibus*.

Averni are ſaid to be frequent in Hungary, on account of the abundance of mines therein. The Grotto del Cani, in Italy, is a famous one. But the moſt celebrated Avernus was a lake near Baiæ, in Campania, by the modern Italians called Lago di Tripergola, and ſituate in the country of Lavora in Naples, near Puzzuoli, and ſaid to be about 600 yards in diameter, and in ſome places 188 feet deep. The fumes it emitted are repreſented by the ancients as being of ſo malignant a nature, that birds could not fly over it, but ſunk down dead; which ſome later writers have choſen to attribute to this, that its ſulphureous effluvia not being of conſiſtence to ſuſtain the birds, they dropped by their own weight. This circumſtance, joined with the great depth of the lake, occaſioned the ancients to take it for the gate or entrance of hell; and accordingly Homer brings Ulyſſes to Avernus, as to the mouth of the infernal regions; and in imitation of the Grecian bard, Virgil makes Æneas deſcend this way into the ſame abode.—Vibius Sequeſter ſays, that no bottom of it has been found. (See Hell.) Next to the Lucrine bay, and within it the lake Avernus; which is a deep darkſome lake, with a narrow entry from the outer bay: it is ſurrounded with ſteep banks, that hang threatning over it; and is only acceſſible by the narrow paſſage through which you ſail in. The banks were anciently quite overgrown with a wild wood, impenetrable by a human foot. Its gloomy ſhade impreſſed a natural terror upon the minds of the beholders; whence it was reputed the ſeat of the Cimmerians, who dwelt in perpetual night. Whoever ſailed hither, firſt offered ſacrifice; and endeavoured to propitiate the infernal powers, with the aſſiſtance of ſome prieſts, who attended upon the place, and directed the myſtic performance. Within, a fountain of pure water bubbles out juſt over the ſea; but no creature ever taſted of it, believing it to be a vein of the river Styx: ſomewhat near this fountain was the oracle: and the hot waters frequent in theſe parts, made them think they were branches of the burning Phlegethon.

The holineſs of theſe ſhades (ſays a modern traveller) remained unimpeached for many ages. Hannibal marched his army to offer incenſe at this altar; though, perhaps, he was led to this act of devotion, rather by the hopes of ſurpriſing the garriſon of Puteoli, than by his piety. After a long reign of undiſturbed gloom and celebrity, a ſudden glare of light was let in upon Avernus; the horrors were diſpelled, and with them vaniſhed the ſanctity of the lake: the axe of Agrippa brought its foreſt to the ground, diſturbed its ſleepy waters with ſhips, and gave room for all its malignant effluvia to eſcape. The virulence of theſe exhalations is deſcribed by ancient authors as very extraordinary; but modern writers, who know the place merely in a cleared ſtate, charge theſe accounts with exaggeration; and yet it muſt be owned that they claim ſome reſpect, as the air is even now feveriſh and dangerous, which the jaundiced faces of the vine-dreſſers, who have ſucceeded the Sibyls and Cimmerians in the poſſeſſion of the temple, moſt ruefully teſtify. Boccacio relates, that during his reſidence at the Neapolitan court, the ſurface of this lake was ſuddenly covered with dead fiſh, black and ſinged, as if killed by ſome ſubaqueous eruption of fire. At preſent, however, it abounds with tench, and the duſky Avernus is become clear and ſerene; ſo that it offers a moſt alluring ſurface and a charming ſcene for amuſements ſimilar to thoſe which were ſought for at the Lucrine lake in the time of Seneca, and which he has deſcribed. Spallanzani informs us, that he ſaw great numbers of ſeals ſwimming on its ſurface; and the peaſants aſſured him, that the lake abounded with wild-fowl in the winter. "Nor do I know," ſays this writer, "any cauſe which can at preſent drive them from a place where they may find plenty of food, and neither the ſeptiſm, nor the lake itſelf, afford any indication of noxious exhalations." There can be no doubt that this lake was the crater of an ancient volcano. Like other ſuch craters, it is ſurrounded by a narrow ridge of hills; and the external part of Monte Nuovo, a mountain produced by ſubterraneous fire in 1538, conſiſts of a friable tufa, in many places covered with plants. The ſea bathes

the ſides of this volcano, which, if dug into as well within the water as without, are found very warm. The ſame warmth is likewiſe perceived at the bottom of the crater. From ſuch excavations likewiſe ariſe thin warm vapours. In fact, in the internal parts of Monte Nuovo, we find all the laſt remains of volcanic conflagration. In the external ſides of the mountain many pieces of lava were found, which were of a middle character between lava and pumice-ſtone, and which Spallanzani on this account denominates pumice of lavas. The baſe of theſe ſtones is a horn-ſtone, mixed with a few feltſpar ſcales; they ſcarcely adhere to the tongue, and emit a ſlight argillaceous odour. In the furnace they produce a compact enamel of a dark grey colour, tranſparent at the angles, and which gives a few ſparks with ſteel. Towards the internal bottom of the crater, Spallanzani found, projecting from the tufa, the ſame kind of lava, penetrated with feltſpars, but more compact and heavy, and interſperſed with beautiful and ſhining veins of black enamel of various thickneſs. On the ſide of the bottom, within the tufa, this ingenious obſerver diſcovered a ſmall cavity, formed either by nature or art, that abounds with ſaline efflorescence, which he at firſt imagined to be muriate of ammoniac (ſal ammoniac), or ſulphate of alumine (alum); but their urinous acrid taſte, the green colour which they gave to ſyrup of violets, and other qualities that are proper to ſoda, left no doubt that they were formed from that ſalt. On the tufaceous ſides of the crater, both internal and external, Spallanzani perceived, as he had done in the lake AGNANO, a great number of frogs that were leaping about, nearly half an inch long, and about a quarter in breadth. They had the complete form of the frog, were of a dark yellow colour, and their fore-feet were divided into four toes, and their hinder into five; though they have not the ſhape of the hand, which conſtitutes an eſſential difference between theſe frogs, and the others of thoſe countries. It was difficult to account for the production of theſe amphibious animals. "Among all the different ſpecies of European frogs," ſays Spallanzani "(and under this genus, I, with Linnæus, likewiſe include toads), I know none, which do not begin their exiſtence in water, and continue to live in it ſome time, until they throw off the maſk of the tadpole, and aſſume the ſhape of frogs. But Monte Nuovo is not only entirely without moiſture, but as I learned from the peaſants who reſide in the neighbourhood, even when heavy rains fall, the bottom of the crater, which is the only place where rain water can be collected and retained, imbibes all the water immediately, as in fact it muſt, ſince it conſiſts of a light ſpongy tufa, full of cracks and fiſſures. The only water near is that of the lake Agnano, about half a mile diſtant, from which theſe animals might be ſuppoſed to have derived their origin, were it not that the frogs of that lake are of a totally different ſpecies." Upon the whole this ingenious naturaliſt concludes, that the preſence of theſe creatures in this place was to him an ænigma, which it required a longer ſtay in this volcanic country to enable him to ſolve.

The cave, called the Sibyl's Grotto, near Avernus, which is oppoſite to the temple, ſeems more likely, as Mr. Swinburne apprehends, to have been the mouth of a communication between Cuma and Avernus, than the abode of a propheteſs; eſpecially as the Sibyl is poſitively ſaid by hiſtorians to have dwelt in a cavern under the Cumæan citadel. Some have conjectured that it was part of the canal abſurdly projected by Nero, from the mouth of the Tiber to the Julian port. On every hill, and in every vale of theſe environs, appear the ruins of extenſive villas, once embelliſhed with all the elegancies of combined art, but now traced only by half-buried mouldering walls, and ſome marble fragments, the remaining indications of the taſte and coſtlineſs with which they were conſtructed. Among the ruins of this country, one, in particular, claims attention; and this is the villa in which Cicero had his academy, where he penned ſome of his moſt admirable productions, and which probably ſtood on a ſpot covered by the eruption of 1538. Swinburne's Travels, vol. iii. p. 51, &c. Spallanzani's Travels, vol. i. p. 128, &c.

AUEROCHS, in *Ornithology*, a ſynonymous name of the wild ox, given by Geſner and Ridinger. See Bos FERUS.

AVERON, in *Geography*, an iſland in the North ſea, near the coaſt of Norway. N. lat. 63° 6′. E. long. 7° 44′.

AVERPENNY, q. d. AVERAGE-PENNY, in *Antiquity*, money contributed towards the king's averages, or money given to be freed thereof. See AVERAGE.

AVERRHOA, in *Botany* (ſo named after the famous commentator on Ariſtotle and Avicenna; commonly called Averrhoes, of Corduba, in Spain; his "Colliget," or the plants uſed in food, &c. was written about the end of the twelfth century). Lin. g. 576. Schreb. 784. Juſſ. 375. Claſs, *decandria pentagynia*. (*Pentandria*, Lour.) Nat. Order, *gruinales—terebintaceæ*. Juſſ. Gen. Char. *Cal.* perianth five-leaved, erect, ſmall; leaflets lanceolate, permanent. *Cor.* petals five, lanceolate, the lower part erect, the upper ſpreading. *Stam.* filaments ten, ſetaceous, alternately the length of the corolla, and ſhorter; anthers roundiſh. *Piſt.* germ oblong, obſcurely five-cornered; ſtyles five, ſetaceous, erect; ſtigmas ſimple. *Per.* pome turbinate, five-cornered, five-celled; ſeeds angular, ſeparated by membranes.

Eſſ. Gen. Char. *Cal.* five-leaved. *Pet.* five, expanding above; pome five-cornered, five-celled.

Species, 1. A. *Bilimbi*. Rumph. Amb. 1. 118. t. 36. Rheed. Mal. 3. 55. t. 45, 46. Lour. Cochinch. 289. "Trunk naked, fruit-bearing; pomes oblong, obtuſe-angled." A tree about eight feet in height, with few reclining branches; leaves pinnate, with ten or more pairs of leaflets; flowers on racemes adhering to the trunk, of a red purple colour; calyx five-cleft; fruit an oblong pome, the thickneſs of a finger, ſmooth. A native of Goa, and of both ſides of the Ganges. 2. A. *Carambola*. Rumph. l. c. t. 35. Rheed. l. c. t. 43, 44. Phil. Tranſ. vol. 75. Lour. l. c. "Axillæ of the leaves fruit-bearing; pomes oblong, acute-angled. This is a tree above the middle ſize, with ſpreading branches, and a very cloſe head; leaves with about four pairs of leaflets, which are ovate, acuminate, entire, oppoſite, the upper ones largeſt; flowers lateral, on ſhort racemes; corolla bell-ſhaped, variegated with purple and white; ſtamens always five; pome the ſize of a hen's egg, with a yellow rind. Dr. Bruce gives a curious detail of the ſenſibility of the petioles and even branches of this tree. The fruit of both the ſpecies affords a pleaſant acid juice, eſpecially the former. The Bramins and Portugueſe call this tree carambola; in Malabar it is named tamara-tonga; and in Bengal, camruc, or camrunga. Both theſe Indian trees have been introduced into the Kew garden.

AVERRHOES, or AVERROES, or *Abu al Waleed Mohammed Ebn Ahmed Ebn Rohd*, in *Biography*, an eminent philoſopher and phyſician, was born about the middle of the twelfth century, at Corduba, the chief city of the Saracens in Spain, where his grandfather and father had occupied the poſts of chief prieſt and chief magiſtrate. The firſt care of his education was entruſted with Thophail of Seville, who inſtructed him in the Iſlamitic law; and after the manner of the Arabian ſchools, in the Mahometan theology,

theology, connected with the Ariſtoteliſm philoſophy. Under Avenzoar he ſtudied medicine; and under Hamet Zug, the mathematical ſciences; and he connected himſelf with the Mahometan ſect of the Almarites. Upon his father's demiſe, he was choſen to ſucceed him in the chief magiſtracy at Corduba. The fame of his talents and erudition having reached the caliph Jacob Al-Manſor, king of Mauritania, he was appointed by this prince ſupreme magiſtrate and prieſt of Morocco and all Mauritania, and allowed to retain his former honours. Averroes accepted the appointment; and having provided a ſubſtitute at Corduba, removed to Morocco, and continued there till he had inſtituted, through the kingdom, judges well ſkilled in the Mahometan law, and ſettled the whole plan of adminiſtration. He then returned home, and reſumed his offices. This rapid advancement excited the envy of his rivals at Corduba; and, in order to juſtify an accuſation of his having deſerted the true Mahometan faith, they engaged a number of young perſons to requeſt his inſtruction in philoſophy, that they might detect his hereſy. Averroes frankly communicated his theological ſentiments, of which they took minutes for the uſe of his accuſers. Accordingly, a charge of hereſy atteſted upon oath, and ſigned by one hundred witneſſes, was conveyed to Al-Manſor. The caliph admitted the accuſation, and proceeded to puniſh him by an order for the confiſcation of his goods, and by requiring him to reſide in thoſe precincts of Corduba which were inhabited by the Jews. Here he became an object of general obloquy and perſecution; and he was pelted by the boys in the ſtreets, whenever he repaired to perform his devotions at the moſque of the city. His pupil Maimonides, in order to prevent the neceſſity of joining in this general outcry againſt him, left Corduba; and Averroes himſelf at length finding means to eſcape, fled to Fez; but here he was ſoon diſcovered, and committed by the magiſtrates to priſon. The king, as ſoon as he heard of his flight, convened an aſſembly to deliberate upon the meaſures which were proper to be purſued againſt this heretic. In the aſſembly, a diverſity of opinions prevailed; ſome recommended death, and others public penance and a recantation of his errors. Al-Manſor approved the ſentiments of thoſe who were moſt mild and moderate in their judgment; and Averroes was conducted, at the time of public prayers, to the gate of the moſque; and being placed upon the upper ſtep, every one that paſſed was allowed to ſpit upon his face. At the cloſe of the ſervice, he was interrogated by the judge, accompanied by his attendants, whether he repented of his hereſies. Averroes profeſſed his penitence, and was releaſed. During his continuance at Fez he opened a courſe of lectures on the civil law; but finding little encouragement, he obtained leave of the king to return to Corduba, where he experienced all the miſeries of poverty and contempt. The people, however, diſſatisfied with the regent who had ſucceeded him, petitioned the king that their former governor might be reſtored. Al-Manſor, unwilling to act on his own judgment, called a general aſſembly, and it was determined, that the penitent heretic ſhould be reſtored, by the royal mandate, to all his former honours. In conſequence of this fortunate change in his circumſtances, Averroes removed to Morocco, taught in its ſchools, and ſpent there the remainder of his days. According to Leo Africanus, his death happened in the year of the Hegira 603, A. D. 1206; others ſay that he died about the year 1198.

This philoſopher has been highly celebrated for his perſonal virtues. Such was his temperance, that he partook only once in the day of the plaineſt food. In his application he was unremitting and indefatigable; allowing himſelf no other recreation in the courſe of the day than the change of ſeveral literary occupations; [illegible] hiſtory, and ſpending [illegible] judicial capacity, he diſcharged [illegible] and integrity; and his humanity [illegible] not paſs ſentence of death upon any criminal, but performed this office by his [illegible]. In [illegible] ance, reckless and [illegible] plays. When a ſervant [illegible] upon him in one of his [illegible] ſome abandoning age, Averroes [illegible] turned round to him, and ſaid, "Well well;" and proceeded with his [illegible]. The [illegible] the next day to implore his pardon for the inſult he had offered him. "God forgive thee," [illegible] haſt publicly ſhewn me to be a [illegible] thine injury, it is not worthy of [illegible] him money, and diſmiſſed him with this admonition; "what thou haſt done to me, do not to another." [illegible] of his liberality to learned men, Averroes made no diſcrimination between his friends and [illegible]; and for his conduct in this reſpect, his apology was, that in giving to his friends and relations, he merely followed the dictates of nature; but in giving to his enemies, he fulfilled the obligations of virtue: and he alſo boaſted that by this method he had converted enemies into friends. Upon the occaſion of burning ſome amatory verſes which he had written in his youth, he remarked, that when he was young, he was diſobedient to reaſon; but now in his old age, he followed it; and he added this ſingular wiſh, that he had been born an old man: "utinam natus fuiſſem ſenex." However, when he was requeſted to exerciſe his magiſterial authority in the ſuppreſſion of ſome licentious poems that had been publiſhed by a learned Jew, and informed that his own ſon had copied ſome of the verſes, and that there was not a man, woman, or child in Corduba, who had not learnt ſome of the ſongs of Sahal, he exclaimed, "Can a ſingle hand ſtop a thouſand mouths?"

In philoſophy, Averroes was an enthuſiaſtic admirer of Ariſtotle, and yielded a ſuperſtitious deference to his authority; he even [illegible] that he aſcribed to the writings of the Stagirite a degree of perfection "which is truly miraculous, and which proves him to have been rather a divine than a human being."—"The doctrine of Ariſtotle," ſays he, "is the perfection of truth, and his underſtanding attained the utmoſt limit of human ability; ſo that it might be truly ſaid of him, that he was created and given to the world by divine providence, that we might ſee in him how much it is poſſible for man to know." This extravagance of admiration on the part of Averroes is the more ſurpriſing, as he was unacquainted with the Greek language, and was therefore obliged to peruſe the writings of his oracle in wretched Arabic tranſlations, taken immediately from Latin or Syriac verſions. His commentaries, however, though they abound with error, miſrepreſentation, and confuſion, have been held in [illegible] high eſtimation, even ſince the revival of letters, that Averroes has been ſtiled by way of eminence, "The Commentator." Many of his writings, in this way were ſo much admired by the Jews, that ſeveral of them were tranſlated into Hebrew. Averroes alſo wrote a paraphraſe of Plato's Republic; and a treatiſe in defence of philoſophy againſt Al-Gazel, intitled, "Hallapalah Alphalaſaph," or "Deſtructio Deſtructionis;" the deſign of which was to confute the metaphyſical opinions maintained againſt thoſe philoſophers, who aſſert two uncreated natures.

Though it is evident from the whole tenor of his life, that

Averroes could have little time for the practice of phyſic, whence Bayle, as well as ſeveral other writers, have ſuppoſed, that his knowledge of medicine was merely theoretical, yet we have the authority of his own words to prove, he was engaged in the practice alſo, though probably to no great extent. One obſervation (Friend ſays) we find made by him, which does not occur in any earlier writer, is "that the ſame perſon could have the ſmall-pox but once." His principal medical work, the "Colliget," or "Univerſal," written at the command of the Miramamolin of Morocco, is a compendium of phyſic, collected from the writings of other authors, with ſome not very material additions from his own ſtores. He wrote alſo a Commentary on the Cantica of Avicenna, which he calls the beſt introduction to the knowledge of medicine extant. This affords a complete anſwer to thoſe who accuſe him of having been jealous of the fame of that celebrated phyſician. As a proof, however, that he regarded him as a rival, it is alleged, that he avoids the mention of him, and in confuting a doctrine maintained by Avicenna, he treats it merely as the opinion of Galen. Beſides the works above mentioned, Averroes wrote, "De Venenis," "De Febribus," "De Theriaca," and "De Simplicibus Medicinis;" all of which have been tranſlated into Latin, and publiſhed in various forms. Averroes wrote many other treatiſes in theology, philoſophy, juriſprudence, and medicine. In the Eſcurial catalogue (t. i. p. 299.), mention is made of an index of his books, amounting in all to ſeventy-eight. His commentary on Ariſtotle was publiſhed in Latin, at Venice, in folio, in 1495. An edition of his works was publiſhed in 4to., at Lyons, in 1537; another, in folio, with the famous Latin tranſlation, by Bagolin, at Venice, in 1552; and a third by Moſſa, at Venice, in 1608. Of the MSS. preſerved in different libraries, and particularly at Vienna, many are either Hebrew tranſlations from the Arabic, or Arabic written in Hebrew characters.

As to the religious opinions of Averroes, he was by profeſſion a Mahometan; but he does not ſeem to have entertained any great reverence for his prophet. It is related of him, that he called Chriſtianity an impoſſible religion, becauſe it taught men to eat their god; ſimilar to the reflection of Cicero (De Nat. Deor. l. iii. c. 16.), when he conſidered, that the name of Ceres was given to bread, and that of Bacchus to wine: "Ecquem tam amentem eſſe putas qui illud, quo veſcatur, Deum credat eſſe?" that Judaiſm, on account of its rites and ceremonies, was a religion for children; that Mahometaniſm, offering only ſenſual rewards, was the religion of ſwine; and that he exclaimed, "Let my ſoul, at death, be among the philoſophers." It is alſo ſaid, that he wrote againſt the three great law-givers, Moſes, Chriſt, and Mahomet; and that he furniſhed materials for the book "De tribus Impoſtoribus." His doctrine concerning the ſoul is ſuppoſed, not to have been peculiarly his own, but to have been aſſerted by Ariſtotle, and to have been embraced by Theophraſtus, Simplicius, and Themiſtius; which was this, that intellect does not exiſt individually in this or that man; but that there is one intellect belonging to the whole race of human beings, the common ſource of all individual thought, as the ſun is the common ſource of light to the world. Similar to this was the doctrine of Malebranche, who aſcribed the production of ideas immediately to God, and taught that the human mind perceives God, and ſees all things in him. Averroes, however, proceeded farther; and he ſeems to have conceived, that there was no other cauſe of thought in individual men, than one univerſal intelligence, which, without multiplying itſelf, is actually united to all the individuals of the ſpecies, as a common ſoul. This notion, with its obvious conſequences, as they concern the diſtinct exiſtence and immortality of the human ſoul, obtained ſo much credit among philoſophers for ſeveral centuries, and particularly in Italy, where their advocates were denominated "Averrhoiſts," that it was thought neceſſary to employ the papal authority for its ſuppreſſion. At preſent, the notions of Averroes are exploded, and his writings are forgotten. Dr. Friend (Hiſt. Phyſic, p. 118.), anxious to vindicate Averroes from the charge of infidelity, with regard to a future ſtate, refers to two paſſages in his works; in one of which (Phyſic. Diſput. 3.) he aſſerts, that the ſoul is not mortal; and in another, (Id. 4.) that it is immortal. Leo. Afric. de Vir. Illuſtr. Arab. Gen. Dict. Brucker's Philoſ. by Enfield, vol. ii. p. 245, &c. Fabr. Bib. Græc. t. xiii. p. 95. 282, &c. Friend's Hiſt. of Phyſic, vol. ii. p. 115, &c. Haller, Bib. Med. Pract.

AVERRHOISTS, a ſect of Peripatetic philoſophers, who appeared in Italy ſome time before the reſtoration of learning, and attacked the natural immortality of the ſoul; and who took their denomination from Averrhoes. The opinion of this ſect was condemned by the laſt council of the Lateran, under Leo X.

AVERRUNCATION, from *averrunco*, *I prune*, in *Agriculture*, the act of cutting or lopping off the ſuperfluous branches of trees. See PRUNING.

AVERRUNCI, from *averrunco*, *I avert*, in *Antiquity*, an order of deities among the Romans, whoſe peculiar office was to avert dangers and evils. The Greeks called theſe deities *alexicaci*, and *apopompæi*. They were Hercules, Apollo, the Dioſcuri, and Jupiter.

The Egyptians had alſo their *dii averruncı*, or *apotropæi*, who were pictured in a menacing poſture, and ſometimes with whips in their hands.—Iſis was a divinity of this kind; as is ſhewn by Kircher. See Oedip. Ægypt. tom. iii. p. 487.

AVERSA, in *Geography*, a town of Italy, in the kingdom of Naples, and territory of Lavora, the ſee of a biſhop, who is ſuffragan to the archbiſhop of Naples. This town was built and fortified A.D. 1029, by count Rainulf, the firſt leader of the Normans, who came into Italy to ſeek their fortunes in the ſervice of the Italian princes. The ſeat of this town was choſen, in a fertile diſtrict, as a central ſpot to which the Normans might reſort, and where they might obtain a fixed ſettlement. Accordingly, it attracted every year new ſwarms of pilgrims and ſoldiers; ſome urged by neceſſity, and others by the hope of eaſe and renown. The outlaws of every province aſſociated with the ſettlers in this place, and were ſoon aſſimilated in manners and language to the Gallic colony. The ſpot was ſituated near the ruins of ATELLA, at the junction of two highways, that formed an eaſy communication with every part of the country, and from its being oppoſed to Capua, and from his averſion to Pandulph, prince of that city, Rainulf called it Averſa. This town was burnt to the ground by king Roger; and many years after, it underwent a ſimilar fate, by order of Charles of Anjou. Its ancient palace, on the foundation of which a convent has been ſince erected, was frequently the reſidence of the ſovereign, before the murder of Andrew of Hungary, huſband to Joan the firſt, who was aſſaſſinated by the inſtigation of a brutal monk, called friar Robert, in the year 1345. It is ſituated ten miles north of Naples. N. lat. 41° 0′. E. long. 14° 20′.

AVERSATA, in *Entomology*, a ſpecies of PHALÆNA, (*Geometra*), with pale wings; ſtreak at the baſe; band in the middle and dot brown. Linn. Fn. Suec. Inhabits Europe.

AVER-

AVER-SILVER, a name formerly given to a cuſtom or rent. Cowel.

AVERSION, compounded of *a, from,* and *vertere, to turn,* denotes abhorrence, or diſlike. Some oppoſe it to deſire; others, with lord Kaimes, to affection. See Antipathy.

AVERSIONE *venire,* or *locare,* in *Writers of the Civil Law,* ſeems to denote the ſelling, or letting things in the lump, without fixing particular prices for each piece.

AVERSPERG, in *Geography,* a town of Germany, in Carniola, eleven miles north-eaſt of Carknitz.

AVERTI, in *Horſemanſhip,* is applied to a regular ſtep or motion enjoined in the leſſons. In this ſenſe they ſay, *pas averti,* ſometimes *pas ecouté,* and *pas d'école,* which all denote the ſame. The word is mere French, and ſignifies *adviſed.*

AVERTO, in *Geography,* a ſmall iſland in the gulf of Venice, near the coaſt of Friuli. N. lat. 45° 46'. E. long. 13° 32'.

AVERY, a place where oats, or provender; are kept for the king's horſes. See Averia.

AVES. See Avis.

Aves, or *Birds, Iſland of,* in *Geography,* an iſland of the Weſt Indies, nearly weſt from Dominica, and ſouth from the Virgin iſlands; ſo called from the number of birds which breed here, and lay their eggs in the ſand. N. lat. 15° 26'. W. long. 66° 20'.—Alſo, a ſmall iſland, not far from the coaſt of Terra Firma, ſouth-eaſt from Bonair iſland. N. lat. 11° 50'. W. long. 67° 25'. On the north ſide it has a good harbour for careening ſhips, and ſome wells. It is about four miles long, and half a mile broad at the eaſt end. Within three miles there is a dangerous reef of rocks, extending from eaſt to north, and then trending to the weſt. —Alſo, an iſland near the eaſtern coaſt of Newfoundland. N. lat. 50° 5'.

AVESA, a river of Italy, which runs into the Adriatic, near Rimini.

AVESBURY, *Robert of,* in *Biography,* an ancient Engliſh hiſtorian, flouriſhed in the fourteenth century. He was regiſter of the archbiſhop of Canterbury's court, and wrote a hiſtory of England in his own times, intitled, "Mirabilia Geſta Magnifici Regis Angliæ Domini Edwardi Tertii, &c." As this hiſtory reaches only to the 30th of Edward III. A.D. 1356, the author was probably prevented by death from finiſhing his plan. He appears to have taken great pains in procuring the moſt authentic information; his facts are authenticated by original papers; his dates are accurate; and the defect of his ſtyle is compenſated by his candor and impartiality as an hiſtorian. This valuable work lay long concealed; till, in the year 1720, the indefatigable antiquary, Thomas Hearne, printed it at Oxford, from a MS. belonging to ſir Thomas Seabright, which had been formerly in the hands of archbiſhop Parker, and two other MSS., one in the Harleian library, and the other in the univerſity library at Cambridge; all which are thought to be as old as the time when the author flouriſhed. Mr. Tyrrell, in the preface to the third volume of his General Hiſtory of England, cites this hiſtorian, and ſays, that he was a conſiderable writer of that age, and very exact in his account of king Edward's actions beyond the ſea, as having taken them from ſeveral original letters of perſons of note. To Hearne's edition is added an appendix, containing ſeveral curious pieces in Engliſh antiquities, unconnected with the work itſelf; and particularly, a tranſcript of the love-letters between Henry VIII. and Anne Bullen, taken from the originals kept in the Vatican at Rome, A.D. 1682. Biog. Brit.

AVESNE, in *Geography,* a town of France, in the department of the ſtraits of Calais, and chief place of a canton in the diſtrict of St. Pol, three leagues weſt of Arras.

AVESNES, a ſtrong town of France, in the department of the North, and principal place of a diſtrict. It is ſituated in Hainault, on the ſmall river Heſpre. Its fortifications were planned by Vauban; and it was ceded to the French by the Spaniards in 1659. It is about ten leagues eaſt from Cambray, ſeven from Valenciennes, and forty north-eaſt from Paris. N. lat. 50° 7'. E. long. 3° 48'.

AVEYRON, a department of France, comprehending part of the province of Guyenne; bounded on the north by the department of Cantal; on the eaſt, by thoſe of Lozere and Gard; on the ſouth, by thoſe of Gard, Herault, and Tarn; and on the weſt, by thoſe of Tarn and Lot. Its ſuperficies is about 1,767,424 ſquare acres, or 902,064 hectares. Its population conſiſts of about 332,090 perſons; and it is divided into five communal diſtricts. Its chief city is Rhodez.

AVEZARAS, a river of France, in Gaſcogny, waters the territory of Aire, and diſcharges itſelf into the Adour, between Grenade and St. Sever.

AVEZZANO, a town of Italy, in the kingdom of Naples, and province of Abruzzo Ultra. This town was founded in 860, and contains 2700 inhabitants. It is built on an almoſt imperceptible declivity one mile from the lake of Celano, to which an avenue of poplar leads from the baronial caſtle, which is a ſquare edifice, flanked with towers, at a ſmall diſtance from the town.

AUFEDO, a town of Italy, in the kingdom of Naples, and province of Abruzzo Ultra, twenty-one miles W.S.W. of Aguila.

AUFENA, or Aufina, in *Ancient Geography, Oſcan,* a town of Italy, in Samnium, belonging to the Veſtini; ſouth-eaſt of Amiternum.

AUFENTE, in *Geography,* a river of Italy, in the Campagna of Rome, has its ſource near Sezzu, and its mouth in the ſea, near Terracina.

AUFFAY, a town of France, in the department of the Lower Seine, and chief place of a canton in the diſtrict of Dieppe, ſix leagues north of Rouen.

AUFIDENA, in *Ancient Geography, Aſcan.* a town of Italy, in Samnium, and the capital of the people called Caraceni, ſituate near Sagrus. The inhabitants were called Aufidenates.

AUFIDUS, a river of Italy, the moſt conſiderable in Apulia. For the juſtneſs of the deſcription given of it by Horace, ſee Ofanto.

AUFINA, or Aufinum. See Aufena.

AUFNAY, in *Geography,* a ſmall iſland of Switzerland, in the lake of Zurich, containing two churches.

AUGEA, in *Ancient Geography,* a town of Macedonia, in the Chalcidic territory. Ptolemy.

AUGALA, a town of Africa, in Mauritania Cæſarienſis, at ſome diſtance from the ſea. Ptolemy.

AUGALI, a people of Aſia, in Sogdiana. Ptolemy.

AUGARA, a town of Aſia, in Aria. Ptolemy.

AUGARRAS, in *Geography,* a people of South America, in Paraguay, in the province and government of Paraguay.

AUGE, in *Entomology,* a ſpecies of Sphinx (Linn. and Fabr.) of a black colour, with ſanguineous hair on the ſides of the abdomen; wings tranſparent, black behind; and the anterior pectinated. Fabricius. Obſ. This is *Papilio cingulus* of Cramer. It is a native of America.

Auge. This ſpecific name Cramer has given to a variety of *Papilio Iphias.* Linn.

Auge, in *Geography,* a diſtrict of France, in the late province of Normandy, extending from Falaiſe and Argentan, as far as the ſea, between the rivers Dives, Vie, and Touques,

Tongues, formerly giving name to a viſcount. Its productions are grain, flax, and apples. The paſtures are rich, and fatten the cattle that are brought hither from Poictou and Britanny.

AUGEIA, in *Ancient Geography*, a town of Greece, in the Peloponneſus, written Αὐγεία, Augeiæ, by Homer, and ſuppoſed by Pauſanias to be the ſame with the ſmall town of Ægæ, ſituate on the coaſt of Laconia, and at the diſtance of thirty ſtadia from Gythium. It had a temple conſecrated to Neptune.

AUGELA, Augilla, or Agila, in *Geography*, one of the Oaſes, or iſlands, in the eaſtern diviſion of that ocean of ſand, called the Great Deſert, or Sahara, in Africa. It lies on the weſtern part of the deſert of Barca, and is ſeparated from the kingdom of Tripoli by mount Meys. Although it is generally ſandy and barren, it has ſome ſpots ſo well watered as to afford plenty of dates; and mount Meys has excellent paſture. In this territory, beſides the town of Augila, or Augele, from which the canton takes its name, and which was one of the ſtations of the caravans that formerly carried on the inland trade of Africa, is another, ſeated at the foot of that mountain, called Siwah, Siouah, or San-Rey, which is the laſt on that ſide that belongs to the government of Tripoli. Augela lies in N. lat. 30°. and E. long. 22° 30′.

AUGENIO, Horace, *De Monte Sando*, in Ancona, in *Biography*, profeſſor of medicine, born about the year 1527. He was early initiated into the knowledge of medicine by his father, Lewis Augenio, phyſician to pope Clement VII. Horace was firſt advanced to the chair of profeſſor at Rome, which office he filled five years. He afterwards gave lectures with ſucceſs at Turin; and in the year 1592, he was appointed profeſſor at Padua; where he continued to the time of his death in 1603. Haller is diffuſe in his account of his works, which however were principally controverſial, and not now much noticed. In his "Epiſt. et Conſult. Med." fol. Ven. 1580, he recommends millepedes, in calculous caſes, by which, he ſays, he ſaw a boy cured, after he had been condemned to the knife; he forbids injecting the bladder in theſe caſes, as frequently miſchievous. He gave water, in which quickſilver had been boiled, for the cure of worms in the bowels; and in diabetes, he gave, he ſays, narcotics, with advantage.

His works were collected and publiſhed under the title of, "Opera Omnia," at Venice, in 1597,—1602, and 1607, in folio. His treatiſes, publiſhed ſeparately were, "Epiſt. Medicinal." tom. 1, 2, 3, fol. "De Modo preſervandi a Peſte," lib. iv. 1577, 8vo. "De Medendis Calculoſis," &c. 1575, 4to. "Quod Homini non ſit certum naſcendi Tempus," lib. ii. Ven. 1595, 8vo. Haller. Bib. Med. Pract.

AUGER, Edmund, a French jeſuit, was born of poor parents, in 1530, at Alleman near Sazanne, in the dioceſe of Troyes; and having received the rudiments of education under an uncle who was a clergyman, was ſent by his brother, a phyſician at Lyons, to Rome, with a recommendation to the celebrated father Le Fevre; but with a ſupply of money ſo ſcanty, that he was obliged to beg alms before he arrived to the end of his journey. Le Fevre was dead before he reached Rome; and he was obliged to hire himſelf as a domeſtic ſervant to a jeſuit. In this humble ſituation his talents and conduct attracted the notice of his maſter, who procured for him, as a novice, the means of further inſtruction. In the order of jeſuits, to which he was admitted, he taught rhetoric and poetry, and manifeſted great powers of eloquence. His talents recommended him to a miſſion, employed by father Laynez, the general of the ſociety of jeſuits, and diſpatched to France, in the year 1559, for ſtopping the progreſs of the reformation. On this occaſion he diſtinguiſhed himſelf by his zeal and ſucceſs in the converſion of heretics; and he was appointed preacher and confeſſor to Henry III. His attachment to the king rendered him odious to the catholics who had entered into the league, and by an order of the general he returned to Rome, where he was treated as an excommunicated perſon, and obliged to travel on foot in the midſt of winter. In the year 1591, he died in conſequence of the fatigue and vexation which he endured, in the ſixty-firſt year of his age. Such was the cloſing ſcene of a man, who is ſaid to have converted 40,000 heretics. The intolerant ſpirit of Auger was ſufficiently diſplayed in his work, intitled "Le Pedagogue des Armes," deſigned to inſtruct a Chriſtian prince, how to undertake, and happily complete a good war, victorious over all the enemies of the ſtate and the church. Nouv. Dict. Hiſtor.

Auger, in *Geography*, a ſmall town of Ireland, in the county of Tyrone and province of Ulſter, which before the union, returned two members of parliament; but is now deprived of that privilege. It is diſtant ſeventy-five Iriſh miles north-weſt from Dublin.

AUGES, in *Aſtronomy*, two points in a planet's orbit, otherwiſe called *apſides*. See Apsis.

One of the auges is particularly denominated the *apogee*, the other *perigee*.

AVGHANS, in *Geography*. See Afghans.

AUGHNACLOY, a poſt and and market town of the county of Tyrone in Ireland, ſeated on the river Blackwater, at the diſtance of 70½ Iriſh miles from Dublin, on the high road to Londonderry. The linen manufacture is carried on briſkly in its neighbourhood. N. lat. 54° 25′. W. long. 6° 53′.

AUGHRIM. See Aghrim.

AUGIAN, a town of Aſia, in the province of Aderbigan or Aiderbeitzan.

Augian *MS*, *Codex Augienſis*, in *Biblical Hiſtory*, is a Greek-Latin MS. of the epiſtles of St. Paul, which is however defective from the beginning to Rom. iii. 8, and the epiſtle to the Hebrews is found only in the Latin verſion. This MS. is noted F in the ſecond part of Wetſtein's N. T. It is ſuppoſed to have been written in the ninth century, and has taken its title from Augia-Major, the name of a monaſtery at Rheinau, to which it belonged at the time of the council of Baſil. It was purchaſed by Bentley in 1718, for 250 Dutch florins, and is at preſent in the library of Trinity college in Cambridge, where it was depoſited in 1787, after the death of the younger Bentley, together with the other MSS. of the celebrated Dr. Richard Bentley. The Greek text is written in uncial letters and without accents; there are intervals between the words, and at the end of every word there is a dot. The Latin is written in Anglo-Saxon letters; whence it is inferred that it muſt have been written in the weſt of Europe, where that formation of the Latin letters, vulgarly called Anglo-Saxon, was in general uſe between the ſeventh and twelfth centuries. This MS. has been collated by Wetſtein. Marſh's Michaelis, vol. ii. p. 210. vol. iii. p. 662.

AUGIAS, or Augeus, in *Ancient Hiſtory and Mythology*, a king of Elis, who was one of the Argonauts. Fabulous hiſtory reports that he had a ſtable, which contained a great number of cattle, as ſome ſay 3000 oxen, and which had not been cleaned for thirty years, ſo that the exhalations which proceeded from it infeſted the country: and to cleanſe it was conſidered as a work ſurpaſſing human effort. Hercules undertook the labour, and engaged to perform it in one day, on condition that Augias ſhould give him a tenth part of the cattle. This work Hercules is ſaid to have accompliſhed by making the river Alpheus to paſs through the ſtable. Augias withheld the promiſed recompence; upon which Hercules ſlew him, and placed his ſon Phileus

Phileus upon the throne, becauſe he adviſed his father to fulfil his promiſe. This fable, however, is variouſly related by different authors. Hence has ariſen the ancient proverb of "cleanſing the ſtables of Augias," for expreſſing a difficult or impracticable enterpriſe.

AUGIAS, in *Entomology*, a ſpecies of PAPILIO (*Heſperia* Fabr.). The wings are divaricate and ſulvous, with an oblique band, and margin behind black. Fabricius.—Donov. Inſ. India. Inhabits India.

AUGICOURT, in *Geography*, a town of France, in the department of the Upper Saone, and chief place of a canton, in the diſtrict of Juſſay, 4½ leagues north-weſt from Vefoul.

AUGILES, or AUGILITES, in *Ancient Geography*, a people of Africa, who inhabited the country by which the Garamantes were ſeparated from the Troglodites. Pomponius Mela ſays, they were ſavages, who acknowledged no other deities beſides the manes of their anceſtors, whom they invoked on all intereſting occaſions. They are ſaid to have ſlept upon the tombs, in order to receive the inſpiration from which they derived the rules of their conduct. It was a cuſtom amongſt their women, to grant the firſt favour after their marriage to any who ſolicited it, and who made them preſents; and they valued themſelves upon the number of their votaries on this occaſion. In other reſpects, ſays P. Mela, they were diſtinguiſhed by their wiſdom and diſcretion.

AUGIT, SILEX AUGITES, in *Mineralogy*, *pyroxene* of Hauy; *a var. of baſaltic hornblende* of Kirwan; *baſaltiſches volcanique* Daubenton, &c. *Volcanite* Lametherie.

The colour of this mineral is a very deep olive or pear green, which at firſt may be miſtaken for a blackiſh green.

It occurs ſometimes in rounded fragments; but more uſually cryſtallized. Its varieties of figure are,

1. A ſix-ſided priſm, of which two oppoſite ones are broader than the reſt. The two baſes, which are oblique, are terminated by wedges more or leſs obtuſe.

2. Var. 1. with the edges that ſeparate the ſmall ſides of the priſm, truncated; or an eight-ſided priſm.

3. Two or more cryſtals connected by their lateral faces, ſo as to form a right or oblique-angled croſs.

The cryſtals are uſually ſmall and very ſmall, rarely of middling ſize. They are alſo, for the moſt part, imbedded.

Externally, when no decompoſition has taken place, the ſurface of the augit is ſmooth and ſhining; but when it begins to be decompoſed, it becomes dull. Internally, it is ſhining or much ſhining with a greaſy luſtre.

Its fracture is perfectly ſtraight lamellar. It flies when broken into rhomboidal parallelepipeds.

It is tranſlucid on the edges, but rarely ſo throughout.

It is hard, ſcratches glaſs, and gives fire plentifully with the ſteel: it is brittle, and eaſily broken. Sp. gr. 3.182—3.377.

The augit is not eaſily fuſible before the blowpipe, but in ſmall pieces it affords a black enamel. Its analyſis by Vauquelin afforded

	52	Silex
	13.2	Lime
	3.33	Alumine
	10	Magneſia
	14.66	Oxyd of iron.
	2	Oxyd of manganeſe.
	95.19	
Loſs	4.81	
	100	

This mineral is found in baſalt, with olivin and hornblende; it is alſo met with in certain amygdaloids. It abounds in Bohemia, and is found beſides in Hungary, Tranſylvania, Tyrol, Ruſſia, &c.

It reſiſts decompoſition much longer than olivin; but not ſo long as baſaltic hornblende. It is at length, however, reduced to a greenish yellow argillaceous mud, and not, as the olivin, to a ferruginous ochre. Brochant, vol. i. p. 179.

AUGMENT, in the *Greek Grammar*, an addition of certain tenſes; being either the prefixing of a ſyllable, or an increaſe of the quantity of the initial vowels. There are two kinds of augments.—*Temporal*, or *of time*; when a ſhort vowel is changed into a long one; or a diphthong into another longer one: thus *ειδον*, *ηδειν*, the time of its pronunciation is now lengthened: and *augmentum ſyllabicum*, or *of a ſyllable*, which is, when a letter, viz. ε, is added at the beginning of the word; ſo that the number of ſyllables is increaſed.

AUGMENTS, in *Mathematics*. See FLUXIONS, and MOMENTS.

AUGMENTATION, in a general ſenſe, the act of *augmenting*; that is, of adding or joining ſomething to another, to render it larger or more conſiderable.

The governors of the bounty of queen Anne, for the "augmentation of the maintenance of the poor clergy" (ſee FIRST *Fruits*), by virtue of the ſeveral acts of parliament made for that purpoſe, are empowered to augment all livings not exceeding 50l. *per annum*; and the number of livings following were certified to be capable of augmentation.

1071	Livings not exceeding 10l. *per annum*, which may be augmented (with the bounty alone) ſix times each, purſuant to the preſent rules of the governors, which will make 6426 augmentations.	6426
1467	Livings above 10l. and not exceeding 20l. *per annum*, may be augmented four times each, which will make 5868 augmentations.	5868
1126	Livings above 20l. and not exceeding 30l. *per annum*, may be augmented three times each, which will make 3378 augmentations.	3378
1049	Livings above 30l. and not exceeding 40l. *per annum*, may be augmented twice each, which will make 2098 augmentations.	2098
884	Livings above 40l. and not exceeding 50l. *per annum*, may be each once augmented, which will make 884 augmentations.	884
5597		
	Total number of augmentations, which muſt be made (by the bounty alone) before the livings already certified will exceed 50l. *per annum*.	18654

Computing the clear amount of the bounty to make 55 augmentations yearly, it will be 339 years, from the year 1714 (which was the firſt year in which any livings were augmented), before all the ſmall livings above certified can exceed 50l. *per annum*; and if it be computed, that one half of ſuch augmentations may be made in conjunction with other benefactors (which is very improbable), it will require 226 years before all the livings above certified will exceed 50l. *per annum*.

Dr. Warner, in the appendix to his "Eccleſiaſtical Hiſtory," publiſhed in 1757, obſerves, that it will be 500 years before every living can be raiſed to 60l. a year by queen Anne's bounty, ſuppoſing the ſame money to be diſtributed as there has been for ſome years paſt. In the courſe of between eighty and ninety years, many livings have been augmented

merted by this bounty; nevertheleſs, the bounty, aſſiſted by private benefactions, has been found inadequate to the end of making a reaſonable and competent proviſion for the parochial clergy in a ſhort time. In order to accelerate the beneficial effect of this bounty, it was propoſed by the learned Dr. Watſon, the preſent biſhop of Landaff, in a "Letter to his grace the archbiſhop of Canterbury," printed in 1783, that a bill ſhould be introduced into parliament, for appropriating, as they become vacant, one-third, or ſome other definite part, of the income of every deanery, prebend, or canonry, of the churches of Weſtminſter, Windſor, Chriſtchurch, Canterbury, Worceſter, Durham, Norwich, Ely, Peterborough, Carliſle, &c. to the ſame purpoſe, *mutatis mutandis*, as the firſt-fruits and tenths were appropriated by the act, paſſed in the fifth of queen Anne. This plan, it is ſuggeſted, would produce a wonderful change for the better, in 80 or 100 years, in the condition of the inferior clergy, and it would immediately begin to operate for their benefit. "If the reduction of deans and chapters," ſays this excellent writer, "ſhould be looked upon as a ſtep towards their annihilation, and ſhould, on that account, be diſliked by thoſe who think them of uſe in our eccleſiaſtical eſtabliſhment; there is another method in which the poor clergy might be, in no great length of time, well provided for. The clergy at preſent pay into the exchequer about 14,000l. a year for firſt-fruits and tenths, according to a valuation of the church revenues, which was made above 250 years ago; the *clear* revenue, ariſing to the governors of queen Anne's bounty from this ſource, may be eſtimated at near 12,000l. a year. If the clergy were to pay firſt-fruits and tenths according to a new valuation of their benefices, and the ſum thence ariſing was applied to the augmentation of ſmall livings, every one muſt ſee how greatly the operation of what is called queen Anne's bounty would be accelerated. See CURATE, *Eccleſiaſtical* REVENUE, and VICAR.

AUGMENTATION is alſo uſed for the *augment*; i. e. for the additament, or the thing added. Thus it is ſaid, ſuch a miniſter petitioned the king for an augmentation of ſalary, wages, &c.

AUGMENTATION, *Court of*. See COURT, &c.

AUGMENTATION, in *Heraldry*, denotes additional charges to a coat armour frequently given as particular marks of honour, and generally borne, either on an eſcutcheon, or a canton.—Such are the arms of Ulſter, borne by all the baronets of England.

AUGON, in *Geography*, a mountain of Italy, being part of the Apennines, on the confines of Liguria and Paveſan.

AUGOXAS, a ſmall iſland of Africa, on the coaſt of Mozambique.

AUGRE, or AWGRE, a carpenter's and joiner's inſtrument, ſerving to bore large round holes.

The augre conſiſts of a wooden handle, and an iron blade, terminated at bottom with a ſteel bit.

AUGSBURG, or AUSBURG, i. e. *Auguſtus-burgh*, anciently called *Auguſta Vindelicorum*, in *Geography*, an imperial city of Germany, and the capital of Swabia. It is ſituated in a delightful and fertile country, betwixt the rivers Lech and Wertach, near their confluence. It is not only one of the moſt ancient, but one of the largeſt cities in Germany. According to Rieſbeck (Tour through Germany, p. 111.) its circumference is 9½ miles, and it contains about 30,000 people; others ſay, that the number of inhabitants amounts to 35,000, and ſome reckon them at 40,000. It is environed with ramparts, walls, and deep ditches; and beſides four large and ſix ſmall gates, which open and ſhut without any viſible interference, it has a ſecret wicket, of curious conſtruction, for admitting both horſe and foot in the night, or in time of war. The town is ſupplied with water from the river Lech, by means of aqueducts, and of engines and towers, which furniſh a ſufficient quantity for working ſeveral mills of different ſorts, for cleanſing the ſtreets, and for the domeſtic uſes of the inhabitants. Some of its ſtreets are ſteep and incommodious; but others are broad and well paved. This city, ſince the earlieſt periods, had ſmall ſubterraneous paſſages under the ſtreets, like our ſewers, and the Roman cloacæ, for conveying away filth; and the whole town was paved ſoon after the year 1415, when a rich merchant ſuggeſted the utility of it by cauſing a footpath to be made before his own houſe. Many of the houſes are built of wood, and others of ſtone, and they ſerve as ſpecimens of the architecture that prevailed at the period of their conſtruction; and, compared with other houſes built in German towns, they exhibit the ſuperior improvement and magnificence to which Augſburg had arrived. The more modern part of this town may be reckoned handſome; many of its churches are ſtately edifices, and adorned with curious workmanſhip and paintings. The town-houſe, completed after ſix years' labour, in 1620, is a magnificent edifice, and reckoned little inferior to that of Amſterdam. It is a large ſquare building of ſtone, with a marble portico; at the top of the front, within the pediment, is a large ſpread eagle, holding in its talons a ſceptre and globe of gilt braſs; the great portal is formed of a beautiful reddiſh marble, over which is a balcony of the ſame colour, ſupported by two pillars of white marble; over the gate are two large griffins of braſs; and moſt of the rooms are wainſcotted, and cieled with very fine timber. The ſaloon is 110 feet long, 58 broad, and 52 high; its roof is ſupported by eight columns of red marble; the cieling is conſtructed of poliſhed aſh, and divided into compartments, enriched with gilded ſculptures; it is filled with pictures and other ornaments; and ſupported by eight pillars with baſes and chapiters of braſs. In the ſquare, near the town-houſe, is the fountain of Auguſtus, or a large marble baſon, ſurrounded with iron balluſtrades, with four braſs ſtatues as large as life at the four corners; in the middle is a pedeſtal, having on its top the ſtatue of Auguſtus, and at the foot are four large ſphinxes diſcharging water from their breaſts, with four infants above them, holding in their arms four dolphins which pour water out of their mouths, and over theſe infants are feſtoons and pine-apples of braſs. Near this baſon is a fountain, called that of Hercules, of an hexagonal form, with ſeveral braſs figures, and particularly Hercules engaging the Hydra. Beſides the cathedral, which is a large, gloomy, gothic building, with two ſpire ſteeples, adorned with paintings, and opening with a braſs gate, with its fourteen chapels; there are ſix Roman catholic parochial churches, a ſplendid college belonging to the Jeſuits, five monaſteries, three nunneries, and ſix Lutheran pariſh churches; and alſo a Lutheran gymnaſium, which contains a good library. The Benedictine abbey is a large Gothic building, the ceiling of which is ſaid to be the higheſt in Germany; it is adorned with ſeveral ſtatues and a grand altar. The church of St. Croix ſurpaſſes the others in its architecture, ſculpture, gilding, and fine ſpire. The Imperial Franciſcan academy for arts and ſciences, was inſtituted here in 1775. It is under the protection of the magiſtrates, and its principal aim is to produce good mechanics, and to preſerve the manufactures of the city. The part of the city that was erected in 1519, by the noble family of the Fuggers, who are lords of the adjacent country, and in ſome meaſure endowed by them, conſiſts of 106 houſes, inhabited by the poor burghers at a low rent; ſome of whom are maintained by

an annual penſion. The burghers of this city are computed at 6000. The inhabitants are partly Lutherans, and partly Catholics. The Jews are excluded from the town; but they occupy a village at the diſtance of about a league, and pay a tax for the liberty of trading in the day. The aſpect of the inhabitants is very different; that of the Proteſtants reſembling the Suabians; and the catholics being like the Bavarians. The government is ariſtocratical; it is veſted with 45 perſons, of whom 31 are patricians, 4 ſuch as have married the daughters of patricians, 5 merchants, and five of the commonalty; the council is formed of an equal number of Lutherans and Roman Catholics. The police is good; and though the town has no territory, it has no debts. In former times, Augſburg was the great mart for Indian commodities in the interior parts of that extenſive country: its trade was very conſiderable; and we meet with many examples of ſuch large fortunes accumulated by mercantile induſtry, as raiſed the proprietors of them to high rank and conſideration in the empire. It was celebrated for its curious artiſts, whoſe manufactures, particularly in tin and ſilver, were much admired. Augſburg, however, is no longer what it was in this reſpect. It has no longer a Fugger and a Welſer in it, to lend the emperor millions. Here are no merchants who have capitals of more than 20,000 l.; others, with ſmall capitals, do the buſineſs of brokers and commiſſioners; and next to theſe are the engravers, ſtatuaries, and painters. Their productions, like the toys of Nuremberg, have a general circulation. Augſburg ſupplies all Germany with little pictures for prayer-books: and in various ways, its trade is ſtill conſiderable, though far from being ſo great as it formerly was. The biſhop takes his name from this town, though he reſides at Dillengen. His income is about 20,000l. per annum. He is a prince of the empire; and he ſits and votes in the college of princes, betwixt the biſhops of Conſtance and Hildeſheim; the territory belonging to the biſhoprick lies between the rivers Lech, Iler, and Danube.

In the diet of the empire, Augſburg was originally called Vindelicia, and was the capital of the Vindelici; afterwards it had the name of Auguſta Vindelicorum, and Rhætorum, when it came under the dominion of the Romans, and a colony was ſettled in it by Druſus. Tacitus (Germ. c. xli.) calls it the moſt ſplendid city of Rhætia. From the Romans it was transferred to the Alemanni, the Goths, and the Franks; under the laſt of whom it declined much; but it recovered again under Charles the Fat. The emperor Henry III. took it under his protection, but it ſuffered much by its conteſts with the biſhops, and its condition became very precarious. From Frederic I. it obtained ſeveral privileges; and in 1275, king Rudolph I. confirmed and enlarged its imperial rights.

Augſburg has acquired celebrity, not merely on account of its antiquity and pre-eminence for a long ſeries of ages, and for the extent of its commerce in the 14th and 15th centuries, but from its having been the ſcene of ſeveral conſiderable tranſactions. In this place, a council held in 952, confirmed the order for the celibacy of prieſts. In 1518, a diet was held at this place, for concerting and promoting a general cruſade againſt Turks. At a diet, attended by the emperor Charles V. in the 1530, the creed of the Proteſtants called the Auguſtan or Augſburg confeſſion, was preſented and publicly read. In 1547, the emperor held a diet in this place for finally compoſing the controverſies with regard to religion, which had long diſturbed the empire; and having, at the head of his Spaniſh troops, taken poſſeſſion of the cathedral and one of the principal churches, he re-eſtabliſhed with great pomp the rites of the Romiſh worſhip. Before this diet, he laid the ſyſtem of doctrine, known afterwards by the name of the INTERIM; and in 1548, he made his firſt attack upon this city, on account of the part it took in the oppoſition to this ſyſtem, affixing a decree, that he had the ſupreme juriſdiction of the town, by which he aboliſhed its conſtitution of government, diſſolved all its corporations and aſſociations of its burgeſſes, and nominated a ſmall number of perſons, who were to veſt the future right of election, and each of whom was conſtrained to take an oath to obſerve the Interim. In 1555, a diet was held by the emperor at this place, for the purpoſe of ſettling the affairs of the Interim. The diet held here in 1555, [illegible] peace of Germany, by an act [illegible]. In this city an alliance called the League of Augſburgh, was concluded in 1686, between the emperor, the king of Spain, the republic of Holland, the elector Palatine, Bavaria, and the duke of Savoy; the [illegible] of which was to reſtrain the ambition of the French monarch; but the real motive, ſays M. [illegible] Intrigues des Cabinets et des Traités de Paix de [illegible] 1698," which led William prince of Orange into this league was, to keep Louis buſy on the continent, whoſe ſagacity foreſaw to what the intereſt [illegible] James II. of England would lead, might with more eaſe aſcend the Engliſh throne in his ſtead. The hoſtilities conſequent on this league commenced in 1688, which was followed by a continental war, terminated by the peace of Ryſwick in 1699. Although the Proteſtants were very powerful at Augſburg, they were driven from thence by the Bavarians, and reſtored again by Guſtavus Adolphus in 1632; ſince which time they have continued, and ſhared the government with the Catholics. In 1703, the elector of Bavaria beſieged the city and took it, and demoliſhed its fortifications; but the battle of Hockſtedt reſtored its liberty, which it enjoys under its own magiſtrates; the biſhop having no temporal dominion in the city. The chapter is compoſed of perſons who can produce proofs of their nobility. The canons have a right of electing their biſhop, who is a ſovereign, like ſeveral of the other German biſhops. Augſburg is ſituated in N. lat. 48° 24′. E. long. 10° 58′.

AUGSBURG *Confeſſion*. See AUGUSTAN.

AUGST, a village of Swiſſerland, near the Rhine, formerly a celebrated city called *Auguſta Rauracorum*, whither Munatius Plancus conducted a Roman colony under the empire of Auguſtus, A. U. C. 740, B. C. 14. It is ſeated on the river Ergetz, two leagues from Baſle. It was ruined by Attila. Of its ancient magnificence many monuments have been diſcovered; ſuch as the ruins of an amphitheatre, of towers, of ſubterranean vaults, and alſo medals, and fragments of ſtatues and inſcriptions.

AUGUR, in *Antiquity*, a miniſter of religion among the Romans, appointed to take auguries or preſages concerning futurity from birds, beaſts, and the appearances of the heavens.

The word is by ſome derived from *avis*, *bird*, and *garrio*, *tus*, *chattering*; whence the [illegible] of the augurs is ſuppoſed to have been to obſerve, and take indications from, the noiſe, calling, ſinging, chirping, and chattering of birds. Agreeably to which, augury is commonly diſtinguiſhed from auſpex, as the latter was employed in obſerving the flight of birds.—Plutarch derives it from the Celtic *au*, *bird*, and *gur*, *man*; ſo that, according to him, an augur was properly a perſon who inſpected the entrails, and divined by means of the liver. On which principle, augur would have been the ſame with ARUSPICES.

The augurs conſtituted a college or community, which at firſt conſiſted of three perſons, one being appointed by Romulus for each tribe; then of four, when Servius Tullius increaſed the tribes to that number; then of nine, four of them patricians, and five plebeians, added in the year of

Rome 454, at the ſolicitation of the tribunes, and elected from among the common people; laſtly, Sylla, in the year 672, increaſed the number to fifteen. They were at firſt choſen, like the other prieſts, by the *comitia curiata*, but their election afterwards underwent the ſame changes with that of the pontifices.

The eldeſt of theſe preſided over the reſt, and was honoured with the title of "Magiſter Collegii." Their office, which terminated only with their death, and of which no crime or forfeiture could deprive them, as it is compriſed in the augural law mentioned by Cicero (De Divin. l. ii.), was to interpret dreams, oracles, prodigies, &c. and to tell whether any action ſhould be fortunate or prejudicial to particular perſons, or to the whole ſtate. Thus they were the interpreters of the will of the gods with reſpect to the making of war or peace; and all were obliged to obey them in ſo important an article.

They bore an augural ſtaff, or wand, called *lituus*, as the enſign of their office and authority. The other badges of their office were a kind of robe called *trabea*, and a cap of a conical ſhape like that of the pontifices. No affair of moment could be reſolved on, without firſt conſulting them; and their advice, be it what it would, was, by a decree of the ſenate, appointed to be exactly and religiouſly obſerved.

The office was important and honourable. It was aſpired after by ſome of the principal perſons of the Roman ſtate. Cato was a member of the college of augurs; and Cicero alſo was dignified with this title, and perfectly underſtood the whole art practiſed by himſelf and his colleagues. Although he ridicules the profeſſion (De Divin. l. ii.), and demonſtrates by various proofs the inutility, impotence, and abſolute impoſſibility of the art, and relates a ſaying of Cato concerning it, "that he could not imagine how one aruſpex could look another in the face without laughing;" yet, notwithſtanding his contempt of its ſuperſtitions, he blamed thoſe generals and magiſtrates, who on important occaſions had neglected them; and maintains, that this practice, though allowed to be ſubject to many abuſes and frauds, ought to be regarded on account of religion and the prejudices of the people. Pliny was alſo raiſed by Trajan to the dignity of augur; and through every period of the Roman ſtate, this office was the higheſt rank in the prieſthood to which any ſenator could be raiſed. Of this Auguſtus was ſo well apprized, that by ſeizing the office of high prieſt on the death of Lepidus in the year of Rome 725, B. C. 29, he, and his ſucceſſors in the empire, obtained a control over all religious matters; and by thus placing themſelves at the head of all the colleges of prieſts, augurs, and keepers of the Sibylline books and others, they became the ſole arbitrators in all ſacred as well as profane concerns. For an abſtract of the hiſtory and office of augurs, ſee AUGURY.

AUGUR, in *Entomology*, a ſpecies of CIMEX, of a rufous colour, with the antennæ, under-wings, and legs black. A native of the Eaſt Indies, and the cape of Good Hope.

AUGUR, a ſpecies of PHALÆNA (*Noctua*), with brown wings, charactered with black. Inhabits Germany. Fabricius.

AUGUR, a ſpecies of MUSCA that inhabits New Holland. It is cinereous; abdomen blueiſh; ſides teſtaceous and diaphanous. Fabricius, &c.

AUGURAL, ſomething relating to the AUGURS.

The augural inſtruments are repreſented on ſeveral ancient medals. Evelyn on Medals, chap. ii.

AUGURAL *ſupper*, *cæna auguralis*, that given by a prieſt on his firſt admiſſion into the order, called alſo by Varro *adjicialis*. De Re Ruſtic. lib. iii. cap. 6.

AUGURAL *books*, *libri augurales*, thoſe wherein the diſcipline and rules of augury were laid down. Cic. de Divin. lib. i. cap. 33. Priſcian (l. 708.) ſays, that Julius Cæſar compoſed augural books.

AUGURALE, the place in a camp where the general took auſpicia. This anſwered to the *auguratorium* in the city.

AUGURALE is alſo uſed, in Seneca, for the enſign or badge of an augur, as the *lituus*. De Tranquil. cap. xvi.

AUGURATORIUM, a building on the Palatine Mount, where public auguries were taken. This is alſo called *auguraculum* and *arx*.

AUGURELLO, GIOVANNI AURELIO, in *Biography*, a learned Italian, was born at Rimini about 1441, ſtudied at Padua, and became profeſſor of polite literature at Trevigi, where he had a canonry, and where he died in 1524. He was addicted to the ſtudy of alchemy; and it is ſaid that pope Leo X. in return for the dedication of his Latin poem, intitled "Chryſopœia," gave him a large empty purſe, ſaying, that he knew how to fill it. From this poem, however, it appears that Augurello was no believer in the art. He publiſhed, beſides the Chryſopœia, many Latin poems, odes, elegies, and cantos; ſome of which poſſeſs elegance and purity. The poems in his own language were not publiſhed till 1765. Tiraboſchi. Gen. Biog.

AUGURY, the diſcipline of the augurs, or the practice of conſulting the gods, and learning their will, by divers kinds of omens.

The obſervation of auguries is very ancient, as having been prohibited by Moſes in Leviticus.—The cup put in Benjamin's ſack, in Egypt, is ſaid to have been that uſed by Joſeph for making auguries.

However this be, augury was undoubtedly a very ancient ſuperſtition. Heſiod informs us, that the operations of agriculture were regulated by the migration of birds; and it had probably been in uſe long before his time, for marking the changes of the ſeaſons. At length the flight of birds was more particularly obſerved; and their different motions were thought to be of ſuch conſequence, that no concern of importance, either private or public, was undertaken without conſulting them. Abſurd as this ſuperſtition may now appear, and as it certainly was in the extenſive application and uſe of it, it ſeems to have derived its origin from nature. The appearance and diſappearance of particular birds at different ſeaſons, would probably ſuggeſt to thoſe who were ignorant of the places to which they migrated, and from which they occaſionally returned, that they might viſit the ethereal regions, and there converſe with the gods, and acquire an inſtinct or faculty for foretelling future events. A ſuperſtitious people might argue in this manner; and as birds are found capable of imitating the human voice, ſome impoſtor might have availed himſelf of this circumſtance, and deduced preſumptions in favour of the fallacious ſyſtem of augury. An ingenious writer ſuggeſts (ſee Stillingfleet's Calendar of Flora), that this might have been the caſe; and it is alleged, that the inſtitution of augury ſeems to have been more ancient than that of aruſpicy; for Homer ſupplies us with ſeveral inſtances of the former, but none of the latter. Upon the whole, it is not improbable that natural augury gave riſe to religious augury; and this again, by a tranſition not unnatural, to aruſpicy. A paſſage in Ariſtophanes furniſhes a hint that led to theſe obſervations. In his comedy of the birds, he repreſents one of them as ſaying, "The greateſt bleſſing which can happen to you, mortals, are derived from us; firſt, we ſhew you the ſeaſons, ſpring, autumn, and winter; the crane points out the time for ſowing, when ſhe flies with her warning notes into Egypt; ſhe bids the ſailor hang up his rudder and take his reſt, and every prudent man provide himſelf with winter garments; the kite appears next, announcing

another ſeaſon, when it is time to ſhear the ſheep; after that, the ſwallow informs you when it is time to put on ſummer clothes: we are to you, adds the Chorus, Ammon, Dodona, Apollo; for after conſulting us, you undertake every thing; merchandiſe, purchaſes, marriages, &c.

" Εσμεν δ'υμιν Αμμων, Δωδωνη, Δελφοι, ξυνοι Απολλων."

Now, it ſeems not improbable, that the ſame tranſition was made in the ſpeculations of men which appear in the words of the poet; and that they were eaſily induced to think that the ſurpriſing foreſight of birds as to the time of migration, indicated ſomething of a divine nature in them; againſt which opinion, Virgil, as an Epicurean, proteſts, when he ſays,

" Haud equidem credo, quia ſit divinitas illis ingenium."

From theſe ſpeculations of a conjectural kind we proceed to obſerve, that ſome have aſcribed the invention of this art to Prometheus, or Melampus, the ſons of Amythaon and Dorippe. Pliny (l. vii. c. 55.), ſays, that the Carians were the firſt obſervers of birds, and that Orpheus firſt directed his attention to other animals. Pauſanias (Phocic.) attributes the firſt obſervation of the flight of birds to Parnaſſus, who gave his name to mount Parnaſſus. Clement of Alexandria reports, that the Phrygians were the inventors of this art. Upon the whole, it ſeems probable, that this ſpecies of divination was tranſmitted from the Chaldæans, Aſiatics, and perhaps the Egyptians, to the Greeks; from them to the Hetrurians; and from the Hetrurians to the Latins and Romans.

We find five ſorts of auguries mentioned by the ancients. 1. From the appearances in the heavens, as thunder, lightning, and other meteors. 2. From birds, whence they derived the name of Auſpices. Some birds furniſhed them with obſervations from their chattering or ſinging, and others from their flying. The former were called Oſcines, and the latter Præpetes. For the taking of both theſe ſorts of auguries, the augur went up to ſome high place, took the augural ſtaff, bent at one end like a croſier, and marked out with it the four templa or quarters of the heavens. Then he turned to the eaſt, and in that ſituation, waited for the omen; which was of no ſignification, unleſs it was confirmed by another of the ſame ſort. In this manner Romulus perceived Jupiter's approbation of his election to the crown; having ſeen lightning that came out on his left ſide and proceeded to his right. This ceremony, which was alſo obſerved when Numa was called to the crown, is largely deſcribed by Livy, l. i. c. 18. 3. From birds kept in a coop for that purpoſe. The manner of divining from them was as follows: early in the morning the augur that was to take the obſervation, after having commanded a general ſilence, ordered the coop to be opened, and then threw in a handful of crumbs or corn. If the chickens did not eat greedily, ſcattered the food about with their wings, let fall a great deal of it from their mouths to the ground, or, above all, refuſed to eat, the omen was reckoned unlucky, and ſome great miſchief portended; but if they fed greedily, and let none of the food drop out of their mouths, they obtained all deſirable aſſurance of happineſs and ſucceſs. This ſort of augury was called *tripudium*, from the ancient Latin word *pavire*, to *ſtrike*, and *terra*, the *earth*; becauſe the birds, in eating greedily, ſtruck the ground with their beaks. The ſtory of P. Claudius the conſul is well known (Val. Max. l. i. c. 4.), who, ready to engage at ſea in the firſt Punic war, and hearing that the chickens would not come out of their coop, ordered them to be thrown into the ſea, with this jeſt, "If they will not eat, let them drink." But he was vanquiſhed; not, it will be thought, by the contempt of this ſilly and childiſh ceremony, but in conſequence of his own raſhneſs. 4. The next ſort of augury was from beaſts, viz. wolves, goats, foxes, heifers, aſſes, mules, hares, weaſels, and mice. The general obſervations about them were, whether they appeared in a ſtrange place, or croſſed the way; whether they ran to the right or left, &c. 5. The laſt ſort of divination by auguries was from what they called dirae, or unuſual accidents happening to any perſon, as tumbling, ſeeing apparitions, hearing ſtrange voices, perſons ſpilling ſalt on the table, meeting a weaſel, fox, a hare, &c. Many curious circumſtances of the vain ſuperſtition with reſpect to omens and other things, are enumerated by Pliny, xxviii. 2.; and among the Greeks, by Pauſanias, iv. 13. Cæſar, in landing at Adrumetum in Africa with his army, happened to fall on his face, which was reckoned a bad omen; but he, with great preſence of mind, turned it to his own advantage: for taking hold of the ground with his right hand, and kiſſing it, as if he had fallen on purpoſe, he exclaimed, "Teneo te, Africa," "I take poſſeſſion of thee, O Africa." Dio. xlii. fin. Suet. Jul. 59.

AUGURY, in its more general ſignification, compriſes all the different kinds of divination; which Varro diſtinguiſhes into four ſpecies of augury, according to the four elements.—*Pyromancy*, or augury by fire; *aeromancy*, or augury by the air; *hydromancy*, or augury by the water; and *geomancy*, or augury by the earth.

The particular branches are *alectoromancy*, *anthropomancy*, *belomancy*, *catoptromancy*, *capnomancy*, *gastromancy*, *geomancy*, *aruſpicina*, *libanomancy*, *lecanomancy*, *necromancy*, &c. See each deſcribed under its proper article.

AUGUST, AUGUSTUS, in a general ſenſe, ſomething majeſtic, venerable, or ſacred.

The title Auguſtus was firſt given by the Roman ſenate to Octavius, Jan. 13th. A. U. C. 727. B. C. 27. after his being confirmed by them in the ſovereign power.—It was conceived as expreſſing ſomething divine, or elevated above the pitch of mankind, being derived from the verb *augeo*, *I increaſe*, "tanquam ſupra humanam ſortem auctor." When ſome of the ſenators, in concurrence with his own firſt inclination, would have given him the name of Romulus, as a ſecond founder of Rome; Munatius Plancus propoſed his being denominated Auguſtus, becauſe it denoted a perſon or thing conſecrated by ſome augur, or form of religion, and nearly allied to the deity. Accordingly, Ovid gives us this reaſon for the appellation in his "Faſti," l. i. v. 609.

" Sancta vocant Auguſta patres: Auguſta vocantur
Templa, Sacerdotum ritè dicata manu.
Hujus et augurium dependet origine verbi,
Et quodcunque ſuâ Jupiter auget opè."

The ſucceſſors of Octavius aſſumed the ſame quality; ſo that thenceforward *Emperor* and *Auguſtus* became ſynonymous terms.

The Greeks rendered the name Auguſtus by ΣΕΒΑΣΤΟΣ, and gave it to all the ſucceſſors of Auguſtus, after the example of the Romans.

Auguſtus, the title expreſſive of the character of peace and ſanctity, which Octavius unanimouſly aſſumed, was a perſonal, and *Cæſar* a family diſtinction. The former, therefore, ſhould naturally have expired with the prince on whom it was beſtowed; and however the latter was diffuſed by adoption and female alliance, Nero was the laſt prince who could allege any hereditary claim to the honours of the Julian line. But, at the time of his death, the practice of a century had inſeparably connected theſe appellations with the imperial dignity, and they have been preſerved by a long ſucceſſion of emperors, Romans, Greeks, Franks, and Germans, from the fall of the republic to the preſent time. A diſtinction was, however, ſoon introduced. The ſacred title of Auguſtus was reſerved for the monarch, while the name of Cæſar was more freely communicated

to his relations; and from the reign of Adrian, at leaſt, was appropriated to the ſecond perſon of the ſtate, who was conſidered as the preſumptive heir of the empire. Accordingly, the perſon, who was deſtined to ſucceed to the dignity, was firſt created *Cæſar*; which was a ſtep neceſſary to arrive at that of *Auguſtus* or emperor.—Yet F. Pagi maintains the reverſe; viz. that it was neceſſary to be *Auguſtus* previouſly to the being *Cæſar*; and alleges the inſtance of Valentinian I., who proclaimed his brother Valens *Auguſtus* before he was created *Cæſar*; but this ſingle fact is not ſufficient to invalidate the evidence of common practice.

The empreſſes alſo took the quality of *Auguſtæ*; and even ſome ladies of the imperial family, who had never been wives of emperors, but mothers or daughters.

On medals and coins, ſome of the ancient kings of France are alſo found with the appellation *Auguſti*; particularly Childebert, Clothaire, and Clovis; add, that the wife of this laſt, Chrotechilda, is alſo called by Herric, in his book of the miracles of St. Germain, indifferently either *Auguſta*, or *queen*.

AUGUST, in reſpect of *Chronology*, denotes the eighth month of the Julian year.

This was called in the ancient Roman calendar, *ſextilis*, as being the ſixth from March, from which the Romans began their computation. The emperor *Auguſtus* changed the name, and gave it his own; not that it was the month in which he was born, which was September, and which was firſt propoſed for bearing his name, but becauſe it had been fortunate to him by ſeveral victories which he had gained in it.

He preferred this month to September for the reaſons mentioned in the deliberations of the ſenate, preſerved by Macrobius. The tenor of them is as follows: "As it was in the month, hitherto called *ſextilis*, that the emperor Cæſar Auguſtus took poſſeſſion of his firſt conſulſhip; that he celebrated three triumphs; that he received the oath of allegiance of the legions that occupied the janiculum; that he reduced Egypt under the power of the Roman people; that he put an end to all civil wars; it appears that this month is and has been a moſt happy month to this empire; the ſenate therefore ordains, that this month ſhall henceforth be called Auguſtus. This decree of the ſenate was ratified by an order of the people.

Our Saxon anceſtors called it *Weod-monath*, that is *weed-month*, on account of the plenty of weeds in this ſeaſon. Spelman.

This month is eſteemed one of the richeſt in the whole year, becauſe of the harveſt of the ſeveral ſorts of grain which is produced in that ſeaſon. Hence is to be derived the French proverb, *a man has made his Auguſt*; which proverb is much uſed among merchants, to ſignify that a man has been ſucceſsful in trade, and got an eſtate.

AUGUST is alſo uſed, in *Middle Age Writers*, for a power or licence, of going out of a city in harveſt-time, to reap, &c. Du-Cange.

AUGUSTA, in *Ancient Geography*, a name given ſingly, or in connection with ſome epithets, to ſeveral towns in honour of *Auguſtus* the Roman emperor. Thus, *Auguſta* was a town of Gallia Narbonnenſis, founded by Auguſtus, with the title of a colony; ſituate 1½ league from the Rhone, and having a temple of Jupiter, a circus, and an amphitheatre.—Alſo, a town of Cilicia, ſeated on mount Taurus, five or ſix leagues north from Adana. Pliny, l. v. c. 27. It became ſubject to Rome in the reign of Auguſtus.—Alſo, a town of Dacia Ripenſis.—Alſo, a town of Rhætia.—Alſo, a port of Sicily, nearly north of Syracuſe. *Auguſta Aſturica, Aſtorga*, an ancient town of Spain, in Aſturia.—A. *Auſciorum*, a town of Aquitania, originally called *Climberrum*, which name it afterwards reſumed. In the middle age it took the name of the people *Auſci*, and is now AUCH.—A. *Bateniorum*, or *Baciennorum*, an ancient town of Italy, in Liguria; called alſo A. *Vagiennorum*.—A. *Bracarum*, Braga, an ancient town of Hiſpania Citerior. Pliny.—A. *Emerita*, a town of Luſitania, on the river Anas, the capital of the province: it was a colony of the Emeriti, or of ſuch ſoldiers as had ſerved out their legal time, were men of experience, or had received marks of favour, founded by Auguſtus; adorned by him with ſtately buildings, a long and magnificent bridge over the Gaudiana, and two aqueducts. It is now called MERIDA.—A. *Euphrateſia*, a town of Aſia, in Comagene, on the banks of the Euphrates.—A. *Gemella*, a town of Bœtica in Spain, in the country of the Turduli.—A. *Magna*, a town of Aſia, ſituate at the confluence of the Apſar and Phaſis. Ptolemy.—*Auguſtamica*, a diviſion of Egypt, which commenced about the time of Theodore II. comprehending that part of Lower Egypt, which extends from the right arm of the Nile to the eaſt of Delta, to the frontier of Arabia.—A. *Nova*, a town of Hiſpania Tarragonenſis, on the river Areva, in the country of the Arevaci; called by Ptolemy *Porta Auguſta*.—A. *Prætoria*, a town of Gallia Ciſalpina, at the foot of the Alpes Graiæ, in Duria, ſo called becauſe Auguſtus ſent thither a colony of the prætorian ſoldiers: inhabited by the Salaſſi: now AOUSTE.—A. *Rauracorum*, a town of Helvetia, now called AUGST. A. *Sueſſonum*, a town of Gallia Belgica, on the Axona, now SOISSONS.—A. *Taurinorum*, a town of the Taurini, at the foot of the Alps, where the Duria Minor falls into the Po, ſo called becauſe Auguſtus eſtabliſhed here a Roman colony; now TURIN.—A. *Tiberii*, a town upon the Danube, on the confines of Rhætia and Dorica; now RATISBON.—A. *Treba*, a town of the Æqui, near the ſprings of the river Anio in Italy, now TREVI, in Umbria.—A. *Trevirorum*, a town of Gallia Belgica, belonging to the Treviri, a people inhabiting the territory between the Rhine and the Moſelle, now TREVES or TRIERS.—A. *Trinobantum*, a town of the Trinobantes, in the iſle of Albion, called Auguſta from its grandeur; now LONDON.—A. *Vagiennorum*, the ſeat of a Roman colony, among the mountains, now VICO near MONDOVI.—A. *Veromanduorum*, a town of Gallia Belgica, now St. QUINTIN.—A. *Valeria*, a town of Hiſpania Tarragonenſis, belonging to the Celtiberians. Ptolemy.—A. *Vindelicorum*, a town of Vindelicia, now AUGSBURG.

AUGUSTA, in *Geography*, a town of Sicily, eighteen miles by land, and nine by ſea, diſtant from Syracuſe, was built by the emperor Frederick II. near the ruins of the Greek city of Megara; and covered a ſmall low peninſula, joined to Sicily on the north ſide by a long cauſeway, having on each ſide extenſive ſalt-ponds. This projection forms a very fine harbour, the largeſt and moſt eaſy of acceſs in Sicily, opening to a ſouthern expoſure, but ſheltered by the points of the coaſt from both wind and ſwell, with nine fathoms of water in almoſt every part. A ruinous citadel guards the land gate; and three forts, built on little iſlands, defend the entrance of the port. The country along the oppoſite ſhore is beautifully diverſified in its culture. The order of Malta has eſtabliſhed at Auguſta magazines of ſalt meat, biſcuit, and flour, for the ſupply of their ſhips that are continually paſſing between the iſlands. The town is ſcarcely recovered from the devaſtation cauſed by the earthquake in 1693, which deſtroyed by the falling of the houſes about one third of the inhabitants, ſet fire to the powder magazine in the citadel, which blew up, and threw the light-houſe precipitately into the ſea. Since that time the town has been rebuilt on a regular plan, with low houſes to prevent injury from another ſhock if it ſhould occur. The number of inhabitants

habitants is reckoned at 9205 by an enumeration. Swinburne says its population amounts to 16,000 persons. Travels, vol. iv. p. 116.

Augusta, a county of Virginia, in North America, lying partly on the east and partly on the west of the North Mount, a ridge of the Alleghany. The soil is fertile, and the country contains 10,886 inhabitants, including 1567 slaves. In this district there is a remarkable cataract, called "the falling spring," which is a branch of the James, where it is called Jackson's river, rising in the mountains twenty miles south-west from the "warm or hot spring," in N. lat. 38° 9'. W. long. 80° 6'. At the "falling spring" the water falls two hundred feet, being fifty feet higher than the fall of Niagara; and the sheet of water is only twelve or fifteen feet wide above, and somewhat wider below.

Augusta, a town of North America, in the upper district of Georgia, situate on a fine plain in Richmond county, on the south-west bank of the Savannah river, where it is near five hundred yards broad, at a bend of the river, 127 miles north-west from Savannah, and 934 south-west from Philadelphia. At the first settlement of the colony, general Oglethorpe erected a fort here for protecting the Indian trade, and holding treaties with the natives. In 1787, it contained 200 houses. The country round it has an excellent soil, which, together with its central situation between the upper and lower countries, insures its improvement. N. lat. 33° 19'. W. long. 80° 46'.

Augusta, a town of Upper Canada.

Augusta, a river in the south-east part of the island of Cuba, in the West Indies, navigable for several leagues from the mouth, in which is Cumberland harbour.

Augusta, *Historia*, is the history of the Roman emperors from the time of Adrian to Carinus, composed by six Latin writers, Æl. Spartianus, Julius Capitolinus, Æl. Lampridius, Vulcatius, Gallicanus, Trebellius Pollio, and Flavius Vopiscus. They all lived in the reign of Diocletian, though some of them flourished under his successors, near the end of the third and beginning of the fourth century. They are rather biographers than historians, and take more care to inform us of the good and bad qualities of the emperors, of their birth, education, stature, mien, and even their diet, and the clothes they wear, than to describe their wars, the laws they enacted, and the great revolutions that happened during their respective reigns. Vopiscus, who was a Syracusan, and who is said, in the life of Probus, to have imitated Suetonius, according to the general opinion of the learned, far excels the rest, both as to his method and style; nevertheless he has many imperfections, and is not to be compared with any of the Latin historians. The other five betray great want of judgment in their choice, and of method in digesting their materials. Of these six writers, Capitolinus is the most confused and injudicious; whence some have suspected that the author of this collection had blended together the relations of Capitolinus, Spartian, and some others. Their style is vulgar and unpolished, their expressions uncouth, and sometimes hardly intelligible. Vopiscus observes, that Lampridius and Capitolinus attended more to truth than to elegance in their narrations. Pollio acknowledges that his style has nothing of the dignity of the ancients. Fabr. Bibl. Latin. vol. ii. p. 37, &c. Anc. Un. Hist. vol. xiv. p. 67. The histories of these writers were published together, with the notes of Casaubon, Salmasius, and Gruter, in two vols. 8vo. 1671; and re-published by I. P. Schmidt, in 1771.

AUGUSTALES, or *Sodales* Augustales, or *Flamines* Augustales, were the priests of Augustus, appointed after the deification of that emperor by Tiberius, and instituted by him, to perform the service of the new god. Three of these were Drusus, Claudius, and Germanicus; and the others, who supplied the number of twenty-one, were chosen by lot among the citizens of the first families in Rome. The name of Augustales was also applied to other colleges of priests, instituted in honour of the successors of Augustus, and [illegible]. The appellation is also extended to those who enlisted the first ranks of the army; to the priests of Rome, who were established by Augustus after the defeat of Antony and Cleopatra; to all the officers [illegible] to those citizens in the colonies and municipia, who held the middle rank between the [illegible] and the people. The Augustales of the [illegible] were probably to attend to the worship of Augustus in the [illegible] with those of Rome.

AUGUSTALIA, in *Antiquity*, a festival [illegible] honour of the emperor Augustus.

This festival was first established in the year of Rome 735, being the fourth after he had ended all his wars, and settled the affairs of Sicily, Greece, Asia, Syria, and the Parthians. The day [illegible] being the fourth of the ides of October, was appointed to be kept a feast, and was called *Augustalis*.

Augustalia was also a name given to the games celebrated in honour of the same prince, on the fourth of the ides of October.

AUGUSTALIS, or *Præfectus Augustalis*, a Roman magistrate who was appointed to govern Egypt, with a power much like that of a proconsul in other provinces.

AUGUSTAN, relating to Augustus or Augusta.

Augustan *Age*. See Age.

Augustan, or Augsburg, in *Ecclesiastical History*, denotes a celebrated confession of faith, drawn up by Luther and Melancthon, on behalf of themselves and other ancient reformers, and presented, in 1530, to the emperor Charles V. at the diet of Augsburg, in the name of the evangelic body. This confession contains twenty-eight chapters, of which the greatest part is employed, in representing, with perspicuity and truth, the religious opinions of the protestants, and the rest in pointing out the errors and abuses that occasioned their separation from the church of Rome. The style in which it is written is plain, elegant, grave, and perspicuous, such as becomes the nature of the subject, and does honour to the eloquent pen of Melancthon. The matter of this confession was supplied by Luther, who, during the diet, resided at Coburg, a town in the neighbourhood of Augsburg; and even the form it received from the acute judgment of his colleagues was authorised by his counsel and approbation. The Roman catholics attempted a refutation of this confession: this refutation was read publicly in the assembly; and the emperor demanded submission on the part of the protestants; but the Protestants were not satisfied, and requested a copy of this reply, that they might demonstrate at large its insufficiency and weakness. The emperor refused this request, interposed by his authority to suspend any further proceedings, and forbade the publication of any new writings or declarations that might contribute to lengthen out their religious [illegible] which was presented to the emperor, but he refused to receive it. This author was afterwards enlarged and published in 1531, with the other pieces that related to the doctrine and discipline of the Lutheran church, under the title of "A Defence of the Confession of Augsburg," or "Apologia Confessionis Augustanæ." In comparing this Confession,

defence, Melanĉthon's love of peace and concord ſeems to have carried him beyond what he owed to the truth; and through ſervile fear, exceſſive charity, or indeciſion of mind, he makes ſeveral ſtrange conceſſions to the church of Rome. Mofheim's Eccl. Hiſt. vol. iv. p. 283. In ſome ſubſequent editions of the "Apologia," the obnoxious paſſages were expunged, and the phraſeology that had given juſt offence materially altered. See PHILIPPISTS.

AUGUSTATICUM, in *Middle Age Writers*, denotes a largeſs, or donative, of an emperor to the people or ſoldiery.

AUGUSTENBERG, in *Geography*, a town of Germany, in the circle of Upper Saxony, and county of Schwartzburg; three miles eaſt of Arnſtadt.

AUGUSTENBERG, a town of Denmark, in the duchy of Sleſwick, ſix miles eaſt of Sonderburg.

AUGUSTEUM Marmor, in the *Natural Hiſtory of the Ancients*, a name given to the common green and white marble ſo frequent in uſe with us for tables, &c.; and called by our artificers, Egyptian marble.

AUGUSTIN, ANTHONY, in *Biography*, archbiſhop of Tarragona, was born at Saragoſſa, of parents of diſtinction, and ſtudied in various univerſities both of Spain and Italy. At the age of twenty-five, he publiſhed a treatiſe of law, intitled, "Emendationes et Opiniones Juris Civilis." He was ſent as nuncio to England by pope Julius III. in 1554; and in 1562, he diſtinguiſhed himſelf at the council of Trent. From the year 1574 to 1586, the time of his death, he poſſeſſed the archbiſhopric of Tarragona. His liberality to the poor was ſuch, that when he died, there was not found money ſufficient to defray the expences of a funeral ſuitable to his rank. Of many writings in law, which he left, the moſt valuable is a treatiſe "De Emendatione Gratiani," firſt printed at Tarragona in 1587, and afterwards publiſhed in 1672, by Balzar, 8vo., and eſteemed an elaborate treatiſe on the canon law. He wrote alſo "Antiquæ Collectiones Decretalium," printed at Paris in 1621, folio, with notes; "Dialogues on Medals," publiſhed at Tarragona, in 1587; and other treatiſes, chiefly on canon law: with ſkill in the law, he united purity of language. Nouv. Dict. Hiſt.

AUGUSTIN, and by contraction AUSTIN, St. uſually ſtyled "the Apoſtle of the Engliſh," was the firſt archbiſhop of Canterbury, and flouriſhed about the cloſe of the ſixth century. He was originally a monk in the convent of St. Andrew at Rome, educated under St. Gregory, afterwards pope Gregory I.; and about the year 596, deputed by him on a miſſion to Britain, for the converſion of the Engliſh Saxons. Whilſt Auguſtin, and forty monks, who were his aſſociates in this miſſion, were purſuing their journey, they were diſcouraged by apprehenſion of the dangers which they were likely to encounter; and Auguſtin was ſent back from France to Rome, with a petition to be recalled from this hazardous undertaking. Gregory, however, was determined not to abandon his project; he therefore encouraged them to proceed, furniſhed them with recommendatory letters to the king and queen of France, and to the biſhop of Arles, and inſtructed them to take with them ſome interpreters from the Franks, whoſe language ſtill reſembled that of the Anglo-Saxons. In the year 597, the miſſionaries landed in the iſle of Thanet; and having informed Ethelbert, king of Kent, whoſe queen Bertha was a Chriſtian, and who was diſpoſed to give them a favourable reception, of their arrival, and of the deſign of their miſſion, they were introduced into the royal preſence. The king, however, choſe to receive them in the open air, from a ſuperſtitious notion that he would be thus more ſecure from the deluſive influence of their magical arts, than within the walls of a houſe. Auguſtin, by means of his interpreters, opened his commiſſion; and after ſtating to Ethelbert the leading doctrines of Chriſtianity, he allured him to embrace the religion of Chriſt by the aſſurance of an eternal kingdom in heaven. The king, after a candid hearing, heſitated in abandoning the religion of his anceſtors; but with a liberality which reflects honour upon his memory, and under a due ſenſe of the kind intention with which the miſſionaries had undertaken ſo long a journey, he allowed them to remain in the country, and to uſe their efforts for the converſion of his ſubjects. Accordingly he aſſigned for their reſidence that part of the ancient Durovernum, or the modern Canterbury, which is now called "Stable-gate," and which had been formerly a kind of oratory or chapel for the royal family, where they worſhipped and offered ſacrifice to their gods. The miſſionaries entered the city in proceſſion, ſinging an hymn. Their miniſterial labours were at firſt confined to the precincts of the city, where the acceſſion of new converts was inconſiderable; but as ſoon as the king himſelf was proſelyted and baptized, they obtained liberty to extend their commiſſion to every part of his dominions; and their ſucceſs was ſo great, that Auguſtin is ſaid to have baptized 10,000 perſons of both ſexes in one day, in the river Swale, at the mouth of the Medway. In the commencement of his miſſion, he thought it expedient to refrain from coercive meaſures; and, as Bede informs us (Eccl. Hiſt. l. i. c. 26.), he inſtructed Ethelbert, that the ſervice of Chriſt muſt be voluntary, and that no compulſion ought to be uſed in propagating the goſpel; nor does it appear that any violence was uſed in the firſt eſtabliſhment of Chriſtianity in England, beſides that of demoliſhing idols, and converting Pagan temples into Chriſtian churches.

Auguſtin, who ſeems to have been conſecrated archbiſhop of Canterbury before his arrival in England, was actuated by his rapid ſucceſs with the ambition of poſſeſſing, under the ſanction of the pope, the ſupreme authority in the Engliſh churches. For the purpoſe of ſoliciting this honour, or that of primate of England, and alſo of obtaining inſtructions with regard to other ſubjects, which may now be deemed of very queſtionable or trivial importance, he deputed meſſengers to the pope, who ſpeedily returned with a full anſwer to the archbiſhop's inquiries. They alſo brought with them a pall (ſee PALL), as a badge of archiepiſcopal dignity, and various other eccleſiaſtical veſtments and utenſils. The pope alſo gave Auguſtin directions for erecting twelve ſees within his province, and particularly for appointing one at York, which, if the country ſhould become Chriſtian, he was to form into a province with twelve ſuffragans. Among the counſels communicated by the pontiff to Auguſtus on this occaſion, was an admonition not to be elated with pride on account of the miracles which he had been enabled to perform in confirmation of his miniſtry, but to conſider that this power was given him, not for his own ſake, but for the ſake of thoſe whoſe ſalvation he was appointed to procure. Auguſtin, having fixed his ſee at Canterbury, dedicated an ancient church, formerly built by ſome Roman Chriſtians, to the honour of Chriſt; and king Ethelbert founded the abbey of St. Peter and St. Paul, afterwards called St. Auguſtin's, and ſince converted into the archbiſhop's palace. Such was the attachment of St. Auguſtin to the ſee of Rome, that he attempted to bring the Britiſh biſhops in Wales under the authority of the Roman ſee. From the time when the ancient Britons, or Welſh, were firſt inſtructed in the Chriſtian faith by Faganus and Damianus, who had been ſent at the

requeſt

request of Lucius, in the second century, as missionaries by Eleutherius bishop of Rome, these churches had followed the rules of their first masters, without regarding the subsequent alterations prescribed by the church of Rome. But pope Gregory, by appointing Augustin metropolitan of the whole island, had claimed jurisdiction over the churches of Wales; and Augustin was well inclined to support the claim. Two conferences were held on the business; both of which were unsuccessful. At the second conference, seven British bishops attended, and many more from the monastery of Bangor, under the direction of the abbot Dinoth. Disposed as they were to pay all due respect to the archiepiscopal dignity of Augustin, they took measures, previously to their meeting, for preventing a termination of their contests which would be unfavourable to their interest. Accordingly they consulted a hermit of a knowledged understanding, and requested his opinion, whether they should surrender their independence, and their ancient customs and privileges, to the pretensions of Augustin. The hermit, probably apprized of the disposition and character of the metropolitan, gave them the following instructions: "If this man follows the example of his master, who was meek and lowly of heart, he is a servant of God, and you ought to obey him; if not, his claim is not to be regarded: let Augustin and his brethren be first seated in the place of meeting; if upon your entrance, he rise up to salute you, honour him as a messenger from God; if he neglect to shew you this civility, reject his offers, for he has not taken upon him the yoke of Christ." When the British bishops and monks entered the hall, Augustin, who had taken the chair, received them sitting. Upon which, conformably to the advice of the hermit, they declined complying with the proposals of the haughty prelate, and disclaimed all subjection to the see of Canterbury, and virtually to that of Rome. Augustin, incensed by their conduct, took leave of the assembly, and denounced upon the British clergy this menacing sentence: "If you will not accept of peace with your brethren, receive war from your enemies; if ye will not preach the way of life to the English, suffer death from their hands." The event corresponded with the menace: Ethelfrid, king of Northumberland, soon afterwards marched with a large army to Caerleon, and made a great slaughter, in which near 1200 of the monks of Bangor were put to the sword. The memory of Augustin has been loaded with the infamy of having, to satiate his revenge, fulfilled his own prophecy. Bishop Godwin (De Præsul. Angl. p. 43. ed. 1616.) exclaims, "Excellent prophet! who could predict what he knew so well how to accomplish:" and he asserts, upon the authority of an anonymous manuscript, and of an old French annalist, that Augustin, resenting the rejection of his proposal by the Welsh bishops, stimulated Ethelbert to fall upon them, as a wolf upon a flock of sheep, with a large army, borrowed in part from Ethelfrid; and that the bishop himself joined the army of Ethelfrid at Chester, and assisted him to gain a complete victory. In opposition to this testimony, however, it is urged by the learned Wharton (Angl. Sacr. t. i. p. 89.), on the credit of an ancient book cited by William Thorn, that Augustin and pope Gregory both died in the same year, that is, in the year 604, when it is certain Gregory died; whereas the slaughter of the monks happened, according to Godwin (ubi supra), in 605. Bede, who mentions this battle (l. ii. c. 2.), adds, that it was fought after the death of Augustin; and though this passage has been suspected of interpolation, the suspicion has been founded merely on the omission of it in Alfred's Saxon version, though it is found in all the most ancient manuscripts; and on Augustin's having signed a charter with Ethelbert, in 605; whereas the custom of signing written [illegible] not older than the year 700. It is not easy to [illegible] with any degree of certainty, whether Augustin [illegible] the war against Wales; but however that be, he cannot be exculpated from the charge of having excited [illegible] ments of revenge against the Welsh bishops, and [illegible] may be justly suspected of having at least [illegible], which, in the issue, proved so fatal to the [illegible] (See Cave Hist. Lit. t. i. p. 549.) Augustin, after having appointed Laurence [illegible] died, as some say, and [illegible] good reasons for [illegible] to others, in 613 or 614. The [illegible] deposited first in the monastery, and afterwards in the cathedral of Canterbury. In 1091, some of them were secured by an abbot in a small urn, guarded by iron and lead, and hid in a wall, lest the precious treasure should fall into the sacrilegious hands of the Danes and Normans. After the lapse of another century, what yet remained of the holy skull was by another abbot enamelled with gold and precious stones, and repositied by itself; and in the year 1300, a third abbot laid what he could find of the holy relics in a marble tomb adorned with beautiful carved work, and bearing an inscription of the following jingling couplet:

"Ad tumulum laudis patris almi dirige cursus,
Abbas hunc tumulum Thomas dictavit honore."

As to the miracles ascribed to St. Austin, they are authenticated merely by lying legends, to which no credit is due. Besides restoring a blind man to sight, for the purpose of establishing his authority and vindicating his claims in the first conference with the British bishops, he is said to have left the print of his foot on the stone which received his first step on his landing in the isle of Thanet; to have caused a fountain of water to spring up for baptizing; and to have called up first the corpse of an excommunicated man to make confession of having refused the payment of tythes, and then that of the priest who had excommunicated him, to give him absolution, in the presence of the people; after which both of them returned to their graves!

"As the apostle of the English, Augustin may deserve to be remembered with honour, as the immediate agent in the dispersion of Pagan superstition, and the introduction of a purer system of religion; but other superstitions, it must be confessed, were introduced in the room of those which were removed, and the people, under the dominion of Christian priests and monks, still remained in a state of mental vassalage. The personal merit of this missionary will bear no comparison with that of the first Christian apostles. While Paul and his brethren, in their journeys for the propagation of the gospel, exposed themselves to innumerable perils, without any prospect of temporal advantage, this apostle travelled under the protection of princes, enjoyed the support and assistance of the civil power, and found his spiritual labours the direct path to worldly honour and emolument. A pope was his master: a king was first his patron, and then his disciple; and the sole government of his new church, with all the advantages of supremacy in a well-arranged hierarchy, was his recompence. That which decisively fixes the reproach of inordinate ambition upon his character is, that he not only eagerly seized the metropolitan dignity in the English church before it was well formed, but endeavoured to bring the ancient and independent British churches under his power; and that, meeting with more resistance than he expected from the free spirit of the ancient Britons, his haughty temper could not brook the

the oppoſition, and he at leaſt *meditated* revenge. We can only judge of the character of this apoſtle by his actions, imperfectly recorded; for none of his writings remain." Biog. Brit. Gen. Biog.

AUGUSTINE, Saint, a celebrated Chriſtian divine of the catholic church, the ſon of Patritius, a citizen of mean rank, and Monica, celebrated for her piety, was born at Tagaſte, a ſmall town of Africa, in the year 354. His mother, anxious for his imbibing the principles of the Chriſtian religion, placed him among the catechumens; and during a dangerous illneſs, he expreſſed a deſire of being baptiſed; but upon his recovery, he poſtponed the ceremony, from a ſuperſtitious notion that ſins committed after baptiſm were more heinous than thoſe committed before. By his father he was ſent for claſſical learning, much againſt his own inclination, firſt to a ſchool in the place of his nativity, and afterwards to Madaura. But he was idle and diſſipated; and guilty of deceiving his maſters, and of pilfering from his parents. To the ſtudy of Greek he was at this time particularly averſe; nor does he ſeem in mature life to have made any great proficiency in it, a he confeſſes that he read the Platoniſts in a Latin verſion. At the age of ſixteen, and in the year 371, he was removed to the ſchools of Carthage; but, in the mean while, notwithſtanding the counſel and remonſtrances of his mother, he acquired habits of incontinence, which were not ſoon abandoned, and which he ingenuouſly acknowledges and laments, in a book of "Confeſſions," written by him at a ſubſequent period, when he became ſenſible of his folly. At Carthage he devoted himſelf to the ſtudy of rhetoric and polite literature; and ſtill poſſeſſing ſentiments not wholly depraved, he found great pleaſure in peruſing the philoſophical writings of Cicero, particularly his Hortenſius, or "An exhortation to the ſtudy of Philoſophy," not now extant. Having been betimes inſtructed in religion, he occaſionally read the ſcriptures; but not finding in them that kind of eloquence which he met with in Pagan writers, he diſliked their ſimplicity, and threw them aſide. However, during his continuance at Carthage, he attached himſelf to the Manichees, and from the nineteenth to the twenty-eighth or twenty-ninth year of his age, he was a diſciple and advocate of this ſect. When he was about eighteen, his mother, who was then become a widow, viſited him at Carthage, and made every effort in her power for reclaiming him from debauchery and hereſy; and ſhe perſuaded him to return to Tagaſte, where he opened a ſchool of grammar and rhetoric. Notwithſtanding the reputation he acquired, his mother had ſtill reaſon to bewail his conduct; and Auguſtine himſelf, in his "Confeſſions," (l. iii.) expreſſes, with great tenderneſs, his ſenſe of the prayers which ſhe preſented, and the tears which ſhe ſhed, on his account. About the cloſe of the year 379, Auguſtine removed to Carthage, and taught rhetoric in that city. He was alſo at this time a ſtrenuous advocate for the Manichean ſyſtem. But his love of pleaſure, whatever were his other engagements, continued to be his predominant paſſion; and he formed a connection with a miſtreſs, by whom he had a child, and to whom he remained conſtant. Regardleſs of decorum, he named this child "Adeodatus," the gift of God; and he ſpeaks of him, at the age of fifteen, as a young perſon of extraordinary talents. Provoked by the inſolence of his ſcholars at Carthage, Auguſtine removed with his miſtreſs and child to Rome, and taught grammar and rhetoric in that city; but having reaſon to be diſſatisfied with his ſituation, he ſought a new ſettlement; and, by the recommendation of Symmachus, prefect of Rome, he was appointed, in the year 383, profeſſor of rhetoric at Milan. Here he had an opportunity of attending the ſermons of Ambroſe, biſhop of this city, which led him to waver between Manicheiſm and the Catholic faith. In this ſtate of heſitation his mother came to Milan, and renewed her intreaties that he would forſake the Manichees, and quit his irregular courſe of life. The intreaties of his mother were enforced by the converſation of two worthy men, Simplician and Patilian; and he was thus prepared for the change which ſoon followed, both in his ſentiments and conduct. Whilſt he was in a ſtate of deliberation and ſuſpence, praying to God for illumination, he heard, as he ſays, or imagined that he heard, a voice like that of a ſinging-boy, addreſſing him in theſe words, "Tolle, lege; tolle, lege;" or "Take, read; take, read;" and opening the New Teſtament, he turned to this paſſage; "Not in rioting and drunkenneſs, not in chambering and wantonneſs, &c." Accordingly, he immediately reſolved to become a member of the Catholic church, and entered himſelf among the catechumens; and further to teſtify the ſincerity of his converſion, he yielded to the perſuaſion of his mother, and determined to marry. But before he had an opportunity of executing this purpoſe, his character was reproached by another connection of an illicit nature. (Confeſſ. l. vi. c. 15.) At the cloſe of the year 386, Auguſtine relinquiſhed his profeſſion, devoted himſelf to the ſtudy of theology, and employed the interval previous to his baptiſm, in explaining the ſcriptures, and vindicating the Catholic faith. In compliance with the advice of father Ambroſe, he dedicated himſelf to the miniſtry; and having diſmiſſed his new miſtreſs, and abandoned his intended wife, and having received baptiſm with his illegitimate ſon, and his friend Alypius, on Eaſter-eve, in the year 387, he conſecrated the remainder of his life to religion. In the year 388, his mother died at Oſtia; and Auguſtine returned to Africa. Having ſpent three years in his native city, where he exhibited an example of abſtinence and piety, and of diligent application to the ſtudy of the ſcriptures, he viſited Hippo; and by the recommendation of Valerius, the biſhop, he was elected and ordained preſbyter in the year 391. Here he founded a religious ſociety, compoſed of perſons who were required to throw their property into a common ſtock, and to devote themſelves to the exercíſe of piety. In 395, he was appointed coadjutor, or joint biſhop with Valerius, to the church at Hippo. After his advancement to the epiſcopal office, he diſtinguiſhed himſelf, on various occaſions, by the ardour of his zeal againſt heretics of every denomination; and againſt the Manichees, Donatiſts, and Pelagians, he waged a perpetual controverſy. From the time of his converſion to that of his death, his manners were, in general, pure and auſtere; although from one of his confeſſions (l. x. c. 31.) there is reaſon to infer, that he was addicted to hard drinking. His encomiaſts have indeed extolled his moderation and urbanity; and the following inſcription on his table deſerves being recorded:

"Quiſquis amet dictis abſentem rodere vitam,
Hanc menſam indignam noverit eſſe ſibi."
"Far from this table be the worthleſs gueſt,
Who wounds another's fame, though but in jeſt."

After a life of varied fortune and mixed character, Auguſtine died in the year 430, at the age of 76 years; having been haraſſed, at the cloſe of his days, by ſeeing his country invaded by the Vandals, and the city of which he was biſhop beſieged. The Vandals, however, who took Hippo, and burnt it, ſaved his library, which contained his voluminous writings, conſiſting of 232 ſeparate treatiſes on theological ſubjects, beſides a complete expoſition of the pſalter and the goſpel, and a copious magazine of epiſtles and homilies. They are collected together in the Benedictine edition, printed

printed at Paris in 1679, and reprinted at Antwerp in 1700; and fill eleven volumes in folio. His remains were carried by the Catholic bishops of Africa into Sardinia, the place of their exile; and from thence, after an interval of 200 years, they were conveyed by Luitprand, king of the Lombards, to Pavia, his capital.

In estimating the talents and learning, the disposition and character, and the value of the writings of Augustine, some have exalted him far above, and others have degraded him as much below his just rank. Mosheim observes, that his fame filled the whole Christian world; and "not without reason, as a variety of great and striking qualities were united in the character of that illustrious man. A sublime genius, an uninterrupted and zealous pursuit of truth, an indefatigable application, an invincible patience, a sincere piety, and a subtile and lively wit, conspired to establish his fame upon the most lasting foundations. It is however certain, that the accuracy and solidity of his judgment were by no means proportionable to the eminent talents now mentioned; and that, upon many occasions, he was more guided by the violent impulse of a warm imagination, than by the cool dictates of reason and prudence. Hence that ambiguity which appears in his writings, and which has sometimes rendered the most attentive readers uncertain with respect to his real sentiments; and hence also the just complaints which many have made of the contradictions that are so frequent in his works, and of the levity and precipitation with which he set himself to write upon a variety of subjects, before he had examined them with a sufficient degree of attention and diligence." That he possessed a strong, capacious, argumentative mind, is generally allowed; but his style, though sometimes animated by the eloquence of passion, is usually clouded by false and affected rhetoric. "It has (says one of his biographers) more argument than oratory, more fluency than elegance, and more wit than learning; he has a certain subtlety and intricate involution of ideas through long periods, which require in the reader acute penetration, close attention, and quick recollection. In fine, he is, as Erasmus has observed, a writer of obscure subtlety, and unpleasant prolixity." And, as many of his speculations are in themselves unteresting, it is no wonder that his voluminous writings are now very much, and perhaps unduly, neglected. At the same time it is much to be lamented, that the doctrines of this father in the church should have led men to adopt a gloomy system of religion, and to support it with all the rigour of persecution. Such particularly are those charged upon him by Le Clerc (Letter prefixed to Supplement to Hammond's Paraphrase), which take away goodness and justice both from God and man; the one representing God as consigning men to eternal torments, for sins which they could not avoid: the other, stirring up magistrates to persecute those who differ from them in religion. It has also been regretted, that no writings, those of Aristotle excepted, have contributed more than Augustine's, to encourage that spirit of subtle disputation which distinguished the Scholastic age. The learning of Augustine, and particularly his knowledge of the Greek language, have been disputed: and hence the importance of his scripture criticisms has been depreciated. But although it be allowed that his commentaries chiefly consist of popular reflections, spiritual and moral, or allegorical and mystical perversions of the literal meaning; yet the works of this father are not wholly destitute of remarks and critical interpretations, that are pertinent and judicious. To such, after a detail of extracts from the writings of Augustine, the impartial and candid Dr. Lardner has referred. With regard to his knowledge of the Greek language, this excellent writer is of opinion, that he understood Greek better than some have supposed; and he has cited several passages, from which it may be argued, that Augustine frequently compared his copies of the Latin version with the Greek original. M. Le Clerc himself allows, that Augustine does sometimes very happily explain Greek words; but on such occasions he suspects, without sufficient reason, that he had the assistance of another.

As to the character of Augustine, it [illegible] and that his "Confessions," which were [illegible] have the praise of ingenuity and honesty, must remain a perpetual memorial of disgrace. Besides, although this father of the church entertained, in the [illegible] of controversy, [illegible] mild and charitable [illegible] period, and under the influence of passions inflamed by polemical disputes, [illegible] letter to Vincentius (Epist. 93.), a Donatist bishop, written about the year [illegible], he vindicates the exercise of secular authority against schismatics; and urges the good effects which the terror of the imperial laws had produced in the conversion of several whole cities. Having once thought, as he confesses, that no man ought to be forced, he at last yielded to experience. In another letter of the same date, he intreats the proconsul of Africa to restrain the Donatists, but not to punish them with death; and yet in this letter, written professedly for urging the magistrate to persecution, Augustine, with an inconsistency, the reproach of which he too often incurs, thus liberally concludes (Ep. 100.); "it is a more troublesome than profitable labour to compel men to forsake a great evil by force, rather than by instruction." Upon this inconsistency Voltaire pleasantly remarks (Traité sur la Tolérance, ch. 5.): "I would say to the bishop of Hippo, in your second [illegible] two opinions, you will have the goodness to permit me to abide by the first, since I really think it the best." Although his conduct in procuring the first law to compel Christians to baptize their infants, in a council at Mela in Numidia, in the year 416, is altogether indefensible; and the writer of this article, abhorring every species of religious constraint and persecution, cannot attempt its vindication; yet he cannot adopt the severe strictures of the sprightly writer that refers to this fact, in their whole extent and unqualified acrimony. "The name of Augustine (says he) had sunk, before this time, below contempt in every free country. He was a crafty irritable man, often disappointed, and foiled by able opponents; passion for power was his ruling disposition, after his sensual appetites had spent their force in debauchery. Too insignificant to obtain distinction in the state, he reconnoitred the church, and felt himself excellently qualified to cant out of Solomon's song to unsuspecting Christians, especially single sisters and monks. A superannuated bishop, to whom he made himself convenient, lifted him into preferment. From that day he became a merciless tyrant, and truckled to the bishop of Rome only for the sake of playing Jupiter in Africa. When he obtained the support of the emperor, and got his dreams tacked to imperial decrees, [illegible] within his reach, whose confiscations, banishments, and death, with the ruin of their families, lay at his door. He considered himself as an [illegible] whom heaven had appointed to [illegible]." See Barnes's History of Dogmas, p. 2[illegible]. Mosheim's Eccl. Hist. vol. i. p. 362. Dupin's Eccl. Hist. v. century, vol. ii. p. 125. Lardner's works, vol. v. c. 117. p. 81—123. [illegible] Hist. vol. ii. p. [illegible]

AUGUSTINE, St., (Augustin), [illegible] the capital of East Florida, is situated on the sea-coast, almost [illegible] 180 miles east from St. Mark's, and [illegible] Charleston,

Charleſtown, in South Carolina. Its figure is oblong, and it is interſected by four ſtreets at right angles. It is well fortified, and has a church and monaſtery of the order of its name. N. lat. 30°. W. long. 81° 30′.

AUGUSTINE, *Cape St.*, lies on the coaſt of Brazil, in the Atlantic ocean, 300 miles north-eaſt from the bay of All-Souls. S. lat. 8° 30′. W. long. 35° 40′.—Alſo, a cape of the Mindanaos iſlands in the Eaſtern ocean. N. lat. 6° 40′. E. long. 126° 20′.

AUGUSTINE's, *St.*, a port and river on the coaſt of Labrador, near the ſtraits of Belliſle, and oppoſite to St. John's bay in Newfoundland. In the harbour are two ſmall iſlands, and about two miles ſouthweſt, a chain of little iſlands, called "St. Auguſtine's chain." It is about 25 miles from Great Mecatina iſland. N. lat. 51° 10′. W. long. 58° 50′.

AUGUSTINE's *Square*, *St.*, a number of ſmall iſlands on the coaſt of Labrador, in the gulf of St. Lawrence, near its mouth.

AUGUSTINE's, *St. Bay*, is a commodious bay that lies on the weſt ſide of Madagaſcar iſland, near the ſouth entrance of the Moſambique channel, between the eaſt coaſt of Africa and the weſt coaſt of the iſland. It abounds with fiſh, and furniſhes a plentiful ſupply of beef, mutton, goats, and fowls. S. lat. 23° 35′ 29″. E. long. 43° 8′.

AUGUSTINS, or AUGUSTINIANS, in *Eccleſiaſtical Hiſtory*, an order of religious; thus called from St. Auguſtin, whoſe rule they obſerve. The Auguſtins, properly alſo called *Auſtin Friers*, were originally hermits, whom pope Alexander IV. firſt congregated into one body, under their general Lanfranc, in 1256. Soon after this inſtitution, this order was brought into England, where they had about thirty-two houſes at the time of their ſuppreſſion. The Auguſtins are clothed in black, and make one of the four orders of mendicants. From theſe aroſe a reform, under the denomination of *Bare-foot Auguſtins*, or *Minorites*, or *Friers Minor*.

There are alſo canons regular of St. Auguſtin, who are clothed in white, excepting their cope, which is black.

At Paris they are known under the denomination of *Religious of* GENEVIEVE; that abbey being the chief of the order.

There are alſo nuns and canoneſſes, who obſerve the rules of St. Auguſtin.

AUGUSTINIANS are alſo thoſe divines who maintain, on the authority of St. Auguſtin, that grace is effectual from its nature, abſolutely and morally, and not relatively and gradually. They are divided into rigid, and relaxed.

AUGUSTOBONA, or AUGUSTOMANA, in *Ancient Geography*, a city of Gaul, belonging to the Senones, called alſo *Civitas Tricaſſium*; now TROYES.

AUGUSTOBRIGA, or AUGUSTOBRICA, a city of Hiſpania Tarragonenſis, in the country of the people denominated "Pelendones;" eaſt of Numantia, and north-weſt of Bilbilis.

AUGUSTODUNUM, a famous city of Gaul, the capital of the Ædui; now AUTUN.

AUGUSTOMAGUS, an ancient town of Belgic Gaul, placed, in the Itinerary of Antonine, between Cæſaromagus and Sueſſone; now SENLIS.

AUGUSTONOMETUM, a city of Gaul, the capital of the Averni; now CLERMONT *en Auvergne*.

AUGUSTOPOLIS, an epiſcopal town of Arabia.—Alſo, a town of Phrygia Salutaris.

AUGUSTORITUM, a town of Gallia Aquitanica, and capital of the Lemovices; now LIMOGES.

AUGUSTOW, in *Geography*, a town of Poland, in the palatinate of Bielſk, fifty-ſix miles N. N. W. of Bielſk.

AUGUSTULUS, or ROMULUS AUGUSTUS, in *Biography*, the laſt of the Roman emperors in the weſt, was the ſon of Oreſtes, who, having depoſed Julius Nepos by means of the troops in Gaul, of which he was general, and declining the imperial rank, advanced him to the throne, in the year 476. Oreſtes, however, retained the adminiſtration on account of the youth of his ſon; but in a year after he had attained the object of his ambition, his tranquillity was interrupted by Odoacer, a bold barbarian, who put himſelf at the head of thoſe mercenaries that formed a part of the armies of Italy. Theſe barbarians had made a peremptory demand, that a third part of the lands of Italy ſhould be immediately divided among them; and Odoacer aſſured his fellow ſoldiers, that if they dared to aſſociate under his command, they might ſoon extort the juſtice which had been denied to their dutiful petitions. Oreſtes was ſoon compelled by this confederate band to retire to the ſtrong city of Pavia, which was beſieged, taken, and pillaged. Odoacer, having put Oreſtes to death, proceeded to Ravenna, and ſeizing the young emperor, Auguſtulus, he ſtripped him of his imperial enſigns, and obliged him to ſignify his reſignation to the Roman ſenate. The life of this inoffenſive youth was ſpared by the generous clemency of Odoacer; who diſmiſſed him, with his whole family, from the imperial palace, fixed his annual allowance at ſix thouſand pieces of gold, and aſſigned the caſtle of Lucullus, in Campania, for the place of his exile or retirement. Thus, in the perſon of a youth, who united the names of the firſt king and firſt emperor of Rome, was the Roman empire finally extinguiſhed, A. D. 476, or A. D. 479; about 507 years after the battle of Actium, when the Roman emperors properly begin; 523 years after the battle of Pharſalia, when the kingdom of Italy begins; and 1229 years from the foundation of Rome. Gibbon's Un. Hiſt. vol. vi. p. 222.

AUGUSTUM, in *Ancient Geography*, a town of Africa Propria. Ptolemy.—Alſo, a place of Gallia Narbonnenſis, fourteen miles from Labiſco, and ſixteen miles eaſt from Berguſia, upon the Rhone; now *Aſte*.

AUGUSTURSHUNN, in *Geography*, a town of Germany, in the circle of Upper Saxony, and marquiſate of Meiſſen, near Radeberg.

AUGUSTUS, in *Biography*, a name given firſt and by way of eminence to Octavius Cæſar, and afterwards appropriated to his ſucceſſors. (See AUGUST.) *Caius Julius Cæſar Octavianus*, originally called *Caius Octavius*, was the ſon of a ſenator of the ſame name, who had been prætor of Macedon, and of Accia, daughter to Julia, the ſiſter of Julius Cæſar. He was born, during the conſulate of Cicero and Caius Antonius, in the year of Rome, 691. B. C. 63: at the age of four years he loſt his father; and his mother Accia contracted a ſecond marriage with Lucius Marcus Philippus. The charge of his education was entruſted by his mother and father-in-law with the beſt maſters in Rome; and ſuch was his proficiency that when he was nine years old, he harangued the people with extraordinary confidence, and before he had quite attained the age of twelve, he pronounced the funeral oration of his grandmother Julia. His talents and accompliſhments recommended him to Julius Cæſar, his great uncle; who at an early period formed the deſign of adopting him, if he died without children. Whilſt Octavius was at Apollonia, improving his powers of eloquence under the famous rhetorician, Apollodorus of Pergamus, he received the news of his uncle's tragical death, and of his own adoption. Although he was diſſuaded by his father and mother, and other timid friends, from declaring either his pretenſions or his reſentment, he determined to paſs over into Italy without delay, and to judge for himſelf what meaſures it would be proper for him to adopt. Accordingly he landed at Lupia, now La Rocca, a ſmall port between Brundiſium and Hydruntum.

tum. Upon his arrival, the garriſon of Brunduſium, which was very numerous, and which conſiſted of veteran ſoldiers, went out to meet him, and introduced him by a kind of triumph into the city. Octavius thanked them for their attachment and reſpect; and having offered a ſolemn ſacrifice to the gods, declared himſelf Cæſar's heir, and aſſumed the titles of Caius Julius Cæſar Octavianus; avowing himſelf by the latter of theſe appellations to be of the Octavian family. Having ſupplied himſelf with money, arms, and provisions, he purſued his route through Campania, and after paying a viſit to Cicero in the neighbourhood of Cumæ, arrived at Rome, where the party of Antony and Lepidus, which, under a pretence of avenging Cæſar's death, aimed at eſtabliſhing its own power, had obtained an univerſal ſway. As Octavianus approached the capital, he was met by moſt of the magiſtrates, the officers of the army, and the people; but Antony declined ſhewing him any token of reſpect. As ſoon as his adoption was publicly ratified in the forum, and duly regiſtered, he waited upon Antony; and requeſted to have delivered to him, as Cæſar's chief heir, the money which he had conveyed from Cæſar's houſe to his own, that he might be enabled to diſcharge his legacies. Antony's behaviour, at this interview, was haughty and imperious; his reply with regard to the money which he demanded, and of which part had been appropriated to the purpoſes of avarice and ambition, was unſatisfactory; and his addreſs cloſed with reminding Octavianus, in a ſtyle of authority and menace, that the favourites of the people are, generally ſpeaking, ſhort-lived, and that popular affection is more inconſtant than the waves of the ocean. Octavianus retired, diſguſted and offended; and appriſed, that the conſul withheld his father's money and eſtate from him in order to diſable him from purchaſing the favour of the people, he ſold his own patrimony, and the eſtates of his mother and father-in law, and with the produce of theſe ſales, he paid part of Cæſar's legacies: and by this act of generoſity he ſo charmed the populace, that they unanimouſly eſpouſed his intereſt, and broke out into bitter invectives againſt Antony, for withholding his father's eſtate. An attempt, however, was made towards reconciling theſe two competitors for the public favour; and it was attended with a partial and temporary ſucceſs. But new occaſions of variance occurred; and at length Octavianus was charged with a deſign of aſſaſſinating his rival. This furniſhed Antony with a pretence for drawing into Italy a conſiderable army. Octavianus, alarmed by this hoſtile preparation, haſtened into Campania, and having collected 10,000 brave veterans who had ſerved under Cæſar, marched immediately towards Rome. But as he had no military title, nor any magiſtracy which gave him a right to command the forces of the republic, eſpecially againſt a conſul, he thought it adviſable to halt at the temple of Mars, within two miles of the city, till he obtained the conſent of the people for his entry, which was ſoon granted him. Antony was at this time at Brunduſium, and as he was hourly expected with a conſiderable force, it was juſtly apprehended that the flames of a civil war would be inſtantly kindled within the walls of the city. Parties were formed for one and the other of theſe formidable rivals; and whilſt many of the ſenators were deliberating which ſide to take, Cicero, probably, as it has been ſaid, more with a view of procuring for himſelf a bountiful maſter, than for reſcuing his country from tyranny, declared for Octavianus. At his motion, Antony, who had actually invaded the province of Ciſalpine Gaul, and laid ſiege to Mutina, was declared an enemy to his country. Two new conſuls, viz. Panſa and Hirtius, who had both ſerved under Cæſar, and who were the intimate friends of Cicero, were ordered to [illegible] to march to the relief of Decimus Brutus, who was [illegible] in Mutina. [illegible] the contending armies in the neighbourhood of this town, both the conſuls fell; and Octavianus became [illegible] in chief of the whole army. Panſa, when he was dying of the wounds which he had received, earneſtly adviſed Octavianus to compromiſe his difference with Antony, as the only means of [illegible]; and the conſul's dying words made a deep impreſſion on the mind of Octavianus. The ſenate, conceiving Antony to be utterly ruined, began to ſlight Octavianus, of whoſe ſervices, as they thought, they ſhould have no further occaſion: and refuſed his demand of a triumph, which they granted to Decimus Brutus; [illegible] appointing him commander of all the forces in Ciſalpine Gaul; charging him at the ſame time, without even mentioning Octavianus, to purſue Antony, and treat him as a public enemy. Whilſt Antony, after experiencing ſome viciſſitudes, and after having fled before Brutus and abandoned Italy, was ready to re-enter it with the command of twenty-three legions and above 10,000 horſe, Octavianus was at Bononia, where he had been endeavouring, by the intereſt of Cicero, to obtain the conſulate. Put [illegible] with regard to this object of his ambition, he reſolved no longer to defer his reconciliation with Antony. Accordingly, this buſineſs being ſettled, and a treaty having been concluded between them and Lepidus, of which the ſenate was wholly ignorant; Octavianus being placed at the head of an army, for the purpoſe of conducting the war, in conjunction with Decimus Brutus, againſt Antony and Lepidus, marched towards Rome in order to demand the conſulate. It was now too late to concert or to carry into effect any meaſures of reſiſtance. Octavianus was received in the capital with the loudeſt acclamations of the people; he was immediately joined by the legions ſtationed in the city; and he was unanimouſly elected firſt conſul, though he had not yet completed his twentieth year. A. U. C. 711. B. C. 43. Immediately after his promotion to the conſulſhip, he procured the confirmation of his adoption in a general aſſembly of the people; he cauſed the decree againſt Antony and Lepidus to be revoked; and he invited them into Italy. As they advanced, he went out to meet them; and their meeting took place at a ſmall iſland formed by the river Rhenus, now Reno, which falls into the Po, after having watered the territory of Bononia, or Bologna. Here was planned the famous ſyſtem of power called the TRIUMVIRATE; which ſee. Having cemented and diſgraced their new connection by the deteſtable PROSCRIPTION, which was to cut off all their enemies public and private, and to fill their treaſury by confiſcations, and by the mutual ſacrifice of ſome of their neareſt friends and relations, among whom was CICERO; they proceeded to Rome, and filled the city with blood and rapine. In fulfilment of one article of the treaty, ſettled on this occaſion, Octavianus and Antony prepared for an expedition againſt Marcus Brutus and Caſſius, who had made themſelves maſters of moſt of the provinces in the Eaſt. Accordingly they paſſed over into Macedon; and met the republican leaders on the plains of Philippi, where the conteſt was decided by two battles, the ſecond of which terminated with the death of Brutus. (See BRUTUS.) On this occaſion, Octavianus, who was actuated by an implacable ſpirit of revenge againſt the authors of Cæſar's death, is chargeable with a degree of cruelty which fixed an indelible ſtain upon his reputation. Before his return to Rome, he found a difficulty, and incurred conſiderable danger, in the diſtribution of the [illegible]

feited lands among the ſoldiers. He was alſo involved in a civil war by the violence of Fulvia, and of Lucius the brother of Antony, which was terminated by the ſurrender and capitulation of Perufia. On this occaſion, Octavianus exerciſed the moſt inhuman barbarity. See PERUSIA. After the concluſion of this war, a partition was made of the Roman empire between Antony (ſee ANTONY) and Octavianus: Rome and the weſt being aſſigned to the latter. The next and moſt important event that engaged the attention of the triumvirs, was the war with Sextus Pompey. Whilſt Octavianus was preparing for this war, he was captivated by the perſonal and mental charms of Livia, then the wife of Claudius Tiberius Nero. In order to obtain poſſeſſion of her, he divorced his own wife Scribonia, and cauſed Livia to be divorced from her huſband, though ſhe was at the time far advanced in her pregnancy, and was, within three months after he married her, delivered of a ſon, who was named Tiberius, and who was afterwards emperor. The war with Pompey, though at firſt diſaſtrous, was ſoon concluded by a general engagement, in which Pompey was entirely defeated.

Upon the depoſition of Lepidus from his authority as one of the triumvirs, the Roman ſtate was governed by a duumvirate; which was not likely to be of long duration. Antony, advancing to old age, and yet addicted to youthful follies, gave Octavianus advantages, which he had diſcernment to perceive, and of which he availed himſelf by his political wiſdom. Whilſt he ingratiated himſelf with the people by ſeveral popular acts, and was inveſted with the dignity of perpetual tribune of the people, which rendered his perſon ſacred and inviolable, he contributed by various charges to degrade Antony in the public eſtimation. The commencement and termination of the civil war, in which Antony and Octavianus were engaged, have been already related under the article ANTONY. It will be ſufficient here to ſay, that it was the ſucceſs gained by Octavianus, for which he was chiefly indebted to the conduct of his admiral Agrippa, at the famous battle of Actium, fought in the year B. C. 31, which made him maſter of the Roman world. Having followed his rival into Egypt, and there terminated the war, he remained in the eaſt two years, and ſettled all the affairs of Egypt, Greece, Syria, Aſia Minor, and the iſlands.

Upon his return to Rome, he triumphed for three ſucceſſive days with great ſplendor. Having attained the ſummit of his ambition, it now remained with him to determine under what title, and in what mode he ſhould exerciſe the ſupreme authority which he had acquired. That he ever ſeriouſly intended to ſurrender the power which he poſſeſſed, and to which he had made ſuch ſacrifices, is not at all probable; and yet it is by no means unlikely that he ſhould have conferred with his confidential friends, Mæcenas and Agrippa, in the manner which hiſtorians have recorded. Agrippa, a man no leſs famous for his probity than his valour, recommended a generous reſignation; repreſented the inevitable dangers which attend monarchy, inſupportable to a free people and to men educated in a common-wealth; pourtrayed the examples of Sylla and Cæſar; and cloſed his ſpeech with exhorting Octavianus to convince the world, by reſtoring liberty to his country, that the only motive for his taking up arms was to revenge his father's death. Mæcenas, a man of great penetration, and generally eſteemed the moſt refined politician of his age, urged, that he had gone too far to recede; that he could be ſafe only on the throne; and that it was abſolutely neceſſary for the welfare and tranquillity of the republic, that the ſovereign power ſhould be lodged in one perſon, and not divided among many individuals, whoſe ambitious views would ſtill occaſion a perpetual ſucceſſion of miſeries to the public. Octavianus thanked them both for their friendly advice, but avowed his purpoſe, a purpoſe without doubt previouſly formed, of adhering to the opinion of Mæcenas; upon which this ſage counſellor recommended his governing others as he would wiſh to be governed himſelf, if he had been born to obey and not to command; that he might then ſecure ſucceſs in all his undertakings, happineſs during his life, and reputation after his death; adding, that if he dreaded the name of king, ſo odious in a common-wealth, he might content himſelf with the title of "Cæſar," or "Imperator," and under that appellation, which was familiar to the Romans, enjoy all the authority of a ſovereign. Dio. Caſſius, l. iii. p. 464.

Octavianus, having formed his purpoſe, began to amuſe and gratify the people, to adorn the city by public buildings, to new-model the ſenate by introducing his own partiſans, by annulling many unjuſt and ſevere laws that had been enacted during the triumvirate, and by reforming a variety of abuſes. At length, in his 7th conſulate, B. C. 27, in the 36th year of his age, he went to the ſenate-houſe, and in a ſtudied oration, which diſplayed his patriotiſm and diſguiſed his ambition, he propoſed to abdicate his authority. Thoſe who were in the ſecret applauded; others were greatly embarraſſed. But amidſt this confuſion of ſentiments, the anſwer of the ſenate was unanimous and deciſive. They refuſed to accept his reſignation, and conjured him not to deſert the republic which he had ſaved. After a decent reſiſtance, the crafty tyrant ſubmitted to the orders of the ſenate; and conſented to receive the government of the provinces, and the general command of the Roman armies, under the well-known names of "Proconſul" and "Imperator." But he would receive it only for ten years. At the motion of Munatius Plancus, he alſo aſſumed the title of *Auguſtus*. The powers which he united in himſelf, of which ſome, indeed, were not conferred immediately, were thoſe of 1. "Imperator" or "Emperor," extended to ſignify commander-in-chief of all the forces of the ſtate, arbiter of peace and war, and uncontrolled head of the executive power, as well over the citizens as ſoldiers: 2. Of "Proconſul," giving him the legal ſupremacy in every province which he might viſit: 3. Of "Tribune," rendering his perſon ſacred, and conferring upon him the right of *veto* on all public proceedings: 4. Of "Cenſor," or ſuperintendant of manners: 5. Of "Supreme Pontiff," or the head of religion: 6. Of "Diſpenſation" from obſerving the laws, when he ſhould think fit to exerciſe it. To the preceding privileges of an abſolute prince was added the venerable and reſpectable character of "Father of his Country," implying a kind of paternal relation to his people.

Auguſtus, beſides the limitation of ten years which he annexed to the poſſeſſion of his authority, flattered the ſenate by ſharing with it the government of the provinces, reſerving to himſelf thoſe which were moſt liable to tumults and ſeditions, that he might thus have at his command all the forces of the empire. He alſo contrived to retain ancient names, forms, and inſtitutions; and to commit a portion of real authority to the ſenate, the people, and officers of ſtate; ſo that his government was rather a monarchy than a deſpotiſm.

The firſt and chief care of Auguſtus, after he had obtained the dignity of abſolute maſter of the empire, was to ſatisfy his ſoldiers, and attach them more firmly to his intereſt. With this view he diſperſed them all over Italy in 32 colonies, and thus they might eaſily be re-aſſembled in

in case of any sudden commotion. His land forces consisted of 25 legions, of which eight were on the Rhine, four on the Danube, three in Spain, and two in Dalmatia. The other eight were sent into Asia and Africa, four being quartered in the neighbourhood of the Euphrates and in Syria, two in Egypt, and two in the province of Africa, consisting of the ancient dominions of Carthage. The whole number of these, constantly maintained by Augustus, and for some ages by his successors, amounted to 170,650 men. In the vicinity of Rome were always quartered 12 cohorts, about [illegible] men, of which nine were called prætorian cohorts, and the other three city cohorts. These were established to guard the emperor's person, and to maintain the peace of the city. That the former might be vigilant and faithful in their duty for the safety of the emperor's person, they were ordered their pay to be doubled. Besides these numerous and well disciplined land forces, Augustus kept constantly at sea two powerful fleets; one riding at anchor near Misenum, in the Upper or Adriatic sea, the other at Misenum, in the Lower or Mediterranean sea.

Augustus, having settled all affairs in the capital, passed into Gaul, towards the close of the year B. C. 27. with a design of proceeding to the reduction of the British islands; but on his arrival at Narbonne, he received information that the Salassians at the foot of the Alps, and the Cantabrians and Asturians in Spain, had shaken off the Roman yoke: he therefore discontinued his progress, and marched in person into Spain, for the purpose of subduing those nations that had revolted. The conquest of the Salassians he committed to his generals. In the year B. C. 23, Augustus married his daughter Julia to his nephew Marcellus; and in the course of the year he was seized with a dangerous disorder, which threatened his life, of which he was cured by his physician Antonius Musa, who deviated from the common practice in administering cooling potions, and recommending the use of the cold bath. His health was not only restored, but his constitution was rendered more firm and vigorous than it had ever been before. When his life was thought to be in danger, he delivered his ring to Agrippa, thus intimating that he deemed him to be a proper successor. Marcellus, who was generally regarded as his intended successor, was disgusted by this preference; but the death of this prince, who was greatly regretted by the Roman people, made way for the introduction of Agrippa to court, and from this time he continued the most confidential friend of Augustus. At this time the administration of the empire was conducted with great equity and moderation; and many instances are recorded, in which Augustus exercised lenity and self-denial, and recommended himself by the respect which he manifested to the senate and to the courts of justice. In the year B. C. 22, he declined the offices of dictator and of censor, which were offered him by the senate, and in his general conduct he affected to appear no otherwise than as a private citizen. To him it is said, the title of "lord" and "master" was always an object of detestation, because its counterpart was that of a "slave;" and to those who behaved to him with disrespect, and who libelled him in their speeches or writings, he was singularly meek and forgiving. Nevertheless, mild and equitable as was the government of Augustus, several conspiracies were formed against him, during the course of his reign; that of Fannius Cæpio and Licinius Murena, which was detected, so that the principals were punished, gave occasion to two new laws in the administration of criminal justice; one of which was, that accused persons might be tried and condemned, though they did not appear, as if they were present; and the other, that judges, in criminal cases, should give their opinions verbally, and not by ballot.

Rome being [illegible], Augustus determined to visit the eastern part of the empire; but [illegible] to invest some person with authority for keeping the city in order during his absence, he appointed Agrippa for this purpose; and in order to [illegible] connect [illegible] to him, he gave him [illegible] widow of Marcellus. Such was the respect with which Agrippa was treated, and so mild and yet so firm was his [illegible] and [illegible] Armenia; and at Samos, to the inhabitants of which he granted the liberty and use of their own laws, he received ambassadors from the remotest parts of India. A philosopher, who accompanied these ambassadors, attended the emperor to Athens, and committed himself to the flames in his presence. Augustus, after his return, directed his attention to various abuses which needed reform, and to the enactment of regulations that contributed to the perfection of government. He reduced the number of senators from one thousand to six hundred, and fixed at a higher rate the fortune that was requisite for qualifying a person to be elected of that body; and that no persons, who were eminently fit for the office, might be excluded, he made up their deficiencies of fortune by his own liberality. He also introduced some other regulations for restraining the licentiousness and depravity of morals that too generally prevailed; and particularly such as concerned the nuptial state, though rigour in this latter respect did not well become the emperor, who was known to have intrigues with the wives of several men of rank, and who had taken great licence in the privilege of divorce. Augustus increased the tax on celibacy, and granted privileges and rewards to married persons who had several [illegible] Papiæ-Poppæan-*law*. Sumptuary laws and regulations respecting the public spectacles, and the suppression of riots and disorders among the spectators, also occupied his attention. In the year of Rome 737, B. C. 17, he celebrated the secular games with extraordinary splendor. About this time he also adopted his two grandsons Caius and Lucius; the children of Agrippa and Julia. Having received from Gaul many complaints against the intendants whom he had appointed to levy the tributes and imposts, and particularly against Licinius, he visited that country; but the principal aggressor, Licinius, contrived to soothe his displeasure by giving him a great part of the [illegible] he had amassed. Upon his return from Gaul, B. C. 13. the death of Lepidus [illegible] office of supreme pontiff; and in the first exercise of this authority, he collected all books of divination and pretended oracles, of which more than 2000 were committed to the flames. The books of the Sibyls, however, were entrusted to the custody of the priests. The death of Agrippa was, at this time, a very distressing event to Augustus (see [illegible] caused him to be divorced from a wife to whom he was affectionately attached, and to marry the widowed Julia, of whose irregularities he was well apprised.

In the [illegible] guished [illegible] his successors, and extended [illegible]

far as the Elbe; but as he was returning to the banks of the Rhine, illneſs or accident occaſioned his death, B. C. 9. His brother Tiberius alſo reduced the Pannonians and Dacians, and completed the work which Druſus had begun. Theſe events terminated in a general peace through the whole Roman empire; and the temple of Janus was ſhut, for the third time, in this reign, and remained in this ſtate about 12 years. Before this time Auguſtus had loſt his beloved ſiſter Octavia, who never recovered the death of her ſon Marcellus; and this afflictive event was ſucceeded by the deceaſe of his favourite miniſter Mæcenas, between whom and Auguſtus a coolneſs had ſubſiſted, which is ſaid to have been owing to the emperor's intrigues with his wife, Terentia. During this period, however, Auguſtus received many unequivocal teſtimonies of the attachment and affection of the people (Suet. Aug. 57—60.); and after enjoying the imperial authority for 20 years, he was unanimouſly requeſted to accept it for 10 years more. The year 8 B.C. was rendered memorable by the reformation introduced by Auguſtus into the calendar. (See BISSEXTILE, and CALENDAR.) About the year B.C. 6. the ambition of the young Cæſars, Caius and Lucius, the adopted ſons of Auguſtus, began to give him uneaſineſs; and the jealouſy which ſubſiſted between them and Tiberius induced the latter to requeſt the liberty of retiring to Rhodes, which was reluctantly granted, and whence he was not allowed to return for ſeven years. On occaſion of Caius Cæſar's aſſuming the toga virilis in the year 5 B. C.; Auguſtus accepted the conſulate for the twelfth time; and this year (four years before the vulgar æra), was rendered ſingularly illuſtrious by the birth of JESUS CHRIST. When Lucius Cæſar took the toga virilis in the year 2 B. C.; Auguſtus became conſul for the thirteenth and laſt time. But this year was imbittered to him by the diſcovery of the very licentious and ſhameful conduct of his daughter Julia, which had been for ſome time known to every one but himſelf. After deliberating whether her puniſhment ſhould be death or exile, he determined to divorce her from Tiberius, and to baniſh her to the iſland of Pandataria on the coaſt of Campania, where ſhe was allowed merely neceſſaries, and whence ſhe was never recalled. Of thoſe with whom ſhe had criminal intercourſe, ſome were exiled, and others put to death.

Auguſtus, having loſt his two adopted ſons; Caius having died A. D. 3, of a wound which he received in Armenia, and Lucius at Marſeilles, A. D. 2.; had no hopes of perpetuating any of his own family on the imperial throne. He therefore recalled Tiberius from Rhodes, and adopted him ſome months after the death of Caius Cæſar. He alſo adopted the laſt of his grandchildren Agrippa Poſthumus; but his untractable diſpoſition and groſs manners induced him afterwards to annul his adoption, and to baniſh him to the iſle of Planaſia or Pianoſa, on the ſouth of the iſle of the Elbe. The emperor likewiſe obliged Tiberius to adopt Germanicus, the ſon of Druſus.

In the year 4, Auguſtus, who was a fifth time continued as commander in chief of the armies, and in the government of the provinces in his department, proſecuted his labours for ſettling the civil adminiſtration of the republic. He again reviewed the ſenate, numbered the inhabitants of Italy, and eſtabliſhed ſome other regulations for the benefit of the ſtate. But of all the occurrences of this year, the moſt glorious for Auguſtus was the pardon of Cinna, Pompey's grandſon; who was accuſed of a conſpiracy againſt his life. Having admitted the criminal into his cloſet, he reminded him of the favours which had been conferred upon him, and charged him with the ingratitude of his deſign; and then cloſed an addreſs of two hours with theſe words; "Again, Cinna, I give you your life: I ſpared you, though you were my enemy; I now forgive you, though to that name you have added thoſe of traitor and parricide. Let us from this day begin to be ſincere friends: let us vie with each other; I, to ſupport the good I have done; you, to make a ſuitable return: let us try to make it a doubt, whether I am moſt generous, or you moſt grateful." The emperor named him conſul for the next year; and from this time, Cinna, overcome by the emperor's goodneſs, became his faithful and zealous friend; and when he died, made Auguſtus his ſole heir. The clemency of Auguſtus on this occaſion intereſted the people ſo much in his favour, that no conſpiracy was ever more attempted againſt him.

The conduct of Julia, the grand-daughter of Auguſtus, who copied after her mother's example, offended and grieved him; and he baniſhed her A. D. 9, to the iſle of Trimetum, now Tremiti, on the gulf of Venice. The poet Ovid, who is ſuppoſed to have participated her guilt, was baniſhed at the ſame time, to Tomi in Scythia, on the borders of the Euxine ſea. The two Julias, and Agrippa Poſthumus, ſadly interrupted the domeſtic felicity of Auguſtus, ſo that he uſed to call them his three *cankers*, his three *abſceſſes*; he never heard their names without a ſigh, and often applied to them a verſe of Homer, Il. iii. 40.

"Αἲθ' ὄφελες τ' ἄγαμος τ' ἔμεναι, ἄγαμος τ' ὀπολέσθαι.

i. e. "Would to heaven I had never married, but had died without poſterity."

In the following year, A.D. 10, the deſtruction of Varus with three entire legions in Germany, in conſequence of a confederacy formed by Arminius, the loſs of the ſtandards of the legions, and two of their eagles, and the inſolence and cruelty with which the captives were treated by the conqueror, were the occaſion of great diſtreſs and terror at Rome. Auguſtus, accuſtomed to glory and proſperity, lamented this humiliating and diſaſtrous event with the exceſs of ſorrow. He not only put on mourning, and ſuffered his beard and hair to grow, but often exclaimed in an agony; "Return me my legions, Varus." As long as he lived, the day of Varus's defeat was obſerved by him as a day of annual regret and ſorrow. Tiberius, however, by his military ſkill reſtrained the ravages of the Germans, re-eſtabliſhed the reputation of the Roman arms, and relieved Rome amidſt its anxiety and fears. Auguſtus was highly gratified by his ſucceſs, expreſſed his approbation in very ſtrong and affectionate terms, and raiſed him to an equal ſhare of the imperial authority. Upon his return to Rome A.D. 12, he obtained a magnificent triumph. Towards the cloſe of his life Auguſtus enacted ſeveral regulations, which under ſucceeding emperors became the means of extending and vindicating tyranny and deſpotiſm. As he was unable to go frequently to the ſenate, he cauſed his privy council to be inveſted with the authority of the whole body; he alſo weakened the power of the people, which his ſucceſſor actually annihilated, by nominating magiſtrates, whom they had been accuſtomed to elect, and by authoritatively recommending to the people ſuch as he choſe to have employed. He likewiſe revived and extended an old law, which was levelled againſt actions detrimental to the ſtate, by enacting, that all authors of defamatory libels ſhould be guilty of high treaſon, and puniſhed accordingly. As his health and ſtrength declined, he devolved the principal cares of empire upon Tiberius. The acceſs of the complaint that terminated in his death has been, without ſufficient reaſon, attributed to poiſon, adminiſtered by his wife Livia, who was alarmed, on account of her own ſon, by his returning affection to his grandſon, Agrippa Poſthumus. But the truth is, that his diſorder

was owing to a weakneſs of the ſtomach and bowels; and hewas ſeiſed with it, as he was conducting Tiberius towards Illyrium. On his return towards Rome, his complaint increaſed, and obliged him to ſtop at Nola, where he took to his bed, and patiently waited the approach of death. On the laſt day of his life, he called for a mirror; he had his head dreſſed, and ſomething to be done which might prevent his cheeks from appearing ſunk; and then calling his friends to his bed-ſide, aſked them, whether they did not think he had acted his part pretty well in the comedy of human life? and then addreſſed them in a Greek verſe, with which they generally cloſed their plays:

"Δότε κρότον, καὶ πάντες ὑμεῖς μετὰ χαρᾶς κροτήσατε;"

i. e. "Clap your hands, and let all applaud with joy." After this kind of comic adieu, he ordered every body to retire, and died in Livia's arms; ſaying, "Livia, conjugii noſtri memor, vive et vale;" i. e. "Livia, farewell, forget not a huſband who has loved you tenderly." His death happened on the 19th of Auguſt, A. D. 14, A. U. C. 767, and in the ſeventy-ſixth year of his age. The duration of his power, if we reckon from the time of the triumvirate, of which he took poſſeſſion the 27th of November, in the year of Rome 711, B. C. 43, was about 56 years. If we reckon from the battle of Actium, fought the 2d of September, in the year of Rome 723, B. C. 31, when his ſole poſſeſſion of the Roman empire properly commences, Auguſtus will then appear to have enjoyed the ſovereign power about forty-four years. Crevier ſtates the true time of his becoming emperor to have been the 7th of January, in the year of his ſeventh conſulſhip, which, according to his reckoning, was the 725th of Rome, and referring his death to the 765th of Rome, he governed as prince and emperor forty years, ſeven months, and thirteen days. "All the reſt (he ſays) was manifeſt uſurpation and tyranny." Joſephus (Ant. l. xviii. c. 2. § 2. De Bell. l. ii. c. 9. § 1.), and others after him, compute the beginning of the reign of Auguſtus from the year in which Cæſar was killed, A. U. C. 710. B. C. 44, and make its duration fifty-ſeven years, ſix months, and ſome odd days. Ptolemy, in his canon, and St. Clement of Alexandria (Strom. l. i. t. i. p. 405. ed. Potter.), date the commencement of his reign in the year after the battle of Actium, A. U. C. 724, and compute its duration to be forty-three years.

Before the funeral of Auguſtus, his will was preſented to the ſenate-houſe by the veſtal virgins, in whoſe cuſtody it had been depoſited, and read aloud by Polybius, one of his freedmen. By this will, made ſixteen months before his death, Tiberius and Livia were appointed his firſt heirs, his grand-children and their children his ſecond, and the great men of Rome his third heirs. Livia was adopted into the Julian family, and honoured with the title of Auguſta. He bequeathed, as a legacy, forty millions of ſeſterces (about 5,000,000 livres) to the Roman people; three millions five hundred thouſand (437,500 livres) to the tribes, that is an hundred thouſand (12,500 livres) to each; to each of his guards a thouſand ſeſterces (125 livres); to each of the ſoldiers appointed to guard the city 500 ſeſterces (62 livres); and to each legionary ſoldier 300 ſeſterces (37 livres). Auguſtus left alſo four memorials, written by his own hand, which were produced to the ſenate by Druſus. The firſt of theſe contained regulations relating to his obſequies; the ſecond was a journal of the moſt memorable actions of his life, which he ordered to be engraved on the pillars of braſs which ſupported the frontiſpiece of his ſtately mauſoleum; part of which has been preſerved in an ancient marble, found about 200 years ago in the city of Ancyra; the third contained a ſummary of the ſtrength and income of the empire; and the fourth was a ſummary of inſtructions for the uſe of Tiberius, and the other governors and magiſtrates of the republic.

The funeral of Auguſtus was performed with very extraordinary magnificence. After a ſhort eulogium by Druſus, and a funeral oration by Tiberius, it was let to the pile in the Campus Martius, on which his body was laid, and at this moment an eagle was let looſe from the top of it, to carry his ſoul to heaven. His aſhes were collected by Livia, and incloſed in an urn of gold, which ſhe depoſited in the mauſoleum erected by Auguſtus in a grove between the Tiber and the Flaminian way. After the funeral, divine worſhip was decreed to him, with a temple and prieſts; the houſe in which he was born, that in which he died, and moſt of the houſes in which he had lived, were converted into ſanctuaries. Livia aſſumed the office of chief prieſteſs to the new deity; and made a preſent of a million of ſeſterces to an old prætor, named Numerius Atticus, who ſwore that he ſaw the ſoul of Auguſtus in its flight to heaven.

The character of Auguſtus appears under very different aſpects in the various periods of his life and reign. In the outſet of his career of ambition, he was crafty and diſſembling (Gen. Biog.), violent and ſanguinary; but as he advanced in years, and after he had attained the object of his views, he was, in his general conduct, mild, affable, and conciliating. In the exerciſe of that ſovereign and abſolute power, which he acquired by means which none can attempt to juſtify, and which he contrived moſt effectually to ſecure by apparent moderation and ſelf-denial, he ſeems to have been ſolicitous for making the people contented and happy; and in many reſpects he was entitled to the character of a wiſe and equitable governor. "As a compenſation for liberty," ſays one of his biographers, "he gave his ſubjects ſecurity, eaſe, proſperity, and all the advantages of high civilization, with as little as poſſible of the ſeverity of reſtraint and coercion. He filled Rome and all Italy with improvements of every kind; made highways, conſtructed harbours, raiſed edifices for uſe and convenience, and could boaſt that he received a capital built of brick, and left one of marble. He ſo encouraged letters, that one of the great *ages* of excellent human productions takes its name from him." (See Age.) Thoſe whom he encouraged by his liberality, repaid him with an adulation, which was not honourable to themſelves, and which made no addition to his reputation. The love of flattery, however, is not charged upon him as one of his predominant foibles. In private life he had many eſtimable qualities. Affectionate to his family and friends, condeſcending and indulgent to his domeſtics and dependents, frugal and ſober with regard to every indulgence, one excepted, which regarded himſelf; he commanded affection and reſpect. But his diſpoſition to gallantry and licentiouſneſs in his conduct towards the female ſex, expoſed him to juſt cenſure and reproach; nor did the counſel of his friends (ſee Athenodorus), nor the wiſdom of experience, avail to the due reſtraint of his criminal paſſions. Sometimes indeed, it has been ſaid, his intrigues were the reſult of that policy which directed his general conduct, as they ſerved to diſcover ſecrets of ſtate, and to obtain information concerning any plot or ſedition that might have been formed by the huſbands of thoſe wives with whom he was connected. In other reſpects he paid a high regard to external decorum; and whatever might have been his ſentiments with regard to religion in early life, he appears in maturer and more advanced age to have been much inclined to ſuperſtition. He took great pains to eſtabliſh order in every branch of the adminiſtration whilſt he lived; and recommended it to his ſucceſſors not to extend the limits of an empire that was al-

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ready too large. "Upon the whole," fays the biographer above cited, "if not entitled to rank among the greateſt and beſt of mankind, he will be ever reſpected as one of thoſe ſovereigns whoſe perſonal qualities had a great influence in promoting the happineſs of the people he governed."

A popular hiſtorian (ſee Gibbon's Hiſt. vol. i. p. 114.) has given the following ſketch of the character of Auguſtus. "The tender reſpect of Auguſtus for the conſtitution which he had deſtroyed, can only be explained by an attentive conſideration of the character of that ſubtle tyrant. A cool head, an unfeeling heart, and a cowardly diſpoſition, prompted him at the age of nineteen to aſſume the maſk of hypocriſy, which he never laid aſide. With the ſame hand, and probably with the ſame temper, he ſigned the proſcription of Cicero, and the pardon of Cinna. His virtues, and even his vices, were artificial, and according to the various dictates of his intereſt, he was at firſt the enemy, and at laſt the father of the Roman world. When he framed the uſeful ſyſtem of the imperial authority, his moderation was inſpired by his fears. He wiſhed to deceive the people by an image of civil liberty, and the armies by an image of civil government." Among the ancients, the principal writers who have portrayed the character and reign of Auguſtus, are Suetonius, Dio Caſſius, Velleius Paterculus, and Tacitus. Julian (Cæſars, p. 309.) ſays of him, that as Octavianus advanced to the banquet of the Cæſars, his colour changed like that of the cameleon; pale at firſt, then red, afterwards black, he at laſt aſſumed the mild livery of Venus and the graces. Horace, in the introduction to the firſt epiſtle of the ſecond book, gives the following ſober and judicious ſummary of the emperor's characteriſtic merits:

"Cum tot ſuſtineas, et tanta negotia, ſolus:
Res Italas armis tuteris, moribus ornes,
Legibus emendes; in publica commoda peccem,
Si longo ſermone morer tua tempora, Cæſar."

See alſo Odes v. and xiv. Anc. Un. Hiſt. vol. xii. p. 1—115. Crevier's Hiſt. Emperors, vol. i. paſſim. vol. ii. p. 1—14.

AUGUSTUS, *Fort*, in *Geography*, a ſmall fortreſs ſeated on a plain at the head of Loch Neſs, in Scotland, between the rivers Tarff and Oich, juſt where they diſcharge themſelves into the lake. The fortreſs conſiſts of four ſmall baſtions; and now exhibits tokens of decay, though a governor conſtantly reſides in it, and all the regulations of a garriſon are obſerved in it. It was taken by the rebels in 1746, who, after doing it all the injury in their power, deſerted it. Its diſtance from the ſea prevents its being of any further ſervice, in a tranquil ſtate of the country, than that of affording a retreat for a few invalid officers and ſoldiers. A ſmall village lies behind the fort, and it ſerves as a kind of reſting place in the way to the iſle of Sky, diſtant from it about 52 miles.

AUGUSTUSBURG, a town of Germany, in Upper Saxony, and circle of Erzgebirg, ſeven miles eaſt of Chemnitz.

AU-GUY-L'AN-NEUF, or AUGILLANNEUF. See MISLETO.

AUHAFF, in *Geography*, a town of Germany, in the archduchy of Auſtria, ſix miles ſouth-ſouth-weſt of Ips.

AVIA, in *Ancient Geography*, a town of Hiſpania Tarragonenſis, in the country of the Vaccæans.—Alſo, a town of Italy, in the territory of the Veſtini. Ptolemy.

AVIANO, in *Geography*, a town of Italy, belonging to the ſtate of Venice, in the province of Friuli, twenty-eight miles weſt of Udina, and fifteen E.S.E. of Belluno.

AVIARY, formed of *avis*, *bird*, a houſe or apartment kept for the keeping, feeding, and propagating of birds.

AVICENNA, or ABU ALY HASSIN EBN ABDULLAH, or EBU SINA, in *Biography*, the ſon of Hali of Bochara, in Choraſan, a celebrated philoſopher and phyſician, born about the year of the Hegira 370, A. D. 980, became early diſtinguiſhed for his proficiency in literature. He had a ready genius, and extraordinary memory, ſo that at the age of ten he could repeat the whole Koran by heart. Serſamus, or Giuzgiani, his diſciple, ſays, he was maſter of Euclid at the age of ſixteen. Having completed his ſtudies under Abdallah, a private tutor, who taught him logic and philoſophy, and in the ſchool of Bagdat, he was made doctor in medicine, and began to practiſe at the age of eighteen. He is ſaid to have diſcovered by the pulſe, the diſtemper which Cabous, nephew to the emperor, laboured under. The ſtory as related by the Arabic writers, is ſo like, Friend obſerves, what is told by Appian of the ſagacity of Eriſiſtratus, in diſcovering the diſeaſe of Antiochus, ſon of Seleucus, that it ſeems to have been borrowed thence, to raiſe the character of this phyſician. However this may be, Avicenna was in high repute, and attained to great wealth and honour in the court of the caliph. During the latter part of his life, after having ſpent ſeveral years in travelling, he reſided at Iſpahan, where by his irregularities he ſo impaired his conſtitution, that it was obſerved of him, that he had totally loſt his labour, his philoſophy neither enabling him to govern his paſſions, nor his knowledge of medicine to preſerve him from diſeaſe. He died of a dyſentery, owing in ſome meaſure to his intemperance, at Hamadan, in the year 1036 of the Hegira, A. D. 428, in the 58th year of his age. The works of Avicenna were numerous, but whatever may have been ſaid of his genius and learning, they have contributed little to the improvement of philoſophy, being for the moſt part imperfect and obſcure repreſentations of the doctrines of Ariſtotle; they conſiſt of "Twenty Books on the Utility of the Sciences;" "The Heads of Logic;" and treatiſes on metaphyſics and morals. The principal of them, the Canon, or "Canon Medicinæ," though almoſt entirely borrowed from Galen, Dioſcorides, and other Greek writers, acquired ſuch reputation, that it was taught at all the European colleges, and retained its popularity until near the middle of the 17th century. Haller fills ſeveral pages of his Bib. Med. Pract. and of his Bib. Botan. with the titles of his books, their different editions, and of the commentators upon them. The earlieſt edition was publiſhed at Padua, in folio, 1473.

"One would naturally expect, Friend ſays (Hiſt. of Phyſic, vol. ii. p. 73.), to find in this author ſomething anſwerable to the fame he acquired, but though I have very often looked into his writings upon ſeveral occaſions, I could meet with little or nothing there, but what is taken from Galen, or what at leaſt, occurs, with a very ſmall variation, in Rhazes, or Haly Abbas;" and Haller ſays (Bib. Med. Pract. vol. i. p. 384.) "Mihi, ſupra omnem patientiam, loquax, et diffuſus videtur;" and adds, though you ſhould ſpend whole months in poring over his works, you would ſcarce meet a ſingle original obſervation. He had, however, before (Bib. Botan. vol. i. p. 187.) beſtowed ſome commendations on his induſtry in inveſtigating the properties of plants, and acknowleged he had enriched that part of medicine, by the introduction of ſeveral vegetables unknown to Dioſcorides. The works of this phyſician and philoſopher were printed in the original Arabic, at Rome, in 1503. A Latin tranſlation of them, by Gerard of Cremona and others, was publiſhed in folio at Venice, in 1595, and 1658; and Vopiſcus Fortunatus publiſhed a new tranſlation, with notes by various authors, in folio,

folio, at Louvain, in 1658. The Arabic MSS. of Avicenna, says Dr. Russell (Hist. Aleppo, vol. ii. append. p. 19), are common enough at Aleppo, and are found in several of the European libraries. Friend's History of Physic. Hall. Bib. Med. Pract. et. Bib. Botan. Brucker's Hist. Phil. by Enf. vol. ii. p. 241. Fabr. Bibl. Græc. l. xiii. c. 9.

AVICENNIA, in *Botany* (called after the famous oriental physician Avicenna). Lin. g. 1237. Schreb. 1063. Jacq. Amer. 178. t. 112. Juss. 108. Class, *didynamia angiospermia*. Nat. Ord. *Perfoliatæ*. Mart., Juss. Gen. Char. *Cal.* perianth five-parted, permanent, leaflets subovate, obtuse, concave, erect; increased by three scales. *Cor.* monopetalous; tube bell-shaped, short; border bilabiate; upper lip square, emarginate, flat; lower trifid; divisions ovate, equal, flat. *Stam.* filaments four, subulate, erect, the two front ones rather shorter, bent back to the upper lip; anthers roundish, twin. *Pist.* germ ovate; style subulate, erect, the length of the stamens. *Stigma* bifid, acute; the lower division bent down. *Per.* capsule coriaceous, rhomboidal, compressed, one-celled, two-valved; [illegible], large, the form of the capsule, contracted of four thin folds, germinating.

Ess. Gen. Char. *Cal.* five-parted. *Cor.* two-lipped; upper lip square. *Caps.* coriaceous, rhomboidal, one-seeded.

Species, 1. A. *tomentosa*, Jacqu. l. c. Bontia germinans, Brown Jam. 263. Mangle, Sloane Jam. 2. 66. Oepata, Rheed. Mal. 4. t. 45. "Leaves cordate, ovate, tomentose underneath." This tree is like the mangrove, rising about sixteen feet high. Its trunk is covered with smooth, whitish green bark, and the twigs from the stem propagate the tree like those of the mangrove. The leaves appear at the joints of the branches, on very small petioles, opposite, smooth, soft, having a large dark-green rib; flowers many, at the top of the branches, white, four-petalled. A native of the East and West Indies. 2. A. *nitida*. Jacqu. Amer. 177. t. 112. f. 1. Pict. t. 169. "Leaves lanceolate, shining on both sides." Height forty feet; leaves sharp, entire, opposite, on short petioles; peduncles racemed, a little branched, terminal; flowers sessile, white, with a brown mark on the middle segment of the under lip. A native of Martinico. 3. A. *resinifera*. Forst. "Leaves ovate-lanceolate, tomentose underneath." The leaves of this tree are opposite, petioled, coriaceous, entire, sharp, shining above, and having a yellowish nap beneath; peduncles terminating, subtrifid, loaded with a head of flowers. A native of New Zealand. The much esteemed green-coloured gum used by the natives of New Zealand, is supposed to be the produce of this tree.

AVICULA, in *Conchology*, a name assigned by Rumphius, to that species of Mytilus since called MYTILUS HIRUNDO. Linn. and Gmel.

AVICULARIA, in *Entomology*, a species of ARANEA or spider that inhabits South America. The thorax is orbiculated and convex, with a transverse excavation in the centre. This is the largest species of its genus known; and is such a formidable creature that it not only attacks insects, but even small birds, dropping from the branches of trees into their nests and sucking their blood. The fangs are as large as the talons of a hawk; body brown; abdomen oblong; legs with brown rings.

AVICULARIA, a species of HIPPOBOSCA, with obtuse wings and thorax of one colour, or immaculate. Infests the body of birds, and particularly swallows. Degeer. Donov. Brit. Ins. &c.

AVIDA, a species of PHALÆNA (*Noctua*), that inhabits India. The wings are shining brown; stigmate spot, and band behind ferruginous; posterior wings white. Fabricius. This is of the middle size, and blackish.

AVIENUS, RUFUS FESTUS, in *Biography*, a Latin poet, lived towards the close of the fourth century, under the emperors Gratian and Theodosius. His works are translations in Latin verse of the "Phænomena of Aratus;" and the "Periegesis of Dionysius;" a description in Iambic verse "Of the Maritime coasts;" "Æsop's Fables," in elegiac verse; "The Allegory of the Sirens;" "The History of Livy," in Iambics; and the "Fables of Avienus," in the same kind of verse; and a few other pieces. Some of the former performances are now extant. The best edition is that of Cannegetier, 8vo. 1731. Gen. Biog.

AUJEST, in *Geography*, a town of Bohemia, in the circle of Chrudim, five miles north of Politza.

AUJESTIZ, a town of Bohemia, in the circle of Chrudim, five miles west of Leutmischl.

AVIGLIANO, a town of Italy, in the kingdom of Naples, and province of Otranto, seven miles east of Otranto.

AVIGLIANO, a town of Italy, in the principality of Piedmont, and marquisate of Susa, situated on a hill near the Cottian Alps, in an open and exposed situation; the air is salubrious, and the land about it fertile. The town is fortified and defended by a castle. It contains three parish churches, and several religious houses; eleven miles west of Turin, and twelve E.S.E. of Susa. N. lat. 44° 40'. E. long. 7° 5'.

AVIGNON, a city of France, the capital of one of its re-united departments, viz. VAUCLUSE, with the Bouches du Rhone, formerly the capital of the county of Venaissin in Provence, situate on the east side of the Rhone. Before the revolution, it belonged to the pope, whose legate resided here, and it was the see of an archbishop, erected in 1475. In the year 1309, the papal see was transferred to Avignon by pope Clement V.; and this city flourished, about seventy years, the seat of the Roman pontiff, and the metropolis of Christendom. By land, by sea, and by the Rhone, the position of Avignon was on all sides accessible; the southern provinces of France are not inferior even to Italy; new palaces arose for the accommodation of the pope and cardinals; and the arts of luxury were [illegible] by the [illegible] of the church. They were already possessed of the adjacent territory, the Venaissin country, a populous and fertile spot, which had been ceded to the popes, in 1273, by Philip III. king of France; and the sovereignty of Avignon was afterwards purchased from the youth and distress of Jane, the first queen of Naples, and countess of Provence, for the inadequate price of 80,000 florins. Under the shadow of the French monarchy, amidst an obedient people, the popes enjoyed an honourable and tranquil state, to which they had long been strangers: but Italy deplored their absence; and Rome, in solitude and poverty, might repent of the ungovernable freedom which had driven from the Vatican the successor of St. Peter. As the old members of the sacred college died, it was filled with French cardinals, who beheld Rome and Italy with abhorrence and contempt, and perpetuated a series of national, and even provincial popes, attached by indissoluble ties to their native country. At length the celebrated Petrarch warmly interested himself in restoring the Roman bishop to his ancient and peculiar diocese; and by addressing his exhortations to five successive popes, with an eloquence that was inspired by the enthusiasm of sentiment, and the freedom of language. Avignon, which had become the sink of vice and corruption, was the object of his abhorrence and contempt; and whilst he allowed that the successor of St. Peter was the bishop of the universal church, he was of opinion, that it was not on the banks of the Rhone, but of the Tiber, that the apostle had

fixed his everlasting throne. Since the removal of the holy see, the sacred buildings of the Lateran and the Vatican, their altars and their saints, were left in a state of poverty and decay; and Rome was often painted under the image of a disconsolate matron. But it was alleged, that the cloud which hung over the seven hills, would be dispelled by the presence of their lawful sovereign; eternal fame, the prosperity of Rome, and the peace of Italy, would be the recompence of the pope who should dare to embrace this generous resolution. Of the five popes to whom Petrarch addressed his exhortations, the three first, John XXII., Benedict XII., and Clement VI., were importuned or amused by the boldness of the orator; but the memorable change, which had been attempted by Urban V., between the years 1367 and 1370, was finally accomplished by Gregory XI. A.D. 1377, who did not survive his return to the Vatican above fourteen months. His decease was followed by the "Great western schism," which began after the decease of Gregory XI., A.D. 1378, by the election of Clement VII. in opposition to Urban VI., and continued for almost forty years, till the council of Constance, A.D. 1414—1418, when the elevation of Martin V. was the æra of the restoration and establishment of the popes in the Vatican. During this interval, there were two popes, one residing at Rome or in Italy, and the other at Avignon. See SCHISM.

This city is about three miles and two furlongs in circumference, and is in general irregular and badly built; but it is surrounded by walls and turrets with battlements, not unlike those of Rome, and its public edifices are large and grand, according to the taste of the fourteenth century. The church of Notre Dame is ancient, and is one of the best adorned in the city; the archiepiscopal palace overlooks the Rhone, the city, and the fields. These buildings, together with the mint, adorn a large square, which is the common walk of the inhabitants. The church of the Cœlestines is very magnificent, and is full of fine monuments. The university has four colleges; the place in which the Jews have been accustomed to live is a distinct quarter; and those who pay tribute are forbidden to leave it without yellow hats, and the women also wear something yellow about their heads; and they are thus distinguished from the Christians. Their number is considerable, though the district of their residence is very confined. Near the Rhone is a large rock, within the circuit of the walls, upon which is a platform, whence the whole city and the places about it may be seen. The bridge, about a quarter of a mile in length, that crossed the Rhone, was demolished by an inundation in 1699. The fountain of Vaucluse, which is the source of the river Sorgues that waters the city, and whither Petrarch often retired to indulge his grief and hopeless love, is situated in a winding valley, forming the figure of a horse-shoe, about five miles from Avignon. The fountain is a bason of water, several hundred feet in circumference, very deep, and clear as crystal, but overshaded by an incumbent rock. The water discharged from this fountain, by a narrow passage, forms a cascade, which is precipitated along a rocky channel. The rocks, which invest this romantic spot, are worn by time and the inclemency of the weather, into a thousand fantastic forms. And on one of the pointed extremities, in a situation almost inaccessible, are seen the remains of an ancient castle, projecting over the water, called by the peasants "Il Castello di Petrarca;" and they add, that Laura lived upon the opposite side of the river, under the bed of which was a subterraneous passage, by which the two lovers visited each other. The residence of the poet was much lower down, and nearer to the banks of the Sorgues, as appears from his account of it, and from his relation of his contests with the naiads of the stream, who during winter encroached on his small adjoining territory: but no remains of it are now to be discovered. Below the bridge is an island, where the Sorgues joins the Rhone, in which are several houses of pleasure. The inhabitants of Avignon were estimated before the revolution at 30,000, 1000 of these being ecclesiastics, and some hundreds Jews. N. lat. 43° 56′ 58″. E. long. 4° 48′ 10″.

AVIGNON-*Berry*, called also *French-berry*, in *Botany*, is the fruit of a shrub, by some authors called lycium; growing plentifully near Avignon, and other parts of France. See LYCIUM.

AVIGNONET, in *Geography*, a town of France, in the department of the Upper Garonne, and chief place of a canton in the district of Villefranche, twenty miles south-east of Toulouse, and four miles south-east of Villefranche.

AVILA, GILES GONZALES, in *Biography*, a Spanish ecclesiastic and historian of the seventeenth century, was a native of Avila, and acquired at Rome, where he studied, a great knowledge of sacred and civil history. On his return to Spain, he had an ecclesiastical benefice at Salamanca; and in 1612, he removed to Madrid, and was appointed historiographer to the king. He died in 1658, at the age of 80 years. His principal works, published in Spanish, were "The History of the Antiquities of Salamanca," and "The theatre of the Churches of the Indies, &c." Nouv. Dict. Hist.

AVILA, in *Geography*, a city of Spain, in Old Castile, seated on the river Adaja, on a large plain, surrounded with mountains and plantations of fruit-trees and vineyards, and having a manufacture of cloths, that are said to be equal to those of Segovia. It is fortified by nature and art, having a wall 9075 feet in circuit, with twenty-six lofty towers, and ten handsome gates. It has seventeen principal streets, containing several good and stately houses; nine squares, 2000 houses, nine parishes, and as many monasteries, seven nunneries, two colleges, nine hospitals, eighteen chapels, and an annual allowance of 10,000 ducats for the maintenance of orphans and other poor people. The university was founded in 1445, confirmed by pope Gregory XIII. in 1538, and afterwards enlarged; and its cathedral has eight dignitaries, twenty canons, and the same number of minor canons. N. lat. 40° 35′. W. long. 4° 13′.

This city has been rendered famous by the deposition of Henry IV. A.D. 1465. The indignation of the Castilian nobility against the weak and flagitious administration of this prince, led them to combine against him, and to exercise the right, which they arrogated as one of the privileges of their order, of trying and of passing sentence on their sovereign. For this purpose they erected a spacious theatre in a place without the walls of the town, and having prepared an image, clad in royal robes, representing the king, they placed it on a throne, with a crown on its head, a sceptre in its hand, and the sword of justice by its side. The accusation against the king was then read, and the sentence of deposition was pronounced in presence of a numerous assembly; and whilst the several charges were delivered, they proceeded to tear the crown from the head of the image, to snatch the sword of justice from its side, to wrest the sceptre from its hand, and, at the close of the whole, to tumble it headlong from the throne. When this ceremony was finished, Don Alfonso, Henry's brother, was proclaimed king of Castile and Leon in his stead. Robertson's Hist. Ch. V. vol. i. p. 179.

AVILA, or *Aviles*, a town of Spain, in Asturia, near the bay of Biscay, nine leagues from Oviedo.

AVILA,

Avila, a city of South America, in the province of Quito, and government of Quixos, ſituate in S. lat. 0° 44′, and about 2° 20′ E. of Quito. It is leſs than Archidona, a ſmall city lying in S. lat. one degree and a few minutes, and about one degree fifty minutes E. of Quito. Like this latter place, its houſes are of wood covered with ſtraw; and as the whole number of inhabitants in Archidona is reckoned at 650 or 700, and conſiſts of Spaniards, Indians, Meſtizos, and Mulattoes, thoſe of Avila ſcarcely amount to 300 of both ſexes. Like the other it has one prieſt; and his eccleſiaſtical juriſdiction comprehends ſix towns: viz. La Conception, Loreto, San Salvador, Motte, Cota Pini, and Santa Roſa.

Avila *Fonte*, a town of Spain, in Old Caſtile, ſix leagues from Segovia.

AVILER, Augustin-Charles D', in *Biography*, an eminent French architect, was born at Paris in 1653, and from his youth devoted himſelf to the ſtudy of architecture. In his way to Rome, whither he was ſent for improvement by the royal academy, at the age of twenty, he was carried into ſlavery by an Algerine corſair, and in this ſituation he manifeſted his talents by making a deſign for a grand moſque at Tunis. After ſixteen months he was liberated, and purſued his ſtudies at Rome for five years. On his return he was placed under Manſart, firſt architect to the king, and had a principal concern in the conduct of all public works. His "Courſe of Architecture" was founded on the work of Vignola; but by the enlargement of that writer's plan, was rendered a complete treatiſe of the art. It has been much eſteemed; the firſt edition was that of 1691, 2 vols. 4to.; and it has ſince paſſed through ſeveral other editions. Being invited to Montpelier, he ſuperintended the conſtruction of a grand triumphal arch to Louis XIV., was afterwards appointed architect to the province of Languedoc, and, beſides other buildings in which he was employed, he erected the archiepiſcopal palace at Toulouſe. He died at Montpelier in 1700. Moreri. Gen. Biog.

AVINO, in *Geography*, a town of North America, in the province of New Gallicia, where the Spaniards have a ſilver mine; between Durango and Ellerena.

Avino, *La Panea*, a town of North America, in the weſtern part of the kingdom of Leon, between two of the head-branches of Naſſas river.

AVIORA, a town of Aſiatic Turkey, in Caramania, ſixty miles north-eaſt of Tocat.

AVIOTH, a town of France, in the department of the Meuſe, and chief place of a canton in the diſtrict of Stenay, three miles north of Montmedy.

AVIRA, in *Ancient Geography*, a town of Aſia, in the Palmyrene. Ptolemy.

AVIS Indicus, in *Aſtronomy*. See Apus.

Avis, or Aviz, in *Geography*, a town of Portugal, in the province of Alentejo, giving name to an order of knights; three leagues weſt of Eſtremos. The land ſurrounding it is covered with ciſtus, which is uſually cut down once in eight years and burnt, and the ground ſown with corn. N. lat. 38° 40′. W. long. 7°.

Avis, in *Heraldry*, a military order of knighthood, inſtituted by Alphonſo Henriques king of Portugal, in 1142, in teſtimony of the great ſervices done for him at the ſiege of Liſbon, by the nobility led to his aſſiſtance by Don Ferdinand Rodrigues de Monteyro, whom he appointed to be their grand maſter. For ſome years after they were called Nouvelle Milice, or the New Military; which appellation continued until the year 1166, when they having taken Evora by ſurpriſe, the king conferred on them the government of that town, and commanded that they ſhould thenceforth be called Knights of Evora: laſtly, the ſame king having, in the year 1181, taken from the Moors a place very advantageouſly ſituated, and called Avis, granted the ſame to the before-mentioned knights, on condition that they ſhould build a fort in that place, and reſide therein. The knights accordingly tranſplanted themſelves thither, and from that time took the denomination of *Knights of Avis*. In the year 1204, pope Innocent III. confirmed this order. The badge of the order is a *croſs Jory, enamelled vert, between each two a fleur-de-lis or*; which they wear pendant to a green ribbon round the neck; and the ſame badge is embroidered on the left ſhoulder of the robe of ſtate, which is of white ſattin.

Avis, *Bird*. *Aves*, Birds, among *Naturaliſts*, the ſecond claſs of animals; a race of creatures ſufficiently diſtinguiſhed from the others in having the body covered with feathers, two feet, and two wings formed for flight. Birds have the mandible protracted and naked, and are deſtitute of external ears, lips, teeth, ſcrotum, womb, urinary veſſel or bladder, epiglottis, corpus calloſum, or its fornix (covering of the two lateral ventricles of the brain, or its arch) and diaphragm.—In the Linnæan ſyſtem, birds are divided into ſix orders; viz. accipitres, picæ, anſeres, grallæ, gallinæ, and paſſeres. See Ornithology.

Avis, *Longa*, in *Ornithology*, a name given by Nieremberg to the hoitlattotl of the Americans, a bird remarkable for its ſwiftneſs in running. The hoitlattotl appears to be the *phaſianus mexicanus* of Gmelin, and *cauda pedali* of Latham.

Avis *Nivea*, a name under which Nieremberg has deſcribed an American bird of the ſize of a thruſh; of a brown and black colour on the back, and yellow under the belly; it imitates the human voice, and is called by the natives *ceoan*.

Avis *Pennipulchra*, the name of an American bird deſcribed by Nieremberg, and called by the Indians *quetzaltototl*. It is the ſize of a pigeon, and is ſaid to be all over the body of the more beautiful colours of the peacock. The ſpecies alluded to is not accurately known; and Ray has arranged it with ſome others as doubtful kinds.

Avis *Sciza*, or *Hoactli*. See Ardea Hoactli, Gmelin; and *Hoctli*, Buffon.

Avis *Tropicorum*, and *avis rubea furcata*, the name of a bird, among old authors, called in Engliſh the *tropic bird*; and by Gmelin Phaeton Aethereus.

Avis *Venti*, "the bird of the wind," or heathtototl; ecatototl, ſ. avis venti altera, Ray, &c. obſolete names of the Mergus Encullatus, or *hooded merganſer*, of America.

Avis *Paradiſi*, bird of Paradiſe. See Paradisea.

Avis *Mexicana grandis rubra*, Seba. See Loxia Mexicana.

Avis *Ignota ſiperini*. Geſner. See Emberiza Nivalis.

Avis *Americana criſtata rubeva*, Seba. See Pipra Rubetra.

Avis *Mexicana altera*, Seba. See Pipa Erythrocephala, &c. &c.

AVISE, in *Geography*, a town of Piedmont, in the duchy of Aoſta, in the grand Doria, eight miles weſt of Aoſta.

AVISO, a town of Italy, in the kingdom of Naples, and country of Lavora, ſix miles eaſt of Sora.

Aviso, Italian, *adviſo*, chiefly uſed in matters of *Commerce*, denotes advice, piece of intelligence, or advertiſement, to notify ſome event or matter worthy of knowledge.

AVISON, Charles, in *Biography*, organiſt of Newcaſtle.

caſtle, was an ingenious and poliſhed man, eſteemed and reſpected by all who knew him; and an elegant writer upon his art. He had viſited Italy early in his youth, and at his return, having received inſtructions from Geminiani, a bias in his Compoſitions for Violins, and in his Eſſay on Muſical Expreſſion, towards that maſter, is manifeſt. Rameau was likewiſe his model in harpſichord muſic; and Marcello's pſalms were much over-rated by him, in order to depreciate Handel; whom he centured more by implication than open hoſtility. We find in his book, which is elegantly written, and in the prefaces to his muſical compoſitions, many prejudices, particularly againſt German ſymphonies; aſcribing to them the corruption and decay of muſic! His compoſitions for the harpſichord, when played by the late lady Milbanke, and accompanied by Giardini, had a pleaſing effect. They were formed on the plan of Rameau's concertos, as thoſe for violins were on the concertos of Geminiani; and there was the ſame difference between them in point of excellence, as is always diſcoverable between an original production, and an imitation.

His violin concertos were revived, after they became of age, at the concert of ancient muſic; where 20 years are the period which renders muſical compoſitions venerable. Here they are ſtill played in turn with thoſe of Corelli, Geminiani, Handel, and San Martini; with whoſe productions, however, they but ill ſupport a parallel: they want force, correctneſs, and originality, ſufficient to be ranked very high among the works of maſters of the firſt claſs.

AVITUS, Sextus Alcimus Ecdicius, a Chriſtian divine, biſhop of Vienne in France, was nephew to Marcus Mæcilius Avitus, emperor of the Weſt, and flouriſhed at the beginning of the ſixth century. He ſucceeded his father Iſychius in the ſee of Vienne, in the year 490. He was the friend of Clovis, the firſt Chriſtian king of France, and contributed to his converſion. As a zealous opponent of the Arians, he reclaimed Gondebaud, king of the Burgundians, from his connection with this ſect, to the Catholic faith; he preſided in the council of Epaon in 517, and in that of Lyons in 523, in which year he died. He wrote 87 letters on ſubjects that formed the diſputes of the age in which he lived, ſermons, and poems on the Moſaic hiſtory, and in praiſe of virginity. His ſtyle is ſaid to have been harſh, obſcure, and intricate. His works were publiſhed by Sirmond in 8vo. with notes, in 1643. His poems have been printed ſeparately at Frankfort, in 1507, at Paris in 1509, and at Lyons in 1536. Cave Hiſt. Lit. vol. i. p. 461. Nouv. Dict. Hiſt.

AVIUS, in *Entomology*, a ſpecies of Papilio (*Heſperia*, Fabr.), with entire wings, above and beneath brown, with two blue ſtreaks near the tip. This inſect inhabits India.

AVIZE, in *Geography*, a town of France, in the department of the Marne, and chief place of a canton, in the diſtrict of Epernay, ſix leagues ſouth of Rheims.

AUK, or Awk, in *Ornithology*. See Alca.

AUKEB, the Arabic name of the great eagle.

AUKLAND, or Bishop Aukland, in *Geography*. See Auckland.

AUL. See Awl.

AULA, in our *Ancient Law Books*, ſignifies a court baron.—*Aula ibidem tenta quarto die Auguſt*, &c.

Aula eccleſiæ is ſometimes uſed for what we now call *navis eccleſiæ*. See Nave.

Aula *regia*, or *regis*, a court eſtabliſhed by William the Conqueror in his own hall, compoſed of the king's great officers of ſtate, who reſided in his palace, and were uſually attendant on his perſon. Theſe were the lord high conſtable and lord mareſchal, who chiefly preſided in matters of honour and of arms, determining according to the law military and the law of nations; the lord high ſteward, and lord great chamberlain; the ſteward of the houſehold; the lord chancellor, whoſe peculiar office it was to keep the king's ſeal, and examine all ſuch writs, grants, and letters, as were to paſs under that authority; and the lord high treaſurer, who was the principal adviſer in all matters relating to the revenue. Theſe high officers were aſſiſted by certain perſons learned in the laws, who were called the king's juſticiars or juſtices; and by the greater barons of parliament, all of whom had a ſeat in the "Aula Regia," and formed a kind of court of appeal, or rather of advice, in matters of great moment and difficulty. All theſe, in their ſeveral departments, tranſacted all ſecular buſineſs both criminal and civil, and likewiſe the matters of the revenue; and over all preſided one ſpecial magiſtrate, called the chief juſticiar, or "capitalis juſticiarius totius Angliæ;" who was alſo the principal miniſter of ſtate, the ſecond man in the kingdom, and by virtue of his office guardian of the realm in the king's abſence. This great officer principally determined the vaſt variety of cauſes that aroſe in his extenſive juriſdiction; and from the plenitude of his power, he became obnoxious to the people, and dangerous to the government which employed him. This formidable tribunal, which received appeals from all the courts of the barons, and decided in the laſt reſort on the eſtates, honour, and lives of the barons themſelves; and which, being wholly compoſed of the great officers of the crown, removeable at the king's pleaſure, and having the king himſelf for preſident, kept the firſt nobleman in the kingdom under the ſame control as the meaneſt ſubject.

This great univerſal court being bound to follow the king's houſehold in all his progreſſes and expeditions, the trial of common cauſes was found very burthenſome to the ſubject; and, therefore, king John, who alſo dreaded the power of the juſticiar, very readily conſented to that article, which now forms the 11th chapter of Magna Charta, and enacts, "that *communia placita non ſequantur curiam regis, ſed teneantur in aliquo certo loco.*" This certain place was eſtabliſhed in Weſtminſter-Hall, the place where the "aula regis" originally ſate, when the king reſided in that city; and there it hath ever ſince continued. The court being thus rendered fixed and ſtationary, the judges became ſo too, and a chief, with other juſtices of the Common Pleas, was thereupon appointed; with juriſdiction to hear and determine all pleas of land, and injuries merely civil between one ſubject and another. The "aula regia" being thus ſtripped of ſo conſiderable a branch of its juriſdiction, and the power of the chief juſticiar being alſo conſiderably curbed by many articles in the Great Charter, the authority of both began to decline apace under the long and troubleſome reign of king Henry III. In purſuance of this example, the other ſeveral offices of the chief juſticiar were, under Edward I. (who new modelled the whole frame of our judicial polity), ſubdivided and broken into diſtinct courts of judicature. Blackſt. Com. vol. i. p. 38—40. De Lolme on the Conſtitution of England, p. 14, &c. See the articles Court *of Common Pleas*, of *Exchequer*, and of *King's Bench*, &c. &c.

Aula, in *Geography*. See Avola.

Aula, in *Ancient Geography*, a place of Peloponneſus, in Arcadia, where was a temple dedicated to the god Pan.

AULADIS, a town of Aſia, in Meſopotamia. Ptolemy.

AULÆ, a part of Aſia, in Cilicia, between Tarſus and Anchiale. Suidas.

AULÆI

AULÆI MÆNIA, the walls of Auleum, a maritime place of Thrace, upon the Euxine ſea, not far from Apollonia, and at ſome diſtance north from Salmydeſſus.

AULANA, a town of Paleſtine, 30 ſtad. diſtant from Jeruſalem. Hegeſippus.

AULAS, in *Geography*, a town of France, in the department of the Gard, and chief place of a canton in the diſtrict of Le Vigan, near Le Vigan.

AULAX, in *Botany*. See PROTEA.

AULCESTER. See ALCESTER.

AULENDORF, in *Geography*, a town of Germany, in the circle of Swabia, and barony belonging to the family of Konigſegg, ſeated on a hill near the Schus, eight miles north of Ravenſpurg. N. lat. 47° 59'. E. long. 9° 36'.

AULEON SINUS, in *Ancient Geography*, a gulf of Thrace, near Byzantium.

AULERCI BRANNOVICES, a people ſubject to the Ædui, who are ſuppoſed to have inhabited that part of Gaul, where is now the canton called Briennois, near the Loire, in the dioceſe of Macon.—A. *Cenomani*, a people who inhabited that part of Gaul which now forms the dioceſe of Mans.—A. *Eburovices*, a people who occupied the country which is now the dioceſe of Evreux: their capital was Mediolanum.

AULETES, αὐλητὴς, in *Antiquity*, denotes a flute-player. One of the Ptolemies, kings of Egypt, father of Cleopatra, bore the ſurname or denomination of *Auletes*.

AULETTA, in *Geography*, a town of Italy, in the kingdom of Naples, and province of Principato Citra, four miles W. S. W. from Cangiano.

AULI, in *Ancient Geography*, a people of Europe, in Macedonia, who occupied a town, to which they gave their name.

AULIC, AULICA, an act which a young divine maintains in ſome foreign univerſities, upon the admiſſion of a new doctor of divinity. It is ſo called from the Latin *aula*, a *hall*; it being in the hall of the univerſity that this act is uſually held.

The perſon who preſides at the diſputation, is the ſame that is to take the doctor's cap.

AULIC, *Aulicus*, is alſo an appellation given to certain officers of the emperor, who compoſe a ſuperior court of council, which has an univerſal juriſdiction, and without appeal, over all the ſubjects of the empire, in all proceſſes entered therein.

All cauſes relating to points of feudal right or juriſdiction, together with ſuch as reſpect the territories which held of the empire in Italy, belong properly to the juriſdiction of the aulic council. This tribunal was formed upon the model of the ancient court of the palace inſtituted by the emperors of Germany. It depended not upon the ſtates of the empire, but upon the emperor; who has the right of appointing, at pleaſure, all the judges of whom it is compoſed. Maximilian, in order to procure ſome compenſation for the diminution of his authority, by the powers veſted in the imperial chamber, prevailed on the diet A. D. 1512, to give its conſent to the eſtabliſhment of the aulic council. Since that time it has been a great object of policy in the court of Vienna, to extend the juriſdiction, and ſupport the authority of the aulic council, and to circumſcribe and weaken thoſe of the imperial chamber, for which the tedious forms and dilatory proceeding of this chamber have furniſhed the emperor with pretexts. "Lites Spiræ," according to the witticiſm of a German lawyer, "ſpirant, ſed nunquam exſpirant;" ſuch delays are unavoidable in a court compoſed of members named by ſtates, jealous of each other. Whereas the judges of the aulic council, depending on one maſter, and being reſponſible to him alone, are more vigorous and deciſive. Puffendorf, de Statu Imper. Germ. c. v. § 20.

The aulic council is eſtabliſhed by the emperor, who nominates the officers; but the elector of Mentz has a right of viſiting it.—It is compoſed of a preſident, who is a catholic; a vice-chancellor, preſented by the elector of Mentz; and of eighteen aſſeſſors, or counſellors, nine of whom are Proteſtants, and nine Romaniſts. They are divided into two benches, one of which is occupied by the counts, and the other by the lawyers.—They hold their aſſemblies in the preſence of the emperor; and for that reaſon are called "judicium imperatoris," the "emperor's judges:" and "aulic council," becauſe theirs follows the emperor's court, *aula*, and has its reſidence in the place where he is.—This court claſhes a little with the imperial chamber of Spires; as they are preventive of each other; it not being allowed to move any cauſe from the one to the other. Nor can the emperor himſelf hinder or ſuſpend the deciſions of either court; much leſs call any cauſe before himſelf, which has been once before them, without the conſent of the ſtates of the empire. Yet, in ſome caſes, the ſame council forbears making any peremptory concluſion, without the emperor's participation; and only decrees thus, "Fiat votum ad Cæſarem;" that is, make a report hereof to the emperor in his privy-council.

AULICA, in *Entomology*, a ſpecies of PHALÆNA (*Bombyx*) that inhabits Europe and Siberia. The anterior wings are greyiſh dotted with yellow; poſterior ones fulvous, ſpotted with black. Lin. Fn. Suec.

AULICK, in *Geography*, a town of Germany, in the circle of Upper Saxony and biſhopric of Naumberg; ſix miles north of Zeitz.

AULICUS, in *Conchology*, a ſpecies of CONUS, marked with brown reticulated veins, and interrupted bands of the ſame colour. It is a native of Aſia, and may be only a variety of the *conus textile*, being extremely variable in its colours and marks. Gmelin mentions ſeven different kinds, with references to different figures in the works of Martini, Knorr, and Seba; the moſt remarkable is the fourth variety, the ſhell of which is yellowiſh-brown inſtead of white, and marked reticularly with heart-ſhaped ſpots, diſpoſed in a perpendicular direction.

AULICUS, in *Entomology*, a ſpecies of CERAMBYX (*Callidium* Fab.) Thorax ſmooth and ſhining: body opake, black; wing-caſes ſmooth; antennæ ſhort. Inhabits Europe.

AULICUS, a ſpecies of CIMEX, that inhabits South America; the colour is red and black, varied with a black band on the upper wings; lower wings black with a white line at the baſe. This is *cimex irroratus* of Thunberg, Nov. Ins. or at leaſt a variety of it.

AULICUS, a ſpecies of CRYPTOCEPHALUS (*Ciſtela*) found in Africa, eſpecially at the cape of Good Hope. It is black, with a rufous thorax, and azure-blue wing-caſes. Fabricius.

AULICUS, in *Zoology*, a ſpecies of COLUBER, having 184 abdominal plates, and ſixty ſub-caudal ſcales. It is of a greyiſh colour with numerous linear white bands which bifurcate on the ſides; on each ſide behind the head is a triangular white ſpot, and theſe almoſt unite at the nape. The length of this kind is about ſix inches, and its diameter one third of an inch. It inhabits America, and is deemed a poiſonous ſnake.

AULIS, in *Ancient Geography*, a ſea-port town of Beotia, ſituate at the bottom of a ſmall gulf, oppoſite to Chalcis of Eubœa; and famous for being the place where the

the Grecian chiefs refolved upon the deſtruction of Troy. The diſtrict belonging to it, and called "Aulide," lay toward Eurípus, in that part which ſeparated Boeotia from Euboea. Diana had a temple in this territory, with a ſtatue of white marble holding a flambeau in the hand.

AULLENE, in *Geography*, a town of the iſland of Corſica, four miles north of Tallano.

AULNAGER, in *Commerce*. See ALNAGER.

AULNAY, in *Geography*, a town of France, in the department of the Calvados, and chief place of a canton in the diſtrict of Vire, 4½ leagues ſouth-weſt of Caen.

AULO, a Grecian long meaſure. See MEASURE.

AULOCRENE, in *Ancient Geography*, a mountain of Phrygia, towards the north-eaſt of Apamea-Cibotos.

AULON, a valley of Paleſtine, extending along the banks of Jordan, from Libanus to the deſert of Pharan. Scythopolis, Jericho, and Tiberias were ſituated in this valley.—Alſo, a town of Meſſenia, upon a river of the ſame name, north of Electra.—Alſo, a town and port of the Macedonian ſea, in the country of the Taulantians. Ptolemy.—Alſo, a town of Peloponneſus, in Laconia.—Alſo, another in Arcadia.—Another ancient town in the iſle of Crete.—Alſo, a hill of Italy, near Tarentum, which was fertile in vines, and ſaid by Horace not to be inferior to thoſe of Falernum.

AULOS, in *Conchology*, a name by which ſeveral of the ancient writers call the *ſolen*, or as it is rather improperly named the *razor-fiſh*.

AULPS, or AUPS, in *Geography*, a town of France, in the department of the Var, and chief place of a canton in the diſtrict of Barjols, 8½ leagues W. N. W. of Frejus.

AULT, a town of France, in the department of the Somme, and chief place of a canton in the diſtrict of Abbeville, five leagues weſt of Abbeville.

AULUS GELLIUS, or AGELLIUS, in *Biography*, a Roman grammarian and critic, flouriſhed at Rome, where he was born, in the ſecond century, under the emperors Adrian and Antoninus Pius; and died in the beginning of the reign of Marcus Aurelius Antoninus. He ſtudied grammar and rhetoric at Rome, and philoſophy at Athens, where he enjoyed the ſociety of Calviſius Taurus, Peregrinus Proteus, Herodes Atticus and other learned perſons. Having travelled through Greece, he returned to Rome, devoted himſelf to the ſtudy and practice of the law, and was appointed a judge. From the frequent citations of his works by writers on Roman law, it may be inferred, that he attained to conſiderable reputation in his profeſſion. His "Noctes Atticæ," or "Attic Nights," the only work extant, and the greateſt part of which was written at Athens, furniſhing an amuſing occupation for many long winter evenings, is a collection of incidents, and anecdotes, hiſtorical and biographical, with critical obſervations and reflections on various authors and topics, originally compiled for the inſtruction and entertainment of his children, and rendered valuable by many fragments of ancient authors, that are not elſewhere to be found. It was edited in folio, at Rome, in 1469, by Swinheim and Panertz; a ſecond edition was publiſhed in 1472, by Jenſon at Venice; in the ſixteenth century are found the editions of Aldus, 8vo. at Venice, in 1515; of Paris, in folio, 1519, 1524, 1536; of Baſil, 8vo. in 1526; of Paris, 8vo. in 1585, with the critical notes of H. Stephens. Editions of a later date are thoſe, in uſum Delphini, 8vo., 1681; of the Elzevirs at Amſterdam, 1651, 18mo.; at Leyden, cum notis variorum, 1660; by Gronotius 4to. in 1706; and at Leipſick, in two vols. 8vo. by Conradus, in 1762. An elegant tranſlation of this amuſing, but frequently obſcure and difficult author, with valuable notes, was given in the iſle, in 3 vols. 8vo. by Mr. Beloe, in 1795. Prof. to Beloe's tranſlation. Fabr. Bib. Lat. l. i. c. 1. t. ii. p. 1, &c.

AUMA, in *Geography*, a town of Germany, in Upper Saxony, and circle of Neuſtadt, forty-four miles S. S. W. of Leipſick, and ten E. S. E. of Neuſtadt.

AUMA WEIDA, a town of Germany, in Upper Saxony, two miles S. E. of Auma.

AUMALE, a town of France, in the department of the Lower Seine, and chief place of a canton in the diſtrict of Neufchatel, nine leagues S. E. of Dieppe, and eleven N. E. of Rouen. N. lat. 49° 46'. E. long. 1° 38'.

AUMONE, or ALMS. See ALMS.

AUMONT, in *Geography*, a town of France, in the department of the Lozerre, and chief place of a canton in the diſtrict of St. Chely; five leagues N. W. of Mende.

AUN, a town of Perſia, in the province of Segeſtan, forty four leagues S. S. E. of Zareng.

AUNALASCHKENSIS, in *Ornithology*, a ſpecies of ORIOLUS that inhabits the iſland of Oonalaſchka. The length of this bird is eight inches; it is of a brown colour, with a ſpot under the eyes, and chin white; throat and breaſt ferruginous brown. Gmelin. The beak and legs are brown.

AUNAY, in *Geography*, a town of France, in the department of the Nyevre, and chief place of a canton in the diſtrict of Chateau-Chinon; nine miles north of Moulins. —Alſo, a town of France, in the department of the Lower Charente, and chief place of a canton in the diſtrict of St. Jean d'Angely: eight miles north-eaſt of St. Jean d'Angely.

AUNCEL-WEIGHT, quaſi *Handſale-Weight*, an ancient mode of weighing by a kind of balance, conſiſting of ſcales hanging on hooks faſtened at each end of a beam or ſtaff, which a man lifts up by his hand or fore-finger, and ſo diſcovers the equality or difference between the weight and the thing weighed. There being great deceits practiſed in theſe weights, they were prohibited by ſeveral ſtatutes: and the even balance alone commanded. The word is ſtill uſed in ſome parts of England, to ſignify meat ſold by poiſing in the hand, without putting it into the ſcales. See STILYARD.

AUNCESTOR, *Aſſiſe of Mort d'*. See ASSISE.

AUNCESTREL HOMAGE. See HOMAGE.

AUNE, in *Commerce*, a long meaſure uſed in France and other countries, of different lengths in different places. See ELL.

AUNE, in *Geography*, a river of England, which runs into the ſea near Plymouth.

AUNEAU, a town of France, in the department of the Eure and Loire, and chief place of a canton, in the diſtrict of Chartres; four leagues eaſt of Chartres.

AUNEUIL, a town of France, in the department of the Oiſe, and chief place of a canton in the diſtrict of Beauvais; five miles S.S.W. of Beauvais.

AUNGERVYLE, RICHARD, or *Richard of Bury*, in *Biography*, an Engliſh biſhop, was born at St. Edmundſbury, in Suffolk, in 1281, ſtudied at Oxford, and became a Benedictine monk at Durham. He was tutor to prince Edward, afterwards Edward III.; and upon his acceſſion to the throne, he was loaded with honours and preferments. In 1333, he was conſecrated biſhop of Durham; in 1334, he was appointed high chancellor; and in 1336, treaſurer of England. He was himſelf eminently learned, and a great patron and encourager of learning. Petrarch, with whom he correſponded, calls him "virum ardentis ingenii." He was a great collector of books, and poſſeſſed, it is ſaid,

more books than all the biſhops of England together. Notwithſtanding the expence which he incurred in this way, by employing perſons to collect books for him abroad, and alſo binders, illuminators, and writers in his ſeveral palaces, he was diſtinguiſhed by his charity and beneficence. He does not ſeem to have contented himſelf merely with the poſſeſſion of a large library; for he was a diligent ſtudent; and it was his cuſtom for ſome of his attendants to read to him at his meals, and afterwards to diſcourſe with his chaplains on the ſubjects that occurred. His "Philobiblos" was a curious treatiſe, finiſhed at Auckland in 1345, when he was ſixty-three years of age, and containing a declamation in praiſe of books, with directions concerning the preſervation and uſe of them. It was printed at Spires in 1483; at Paris, in 1500; at Oxford, in 1599, 4to.; and at Leipſic, in 1674, at the cloſe of "Philologicarum Epiſtolarum Centuria una." This work is diſtributed into twenty chapters; in which, among other particulars, he aſſerts, that books are to be preferred to riches and pleaſures; that they are miſuſed only by ignorant people; that the ancients ſurpaſſed the moderns in hard ſtudy; that learning arrives at perfection by degrees, and that he had provided for ſtudents Greek and Hebrew grammars in his libraries; that the law and law books are not properly learning; that grammar is peculiarly uſeful and neceſſary; that poetry alſo is uſeful; but he makes an apology for admitting poets into his collection, obſerving, "we have not neglected the fables of the poets." Aungervyle founded a noble library at Oxford for the uſe of ſtudents, and appointed five keepers, to whom he granted yearly ſalaries. This learned and worthy prelate died at Auckland, in his dioceſe of Durham, April 24, 1345. Biog. Brit. Wharton's Hiſt. Poet. vol. i. 2d Prel. Diſſ. p. 120, 121.

AUNIS, in *Geography*, a diſtrict of France, which, before the revolution, was reckoned a part of Saintonge, but is now with Saintonge included in the department of the Lower Charente; is bounded on the eaſt and ſouth by Saintonge, on the weſt by the ocean, and on the north by Poitou, and comprehends the iſles of Ré and Oleron. It is watered by the rivers Sevre and Charente, and has ſeveral good harbours along the coaſt. The ſoil is fertile, and produces great quantities of corn and wine; the ſwampy parts afford good paſturage, and the ſalt-marſhes yield an excellent ſalt, which is a conſiderable article of commerce.

AUNOT. See Annot.

AUNOY, Mary Catherine Jumelle De Berneville, *Counteſs of*, in *Biography*, a diſtinguiſhed writer of fiction and romance towards the cloſe of the ſeventeenth century, was niece of the celebrated Madame Deſloges, and wife of the count D'Aunoy. She wrote with fluency of ſtyle and facility of invention: and her "Contes des Fées" or merry tales, and "Aventures d'Hippolyte Comte de Duglas," or adventures of Hippolytus earl Douglas, are read with pleaſure by thoſe who merely ſeek amuſement. Some of her other pieces, uniting hiſtory with fable, ſuch as "Hiſtorical Memoirs of the moſt remarkable Events in Europe from 1672 to 1679," "Memoirs of the Court of Spain," "Hiſtory of John of Bourbon, prince de Carency," are leſs valued. She died in 1705. Nouv. Dict. Hiſt.

AUNUS, in *Entomology*, a ſpecies of Papilio, of a blue colour with a black border and three ſmall tails; black beneath and ſtriped with white. Cramer, Gmelin, &c.

AVOCADO, or Avocato, *Pear*, in *Botany*, a ſpecies of laurus. See Laurus.

AVOCATORIA, a mandate of the emperor of Germany, directed to ſome prince or ſubject of the empire, to ſtop his unlawful proceedings in any cauſe brought by way of appeal before him.

AVOCETTA, in *Ornithology*, a ſpecies of Recurvirostra that is diſtinguiſhed from two other birds of the ſame genus, in being variegated only with black and white. Linn. Gmel. &c.

The length of this bird is from eighteen to twenty inches; it has a ſmall body, and legs remarkably long; irides hazel; crown black; front of the neck, breaſt, back, belly, and outer part of the wings white; legs blueiſh-black; beak black, about three inches and a half in length, and like the reſt of the genus, ſlender, flexible, turning upwards towards the end, and terminating in a point.

"This bird is common in winter on the eaſtern coaſts of England, particularly thoſe of Suffolk and Norfolk; and ſometimes on the lakes of Shropſhire. They are found in great plenty in the breeding ſeaſon, in the fens about Foſſdyke Waſh in Lincolnſhire, and in the fens of Cambridgeſhire. They feed on worms and inſects, which they ſcoop out of the mud and ſand; and are ſometimes obſerved to wade or ſwim, but always cloſe to the ſhore.

"They lay two eggs, which are about the ſize of thoſe of a pigeon. Pennant ſays they are white, tinged with green, and marked with large black ſpots. In the deſcription of them given by Latham it is obſerved, they are of a cinereous grey, whimſically marked with deep browniſh-black patches of irregular ſizes and ſhapes, beſides ſome under markings of a duſky hue.

"The avocet is far more frequent in ſome other parts of Europe than in this country. Albin ſays, in Rome and Venice they are common; and according to Salerne, they are ſo plentiful on the coaſts of Bas Poictou, that the peaſants take their eggs by thouſands. They are alſo found in Ruſſia and Siberia, Denmark, Sweden, and other northern countries." Donov. Brit. Birds, &c.

This bird is called *avoſetta ſ. recurviroſtra*, by Geſner; *avocette*, by Buffon; *krumbſchnabl*, by Cramer; *ſkerſlacka*, Alſit. Linn. Fn. Suec.; the *ſcooper*, by Charlt.; *crooked bill*, by Dale; and *avocet*, or *avoſet*, by Engliſh writers.

AVOGLI, in *Geography*, a town of Perſia, in the province of Adirbeitzan, eighteen leagues ſouth-eaſt of Tauris.

AVOIDANCE, in *Law*, is applied generally to a benefice which becomes void of an incumbent, and is oppoſed to plenarty. Avoidances are either in *fact*, as by the death of the incumbent; or in *law*; and may be by ceſſion, deprivation, reſignation, &c. See Usurpation.

AVOIRDUPOIS, or Averdupois *Weight*, a kind of weight uſed in England; the pound whereof contains ſixteen ounces. See Weight.

The proportion of a pound avoirdupois to a pound troy is as 17 to 14; or the avoirdupois pound contains 7000 grains, and the troy pound 5760.

All the larger and coarſer commodities are weighed by avoirdupois weight; as groceries, cheeſe, wool, lead, hops, &c.

AVOISE, in *Geography*, a town of France, in the department of the Sarte, four leagues from La Fleche.

AVOLA, or Aula, a town of Sicily, in the valley of Noto, ſix miles from Noto, and ſixteen from Syracuſe. This city, which formerly ſtood on a hill, boaſted of being the "Hybla Minor," ſo celebrated for its honey; but the juſtice of its claim, in common with many other cities, cannot be eaſily decided. After its deſtruction by the earthquake of 1693, the inhabitants rebuilt it more commodiouſly in the plain, in a fertile territory, luxuriant in corn and fruits, and principally in almonds, a conſiderable article of

of commerce. The houſes ſtill prove, by being extremely low, the dread entertained of earthquakes. The ſtreets are wide and regular.

AVOLTOJO, in *Ornithology*, a name given by Cetti to ſome birds of the VULTUR genus; as for example, *vultur fuſcus* is called by that writer *avoltojo Griffone*; and *vultur niger*, *avoltojo nero*.

AVON, or AFON, in the *Britiſh Language*, ſignifies a river generally; but in its preſent application deſignates only a few of the ſtreams in Great Britain. The principal are the *Warwickſhire Avon*, and the *Wiltſhire Avon*. The former is four times called "The *Upper Avon*." It brings a great influx of waters from the north-eaſt, riſing on the borders of Leiceſterſhire, and adds great beauty to the delightful territory of Warwick caſtle, as it flows beneath the cliff on which thoſe lofty towers are ſituated. It then glides through a charming country, to the celebrated ſpot of Stratford-on-Avon, the birth-place of our immortal Shakſpeare, and the repoſitory of his bones. Hence it traverſes the great level of Worceſterſhire, by Evesham, having received the leſſer *Stour* at Stratford, and turning to the ſouth at Perthſhore, meets the Severn at the flouriſhing town of Tewkeſbury. Ireland's picturesque Views on the Avon.

The Wiltſhire or *Lower Avon* derives its ſource from various ſprings in the north of Wilts, and becomes a conſiderable river at the ancient town of Malmſbury. In this part of the country, we are informed by Ethelward, that it formed a boundary line between the Weſt Saxon and Mercian kingdoms, and was often ſtained with the blood of murdered ſoldiers during the direful warfare between thoſe two powers. Leaving Malmſbury, it meanders through a level tract of fine paſture land to Great Somerford, Dantſey, and Chippenham, where its ſtream becomes expanded by many contributory rivulets. Quitting Chippenham, its windings are numerous, from the hilly nature of the country through which it flows. Having paſſed the clothing towns of Melkſham and Bradford, it moves ſlowly through the gay city of Bath, thence paſſes on to Briſtol, and ſoon afterwards unites its waters with the Severn. It is navigable for ſmall veſſels up to Briſtol, and ſome conſiderable barges come up as high as Bath.

The *Upper Avon*, another Wiltſhire river, riſes among the hills near the centre of that county, and flows ſouthward through a number of ſmall villages to Ameſbury and Saliſbury, where it receives the united ſtreams of the Willey and the Nadder; and, running through Downton, croſſes the county of Hants, and diſcharges itſelf into the Britiſh channel at Chriſt-church.

Another *Avon* riſes in the north part of Glamorganſhire, and running ſouth, falls into the Severn at Aber-Avon, ſouth-weſt of Neath.

Avon, or *Avon Vane*, a river in Merionethſhire, riſes among the high mountains of that county, and after paſſing by the ſmall town of Dolgelly, ſoon diſcharges itſelf into the Iriſh ſea at the town of Barmouth.—*Avon* gives name to two rivers in Scotland. Britton's Beauties of Wiltſhire, vol. i. and Skrines General Account of Rivers.

Avon is alſo the name of a river of Nova Scotia, which diſcharges itſelf into the Atlantic ocean, eaſt of Halifax. It is navigable as far as fort Edward for veſſels of 400 tons; and for veſſels of 60 tons, two miles higher.

AVORTON, Fr. in *Midwifery*, an abortive child.

AVOSTOLA, in *Geography*, a river of Piedmont, which runs into the Cervo; 24 miles weſt of Baronza, in the Vercellois.

AVOWEE, ADVOCATUS, in *Law*. Avowee is the perſon to whom the right of advowſon of any church belongs, ſo that he may preſent to it in his own name; thus called by way of diſtinction from thoſe who ſometimes preſent in another man's name, as a guardian, who preſents in the name of his ward; as alſo from thoſe who only have the lands to which an advowſon belongs for term of life or years, by intruſion or diſſeiſin. See ADVOWEE, and ADVOCATT.

AVOWRY, in *Law*, is where one takes a diſtreſs for rent, or other thing, and the other ſues replevin. In which caſe the taker ſhall juſtify, in his plea, for what cauſe he took it; and if he took it in his own right, he is to ſhew it, and ſo avow the taking; which is called his avowry. If he took it in the right of another, when he has ſhewed the cauſe, he is to make cognizance of the taking, as being a bailiff or ſervant to him in whoſe right he did it. See REPLEVIN.

AVOYER, in *Eccleſiaſtical Antiquity*, was originally the advocate of a monaſtery; and in times of confuſion the avoyers became captains and protectors of convents, to whom the ſaid convents gave lands in conſideration of their protection; but when theſe monaſteries erected themſelves into principalities, the avoyers became noblemen; and the title was connected with great dignity. Thus we find, that when Otho was elected to the empire, A.D. 1209, and his election was approved by pope Innocent III., who invited him to Italy to be crowned, he appointed Rodolphus, count of Hapſburg, prefect, vicar of the empire, and principal avoyer of all Upper Germany, with power to maintain the imperial rights, inſpect the finances, levy ſubſidies, tributes, tolls, and taxes, and, in a word, to repreſent the perſon of the emperor in his abſence.

AUPILLARTOK, in *Geography*, an iſland of Greenland, near Bear iſland, about eight or ten leagues long, and very high. Theſe two iſlands, which are about the ſame form and extent, divide the channel, in which they are ſituated, into two bays.

AU-PIS-ALLER, a French phraſe, ſometimes uſed among Engliſh writers, ſignifying, *at the worſt*.

AUPS, in *Geography*. See AULPS.

AURA, in *Chemiſtry*, a certain fine and pure ſpirit, ſuppoſed to be found in every animal and vegetable body, but ſo ſubtle as only to be perceptible by ſmell and taſte.

This term was much employed by the ancient alchemiſts, and even ſome of the moſt eminent chemiſts, but is now diſuſed. It is nearly equivalent to *ſpiritus rector*, concerning which ſee the article AROMA.

AURA, in *Ornithology*, a ſpecies of VULTUR, of a browniſh grey colour, with black wings, and white bill. This bird is deſcribed by authors under ſeveral different names. In Hernand. Mex. it is called tzopilotl ſ. aura; by Willughby, urubu, tzopilotl, or aura; by Ullo, gallinazo; vultur Braſilienſis by Ray; vautour du Bréſil by Buffon; Turkey buzzard by Cateſby; carrion-crow by Sloane; and carrion vulture by Pennant and Latham. Inhabits Braſil.

AURA, among *Phyſiologiſts*, an airy exhalation or vapour.

The word is derived from the Greek αυρα, *gale*.

AURACH, in *Geography*, a town of Germany, in the circle of Swabia, and county of Waldburg; nine miles E.N.E. of Warzach.—Alſo, a river of Germany, in Franconia, which runs into the Rednitz; three miles ſouth of Erlang.

AURÆ, in *Mythology*, a name given by the Romans to the nymphs of the air. They are moſtly to be found in the ancient paintings of cielings; where they are repreſented as light and airy; generally with long robes, and flying veils,

wells, of ſome lively colour or other, and ſhooting about in the rays and glaſs element aſſigned to them. They are ſhortlived and hapgy in themſelves, and well-wishers to mankind.

AURACO, in *Entomology*, a ſpecies of PHALENA (*Noctua*) that inhabits Aurora. The wings are brown; ſtreak at the baſe, and broad band in the middle, yellow. Hubner, Cabal. &c.

AURAINVILLE, in *Geography*, a town of France, in the department of the Meuſe, and chief place of a canton in the diſtrict of Toul; two leagues north of Toul.

AURAN, a town of Arabia, ſixty miles ſouth of Damaſcus.

AURANA, in *Entomology*, a ſpecies of PHALENA (*Tortrix*), with brown wings, and two golden-yellow ſpots in each. Fabricius. Donov. Brit. Inſ.

AURANA, *Laurana*, or *Brana*, in *Geography*, one of the moſt delightful places of Dalmatia, in the county of Zara, on a lake of the ſame name. It had formerly a rich convent of Benedictines, whoſe revenues were, about the year 1217, alienated in favour of the knights templars, by Andrew II. king of Hungary, who inſtituted a commanderie in this place. About this time the place was fortified. The ſuburbs are large. It continued for ſome time in the hands of the Turks; but, in 1684, they were diſpoſſeſſed of it.

AVRANCHES, ABRICANTÆ, or *Abricæ*, or *Abricantarum oppidum*, a city of France, and principal town of a diſtrict in the department of the Channel, ſeated on an eminence near the river See. Before the revolution, it was the ſee of a biſhop, ſuffragan of Rouen. Beſides the cathedral, which ſtands on a hill, terminating abruptly, it had three pariſh churches, a convent, a college, a public ſchool, and an hoſpital. This is a very ancient town, and, before the county of Bretagne was united to the crown of France, it was called the "Boulevard of France;" but when the Bretons made themſelves maſters of it, they deſtroyed its fortifications, in 1203. Theſe were rebuilt in the reign of St. Louis. Here, it is ſaid, Henry II. of England received abſolution from the pope's nuncio for the murder of St. Thomas á Becket, in 1172; and the ſtone on which he kneeled during the ceremony is ſtill ſhewn to ſtrangers; and on it is engraved a chalice, in commemoration of the event. The ruins of the caſtle are extenſive, and near it is an extent of fertile country, abounding in grain and orchards, which produce the beſt cider in this part of France. N. lat. 48° 41′ 18″. W. long. 1° 22′ 38″.

AURANTIA, in *Conchology*, a ſpecies of VOLUTA, of a tapering ſhape, and orange colour; the firſt four whorls are faſciated with white; lip denticulated, and four plaits on the pillar. Gmelin.

AURANTIA, a ſpecies of PATELLA, the ſhell of which is ovate, ſolid, citron colour, with brown waves; elevated, crowded, wrinkled ſtriæ, and white bottom. Native country unknown. Schræt. n. Litt.

AURANTIA, a ſpecies of OSTREA. The ſhell is ſubrotund, plaited, and finely ſtriated longitudinally, with a ſemicircular white band near the hinge. Native country unknown. Regenf. Conch.

AURANTIA, a ſpecies of VENUS, with an orbicular orange-coloured ſhell. This ſhell is two inches long, and two inches and a quarter in breadth. Its native country is unknown.

AURANTIA, in *Ornithology*, a ſpecies of LOXIA, of an orange colour; crown black; wing and tail-feathers black, edged with orange. Gmelin.

The length of this bird is four inches and a half; bill

duſky; ſome of the [illegible] pale. In the [illegible] of the body [illegible] of Bourbon.

AURANTIA, a ſpecies of [illegible] orange-breaſted fly-catcher, and gobe-mouche roux á poitrine orangée de Cayenne in [illegible] tinctured in parts with green; beneath white; breaſt orange; head and nape greeniſh brown; quill-feathers black, edged with [illegible] ches and three quarters; bill flat and broad; tail rufous; legs pale. Dr. Latham informs us, in his Gen. Orn., that it [illegible] it is perhaps a [illegible] having been brought to Europe.

AURANTIA, a ſpecies of [illegible] the cape of Good Hope. It is brown above, beneath orange; chin whitiſh, varied below with black; larger wing and tail-coverts white; tail-feathers brown, lateral ones tipped with white. This is the [illegible] ſix inches.

AURANTIA, a ſpecies of [illegible] the *orange-breaſted creeper*. It is green; beneath yellowiſh, breaſt orange; wings and tail black. Length four inches; bill black; legs duſky. Inhabits Surinam, and was firſt diſcovered by Mr. Smeathman.

AURANTIA, in *Zoology*, a ſpecies of RANA, deſcribed by Dr. Shaw, as being of an orange-colour, with very ſlender body and limbs. This is a native of South America, and is of a ſmaller ſize than the European tree-frog; it inhabits trees.

AURANTII CORTEX, in *Pharmacy*, orange-peel. The aurantium Hiſpalenſe, or Seville orange, is the only one of this ſpecies which is employed in pharmacy.

The outer yellow rind of the fruit is a grateful aromatic bitter, highly eſteemed as a ſtomachic. It is kept in the ſhops, dried with a gentle heat. It contains a large portion of aromatic eſſential oil, which admirably increaſes the ſtomachic power, and renders it highly grateful to the taſte. The virtue of the orange-peel is readily extracted by proof ſpirit; and accordingly this is the form in which it is uſually employed. The London college have ordered a ſimple tincture of this ſubſtance (*tinctura aurantii corticis*), in the proportion of three ounces to a quart of proof ſpirit. It is alſo employed in ſeveral of the compound tinctures, ſuch as Huxham's tincture of bark, to give an agreeable flavour, and to add to the ſtomachic virtue. A ſyrup of a very grateful flavour is alſo prepared, by diſſolving the requiſite proportion of ſugar in a ſtrong infuſion of the peel. See CITRUS *Aurantium*.

AURANTIUM, in *Botany*. See CITRUS.

AURANTIUM, in *Natural Hiſtory*, a ſpecies of ASCIDIA, of a ſomewhat globoſe ſhape, with a ſcarlet pouch, and covered with rough hardiſh dots; papillæ terminal, cylindrical, and rugoſe. This kind is deſcribed by Pallas; it inhabits the ſea about the Kurile iſlands, adhering by its baſe to ſhells and ſtones; and is about the ſize of an orange.

AURANTIUM, the ſpecific name aſſigned by Pallas to that ſpecies of ALCONIUM, called by Gmelin *lyncurium*.

AURANTIUS, in *Entomology*, a ſpecies of CIMEX found in China and Java. It is of an orange colour; head, anterior margin of the thorax, ſpots on the margin of the abdomen, and the legs, black. Stoll. Fabr. Donov. Inſ. China, &c.

AURANTIUS *Pisc.*, in *Ichthyology*, a name given by Nieremberg to a fiſh of the *coryphaena* genus, called the *dorado*, and ſuppoſed to be of the ſpecies *equiſetis*, Gmelin; or perhaps *hippurus*.

Aurantius, in *Ornithology*, a ſpecies of Falco that inhabits Surinam, the bill and legs of which are lead colour; body above dark brown, with deciſſating narrow whitiſh lines; chin with long narrow whitiſh feathers; throat and breaſt orange; belly and tail brown, with interrupted ſtreaks. Gmelin. This bird is about fifteen inches in length; bill three quarters of an inch long, and whitiſh at the baſe; on the throat a round white ſpot; lower coverts of the tail ferruginous; tail near the baſe lineated with white; legs long, ſlender, with black claws.

Aurantius, a ſpecies of Picus or wood-pecker, about ten inches in length. It inhabits the cape of Good Hope; is of an orange colour above, with the nape, rump, and tail black. Gmelin. Briſſon calls this bird *picus capitis Bonæ Spei*; and Latham the *orange wood-pecker*.

Aurantius, a ſpecies of Trochilus, called by Latham the orange-throated humming-bird. It is of a brown colour, with the head orange: chin and breaſt yellow; wings purple; tail ferruginous. Gmelin. Native place unknown.

Aurantius, a ſpecies of Turdus, of a blackiſh brown colour, with the chin and abdomen whitiſh; beak and legs orange. Gmelin. This is the white-chinned thruſh of Latham; merula Jamaicenſis of Briſſon; and merle brun de la Jamaïque of Buffon. This kind lives in the woods in Jamaica. Of this ſpecies Gmelin mentions three varieties; namely, (β) merula gula fuſca (with the chin brown) that has been diſcovered in New Caledonia; (γ) merula nigra (with the body black), a native of Surinam; and merula Americana of Briſſ. and which, as its name implies, is an inhabitant of America.

AURARIA *functio*, *penſio*, or *præſtatio*, in *Antiquity*, a tax or tribute to be paid in gold. The collector of it was denominated *ſuſceptor aurarius*, or *chryſopodectes*.

AURAS, in *Geography*, a town of Sileſia, in the principality of Breſlaw, ſituate near the Oder; twelve miles north-weſt of Breſlaw.

AURASIUS Mons, in *Ancient Geography*. See Audus.

AURATA, in *Entomology*, a ſpecies of Bupestris, of a large ſize, that is found in America. This kind is golden; wing-caſes ſerrated; thorax braſſy. Fabricius, Olivier, &c. *Obſ.* The head is grooved; eyes teſtaceous; teeth of the antennæ black; thorax ſmooth.

Aurata, a ſpecies of Chrysis that inhabits Europe. It is glabrous and ſhining, with a green thorax, and golden abdomen, with two teeth at the vent. Linn. Fabr. &c.

Aurata, a ſpecies of Mutilla that inhabits New Holland. It is blueiſh, with a large golden ſpot on the abdomen. Fabricius.

Aurata, a ſpecies of Musca found in Europe. This inſect is ſhining; thorax braſſy; abdomen obtuſe and golden. Fabricius, &c.

Aurata, a ſpecies of Phalæna (*Geometra*), deſcribed by Linnæus as a native of Europe. The wings are yellow, and without ſpots.

Aurata, a ſpecies of Phalæna (*Geometra*) that inhabits Surinam; and is figured by Cramer under the name of phalæna aura. The wings are fulvous, with a dot and poſterior ſtreak golden. Fabricius, &c.

Aurata, a ſpecies of Vespa, of a ſmall ſize, that is found in Sierra Leona. The colour is black; abdomen golden and poliſhed. Fabr. &c.

Aurata, in *Ichthyology*, a ſpecies of Sparus, called in England the lunated gilt-head, and diſtinguiſhed by having a lunated golden mark between the eyes. Linnæus Muſ. Ad. Fr. It inhabits the Mediterranean and American ſeas.

Aurata *Barbamenſis*, Cateſby's name of the fiſh called *ſparus chrysops* by Gmelin.

Aurata, in *Zoology*, a ſpecies of Lacerta found in the iſland of Jerſey. When living, it is ſaid to be of a fine golden colour, but after death this ſplendid colour diſappears. It has a round and rather longiſh tail; ſcales rounded and glabrous; ſides browniſh. Gmelin. The body is round, and apparently corpulent, and the ears are concave. This kind is *lacerta barbara* of Muſ. Ad. Fr.

AURATUS, in *Entomology*, a ſpecies of Scarabæus (*Cetonia* Fabr.) that inhabits Europe. This inſect is golden, with a ſingle tooth on each ſide of the firſt ſegment; wing-caſes ſpotted with white. Fabricius. The colours in this ſpecies are variable. From the vent, it omits a fetid liquor when handled. Degeer calls it *ſcarabæus ſmaragdus*.

Auratus, a ſpecies of Carabus, of the apterous kind; wing-caſes golden and furrowed; antennæ and legs rufous. Fabricius. Found in woods in Europe.

Auratus, a ſpecies of Cerambyx that inhabits America. It is green, bronzed, with a lateral depreſſed tooth on the thorax; antennæ black, and poſterior thighs blue. Gmelin.

Auratus, a ſpecies of Curculio, of a green-gold colour; antennæ and dilated tip of the beak black. A native of Italy. Scopoli.

Auratus, a ſpecies of Elater that inhabits China. The colour is green-gold; legs black. Fabricius.

Auratus, in *Ichthyology*, a ſpecies of Sparus, that inhabits the Mediterranean and European ſeas, and is called in England the *lunated gilt-head*. It is diſtinguiſhed by having a ſemi-lunar golden ſpot between the eyes. Linn. Muſ. Ad. Fr. This kind feeds chiefly on worms and ſhell-fiſh, the latter of which it grinds with its teeth before it ſwallows them. The back is greeniſh, ſides rather pale and gloſſed with gold; on the upper part of the gills is a black ſpot, and beneath that another of purple; inſide of the mouth fine red; dorſal fin extending nearly the whole length of the back; tail much forked.

Auratus, a ſpecies of Cyprinus, well known in England by the name of gold-fiſh. Authors are by no means agreed on the preciſe characters by which this fiſh ought to be diſtinguiſhed; ſome think the trifurcated tail is a ſtriking character of the ſpecies; but this is rather accidental, for it is ſometimes found with a bifurcated tail; and the teleſcope carp *cyprinus baphthalmus* of Dr. Shaw, has a trifurcated tail likewiſe; the anal fin is ſometimes ſingle, and ſometimes double; ſo that the Linnæan definition in the Faun. Suec. is equally liable to objection. The ſpecific character aſſigned by Bloch is taken excluſively from the brilliant, or golden red colour, by which, as he obſerves, this fiſh is diſtinguiſhed from all the other ſpecies of the Carp or Cyprinus genus.

This fiſh is without diſpute, the moſt ſuperb creature of the finny tribes at this time known. It was originally confined to a certain lake, on or near the mountain Tſienking, at a ſmall diſtance from the village of Tchanghou in the province of The-Kiang in China, from whence it was tranſported to other parts of that empire, and Japan; and afterwards brought to Europe. The Chineſe have completely domeſticated this fiſh, and they are now generally kept in ponds, baſons, or veſſels of porcelain, as ornaments in the gardens of the rich; and afford one of the few amuſements the ladies are allowed to enjoy in that country by their jealous huſbands. One writer has obſerved that the fiſh is no larger than a pilchard; but in this he is miſtaken, for we know inſtances of its increaſing to the ſize of a herring. The male is ſaid to be of a bright red colour, from the top of the head to the middle of the body; the reſt of a bright

gold

gold colour, ſuperior to the richeſt gilding with that metal; the female white, with the tail and half the body emulating the fineſt ſilver. Du Halde obſerves that the red and white colours are not always the diſtinguiſhing marks of the male and female; but that the female is known by ſeveral white ſpots which are ſeen round the orifices that ſerve them as organs of hearing, and the male by having theſe ſpots much brighter. Groſier, in his deſcription of China, ſays, great care is neceſſary to preſerve them; for they are extremely delicate, and ſenſible of the leaſt injuries of the air; a loud noiſe, ſuch as that of thunder or cannons; a ſtrong ſmell; a violent ſhaking of the veſſel; or even a ſingle touch, will oftentimes deſtroy them. Theſe fiſh live with little nouriſhment; thoſe ſmall worms which are engendered in the water, or the earthy particles that are mixed with it, are ſufficient for their food. The Chineſe, however, take great care from time to time to throw into the baſons and reſervoirs where they are kept, ſmall balls of paſte, which they are very fond of, when diſſolved; they give them alſo lean pork dried in the ſun, and reduced to a fine and delicate powder, and ſometimes ſnails; the ſlime which theſe inſects leave at the bottom of the veſſel is a great delicacy for them, and they eagerly feed on it. In winter they are removed from the grounds or open air to a warm chamber, where they are kept generally in veſſels of porcelain. During this ſeaſon, they receive no nouriſhment; but however in the ſpring, when they are carried back to their former baſons or reſervoirs, they ſport and play with the ſame ſtrength and livelineſs as they did in the preceding year. In warm countries theſe fiſh multiply faſt, provided care be taken to collect their ſpawn, which floats on the water, and which they almoſt entirely devour. This ſpawn is put into a particular kind of veſſel, expoſed to the ſun, and preſerved there until vivified by the heat; gold-fiſh, however, ſeldom multiply when they are kept in cloſe vaſes, becauſe they are then too much confined. In order to render them fruitful, they muſt be put into reſervoirs of conſiderable depth, in ſome places at leaſt, and which are conſtantly ſupplied with freſh water. At certain times of the year a prodigious number of barks may be ſeen in the great river Yangtſe-Kiang, which go thither to purchaſe the ſpawn of theſe fiſh. Towards the month of May, the neighbouring inhabitants ſhut up the river in ſeveral places with mats and hurdles, which occupy an extent of almoſt nine or ten leagues, and they leave only a place in the middle ſufficient for the paſſage of barks. The ſpawn of this fiſh, which the Chineſe can diſtinguiſh at firſt ſight, although a ſtranger could perceive no traces of it in the water, is ſtopped by theſe hurdles. The water mixed with ſpawn is then drawn up, and after it has been put into large veſſels, it is ſold to the merchants, who tranſport it afterwards to every part of the empire. This water is ſold by meaſure, and purchaſed by thoſe who are deſirous of ſtocking their ponds and rivers with gold-fiſh.

Notwithſtanding the tenderneſs of this fiſh in its native climate, it is now naturalized in England, France, Holland, ſeveral parts of Germany, and other countries of Europe. They are ſaid to have been firſt introduced into Great Britain about the year 1691, but were not generally known, according to Pennant, till 1728, when a great number were brought over, and preſented firſt to ſir Matthew Dekker, and by him circulated round the neighbourhood of London, from whence they were diſtributed to moſt parts of the country. "Nothing," ſays one writer, (Enc. Brit.) "can be more amuſing than a glaſs bowl containing ſuch fiſhes; the double refractions of the glaſs and water repreſent them, when moving, in a ſhifting and changeable variety of dimenſions, ſhades, and colours; while the two mediums affected by the convex or concave ſhape of the veſſel, magnify and diſtort them vaſtly; not to mention that the introduction of another element and its inhabitants into our parlours engages the fancy in an agreeable manner. Some people exhibit this ſort of fiſh in a very fanciful way; for they cauſe a glaſs bowl to be blown with a large hollow ſpace within, that does not communicate with it. In this cavity, they put a bird occaſionally; ſo that you ſee a gold finch or a linnet hopping as it were in the midſt of the water, and the fiſhes ſwimming in a circle round it. The ſimple exhibition of the fiſhes is agreeable and pleaſant; but in ſo complicated a way becomes whimſical and unnatural, and liable to the objection due to hate, *quia nimis cupit non probat uniam.*"

One circumſtance that has been remarked of the fiſh, deſerves particular mention. It is ſaid, when young, to be not unfrequently of a deep black colour, and that after a time little ſilvery ſpecks begin to appear through the black; theſe increaſing in ſize very gradually, till the black entirely diſappears, the whole fiſh becomes of a fine and reſplendent ſilver; from which it at laſt changes to a red. Sometimes, however, it appears of a beautiful golden-red in the firſt inſtance.

AURATUS, in *Ornithology*, a ſpecies of CUCULUS, about ſeven inches in length, that inhabits the cape of Good Hope. Buffon calls this bird *coucou vert doré et blanc*; Hiſt. Oiſ., and in his Pl. Enlum. *coucou vert du cap de Bonne Eſperance*. The tail is wedge-ſhaped; body above golden-green, beneath white; on the head five ſtreaks; wing-coverts, ſecondary quill-feathers, with thoſe of the tail, white at the tips. By Latham, it is named in Engliſh the *gilded cuckow*.

AURATUS, a ſpecies of PICUS or wood-pecker, called by Briſſ. *picus Canadenſis ſtriatus*; *pic rayé de Canada*, *et pic aux ailes dorées* by Buffon; *picus major alis aureis* by Kalm; *cuculus auratus*, Linn. Syſt. Nat. X.; and gold-winged woodpecker by Cateſby and other Engliſh writers. Forſter and Gmelin deſcribe it as being tranſverſely ſtreaked with grey and black; chin and breaſt black; nape red; rump white.

The length of this bird is eleven inches; bill an inch and a half long, black, and rather bent; and contrary to others of the ſame genus, is rounded and ridged only on the top, with the point ſharp. The female differs from the male in having the crown and neck behind grey brown; the red of the hind head leſs vivid; greater quill feathers not ſpotted on the edges, and being deſtitute of the black ſtripe on the throat. It inhabits Virginia, Canada, and other parts of North America. About New Jerſey, and New York, it is called by ſome *bittock* or *pint*, and by others *high-hole*; the two former, from the ſound of its note, and the latter from the ſituation of its neſt. It is almoſt continually on the ground, and is not obſerved to climb on the trees like other birds of the ſame genus.

The food of this bird is chiefly inſects, and berries of the red cedar; it is very fat, and in eſteem for the table. Forſter, in the Philoſophical Tranſactions, informs us that it is a bird of paſſage in the northern parts of America, viſiting the neighbourhood of Albany fort in April, and leaving it in September; that it lays four, five, or ſix eggs in hollow trees, and feeds on worms and inſects. It is called by the natives *cuhee-pa-ma-ma*.

AURATUS, a ſpecies of TURDUS, the general colour of which is violet; back and wings golden-green; band on the inner margin of the wings, tail, and upper tail-coverts, blue. Gmelin. This beautiful bird is rather larger than *turdus merula*, or common black bird, and inhabits the kingdom of Whidah, in Africa. Buffon calls it *le merle violet du royaume de Juida*; and Latham the *gilded thrush*.

AURATUS, a ſpecies of TROCHILUS, called by Latham

the *garnet-throated humming-bird*. The colour is golden-green; chin, throat, and breaſt golden-red; belly black. Gmelin.—*Obſ.* There is a variety of this brilliantly coloured ſpecies, in which the cheeks, nape, and chin are of a golden-red; and the head and body of a dark gloſſy green. The latter is called *grenat* by Buffon; and it meaſured five inches in length, being half an inch more than the firſt mentioned kind.—The legs and bill are black, and in the female, the chin, throat, and breaſt are golden-green.

Auratus *Eques*. See Equus.

AURAY, in *Geography*, a ſea-port town of France, in the department and in the gulf of Morbihan, and principal place of a diſtrict; at the mouth of a river of the ſame name. N. lat. 47° 48′. W. long. 2° 50′.

AURBACH, a town of Germany, in the circle of Bavaria, and Upper Palatinate; thirty miles north-eaſt of Nuremberg.

AURBURG, a town and caſtle of Germany, in Upper Bavaria; four miles north of Kuffſtein.

AURE, a river of France, which runs into the Eure, near Anet.

AUREA, in *Conchology*, a ſpecies of Venus of a ſuborbicular form, golden, inequilateral, with crowded, minute, tranſverſe ſtriæ. Liſter, Gmelin. Inhabits Europe.

Aurea, in *Entomology*, a ſpecies of Leptura, deſcribed by Degeer. The colour is greeniſh gold; thorax ſpinous; two black longitudinal ſtripes on the wing-caſes; thighs rufous. About two-thirds of an inch in length.

Aurea, a ſpecies of Meloe (*Mylabris*) of a green-gold colour, with fulvous wings. Length one third of an inch. Degeer. Native country unknown.

Aurea, a ſpecies of Cicada (*Cercopis* Sec.) of an aſh-colour, gloſſed with gold, ſhining, and without ſpots. This is of the middle ſize, and inhabits Cayenne.

Aurea, in *Ornithology*, a ſpecies of Paradisea, about the ſize of the turtle-dove. It is creſted; crown, cheeks, and chin violaceous and ſhining; throat, breaſt, and ſpot on the neck, golden-green. Gmelin. This is *l'oiſeau paradis à gorge dorée* of Sonnerat; *fillet ou manteau d'or* of Buffon; and gold-breaſted bird of paradiſe of Latham.

The bill is blackiſh; irides yellow; plumage very brilliant; legs blackiſh; beneath each wing ariſe long black feathers, which fall over the wings, when the bird is at reſt; the webs of theſe feathers are looſe like thoſe of the oſtrich. From the mutilated ſtate in which the ſkins of theſe birds are ſent to Europe, theſe feathers are not always obſervable in ſpecimens of this ſpecies: Buffon mentions a figure of it publiſhed by M. Marvi, in which even the creſt is wanting. This kind inhabits New Guinea.

Aurea, a ſpecies of Loxia that inhabits Bengala. It is of a black colour; back golden; wing coverts pale brown, ſpotted with black. This bird is the golden-backed finch of Brown; and gold-backed groſbeak of Latham. According to the laſt author, it is ſix inches in length; bill, head, and neck, deep black; the feathers not velvety, as in the Cape groſbeak; breaſt and belly black; legs bluiſh; rump and upper tail-coverts [illegible] the latter fringed with a dusky colour; and the tail feathers very pale at the edges.

Aurea [illegible], in *Pharmacy*, a compound opiate confection, much in repute among the ancient phyſicians, but now entirely diſuſed, like all the other medicines of this claſs: it was conſidered as a powerful alexipharmic, or antidote to poiſon.

Aurec [illegible] *Geography*, a town of France, in the department of the Upper Loire, and chief place of a canton in the diſtrict of Monteſtrol; three leagues South-weſt of St. Etienne, and 11 South of Montbrizi.

AURELIA, in *Entomology*, a term employed by naturaliſts, about the middle of the laſt century, to expreſs that intermediate ſtate in which all lepidopterous, and moſt other inſects, remain for ſome time, between the caterpillar form and the period in which they are furniſhed with wings, with antennæ, and other organs appertaining to the perfect inſect. Aurelia and chryſalis are ſynonymous words, both alluding to the metallic or golden ſplendor of the caſe in which the creature, during that ſtate, is contained. This brilliant appearance, it muſt be obſerved however, ſeems confined alone to inſects of the papilio or butterfly tribe; and it is even peculiar only to certain kinds of thoſe; ſo that the terms aurelia and chryſalis are altogether inapplicable, in a general manner, to inſects in that ſtate. Among entomologiſts of the higher claſs, theſe terms have been long ſince diſcarded in favour of the more expreſſive one pupa, which Linnæus had adopted in their ſtead; a term implying that the inſect, like an infant, yet remains in its ſwaddling clothes; and nothing can be more applicable than this comparative alluſion, while the tender inſect yet remains inveloped in the drapery of its membranaceous covering; a creature now expoſed to every danger, and yet unable to defend itſelf from the ſlighteſt harm; in helpleſs infancy it muſt wait the more complete formation of its limbs, and new acceſſion of ſtrength, ere it can burſt from theſe, its trammels of youth, and appear what nature had ultimately deſigned it for—a mature and perfect creature.—See Entomology, and Pupa.

The term aurelia is ſtill retained by ſome few practical entomologiſts in this country; or, in other words, by thoſe who amuſe themſelves with collecting and breeding inſects, without regarding them ſcientifically; and perſons, engaged in this agreeable purſuit, occaſionally denominate themſelves Aurelians. The word chryſalis is in more general uſe than its preciſe meaning can juſtify; that of aurelia, as before remarked, is nearly obſolete. The current denominations of an inſect in the pupa ſtate among the French naturaliſts, are nympha, or nymphe, and chryſalide.

"The Aurelian" was likewiſe the title which Moſes Harris gave to his well-known folio work on Inſects; a wretched plagiariſm from the beautiful etchings of Ammiral, which had been publiſhed a ſhort time before in Holland; and in which Harris, by a ſingular good fortune, not only eſcaped detection, but actually acquired that very celebrity as a delineator of inſects, which attaches an importance to his memory in the preſent day.

Aurelia, in *Natural Hiſtory*, a ſpecies of Paramecium (*vermes infuſoria*), of an oblong form, plaited longitudinally on the anterior part. Müll. Hermann, &c. Hill deſcribes it thus; *parmula [illegible] fuſiformi, medium versus anguſto*. It is found in great abundance in ditch water, and vegetable infuſions, about the month of June; it is membranaceous; breadth one fourth of the length; anterior part obtuſe, hyaline; poſterior part filled with molecules of various ſizes; longitudinal fold extending from the middle to the front of the head.

AURELIAN, in *Biography*, a Roman emperor, was a native of Sirmium, in Pannonia. His father cultivated the lands which a Roman ſenator, called Aurelius, poſſeſſed in the country where he lived; and his mother was a prieſteſs of the ſun, and pretended to divination. Aurelian was from his youth diſtinguiſhed by his ſtrength and courage, and addicted to military exerciſes and atchievements. On this career he entered betimes; and, from his warlike paſſion and exploits, he obtained, by way of diſtinction from another Aurelian, the name of "Aurelianus manu ad ferrum," or "Aurelian ſword in hand;" as he was ready on all occaſions to draw his ſword, and encounter the enemy. He is ſaid to have killed with his own hand forty-eight Sarmatians

matians in one day; and within ſome few ſucceeding days, 950; ſo that he became the ſubject of popular ſongs, which were ſung by the youth at the public feſtivals. Aurelian was the firſt Roman who fought againſt the Franks, and ſubdued them. As chief commander of the cavalry, to which office he was advanced from the low ſtation of a common ſoldier, he was a ſtrict obſerver of military diſcipline, and puniſhed with the utmoſt ſeverity the ſmalleſt neglect of duty on the part of his ſoldiers, and the ſlighteſt injury done by any of them to the inhabitants of the provinces through which he marched. His military talents and conduct attracted the peculiar attention of the emperor Valerian, who appointed him inſpector and reformer of all the Roman camps, gave him the command of Illyricum, under Ulpius Crinitus, a deſcendant of the ſame family with Trajan, by whom he was adopted, and whoſe daughter he married; and at length, A. D. 258, created him conſul, with a ſpecial order, that, on account of his poverty, the public treaſury ſhould defray the expences which that high office incurred. Under Gallienus we find no mention of him, either becauſe that emperor had removed him from jealouſy of his merit, or becauſe he himſelf did not chuſe to ſerve a prince ſo indolent and deſpicable. Claudius II. upon his advancement to the empire, duly appreciated the merit of Aurelian, and was aſſiſted by him in the defeat of Aureolus. In the war againſt the Goths he was eminently diſtinguiſhed; and this diſcerning emperor on his death-bed recommended him as the fitteſt perſon to be his ſucceſſor. Accordingly Aurelian was elected to the empire by the legions of Illyricum, in the year 270; and after the death of Quintillus, the brother of Claudius, who cloſed a ſhort reign of ſeventeen days by opening his veins, the election of Aurelian was confirmed by the ſenate, and he was honoured with the title of Auguſtus. Having been thus acknowledged and inveſted with the imperial dignity at Rome, he returned to Pannonia, which the Goths had threatened with a new invaſion. The Goths before his arrival had paſſed the Danube; but, after an indeciſive battle, which was terminated by the approach of night, the Barbarians retreated, and re-croſſed the river, and ſent deputies to ſue for peace, which was granted them by the emperor. Having withdrawn the Roman troops from Dacia, and relinquiſhed that province to the Goths and Vandals, he haſtened to Italy to repel an incurſion of the Allemanni, and other German tribes. After three ſucceſſive victories, the firſt near Placentia, a ſecond at Fano near the river Metaurus, and a third in the plains of Perinum, now Pavia, he drove thoſe Barbarians out of Italy, and reſcued Rome from the calamities which were apprehended, and which the city had endeavoured to avert by a variety of ſuperſtitious practices, ſanctioned by the concurrence of the emperor himſelf, with a view of appeaſing the anger of the gods.

Aurelian, on his return to the capital, put to death ſeveral ſenators, who were ſuſpected of having been concerned in conſpiracies againſt him; and having enlarged the city, he provided for its future ſecurity by erecting new walls, which bore his name, though they were not finiſhed till the reign of Probus. The extent of theſe walls was magnified by popular eſtimation to near fifty, but has been reduced by accurate admeaſurement to about twenty-one, miles.

About this time Aurelian marched into Gaul, which had been for ſome time diſtracted and oppreſſed by a rapid ſucceſſion of uſurpers, and where Tetricus, who, from being governor of the peaceful province of Aquitaine, had aſſumed the enſigns of royalty, and reigned four or five years over Gaul, Spain, and Britain, "the ſlave and favourite," ſays Gibbon, "of a licentious army, whom he created, and by whom he was deſpiſed." The power of Tetricus, however, was of precarious duration; and he invited Aurelian to haſten to his relief. Accordingly, in the ſummer of the year 271, Aurelian arrived in Gaul; and Tetricus, in order to diſguiſe the act of treaſon by which he was about to reſign the ſceptre of the weſt, affected the appearances of a civil war, and led his forces into the field againſt the emperor; but he poſted them in the moſt diſadvantageous manner, betrayed his own counſels to the enemy, and with a few choſen friends deſerted in the beginning of the action. The rebel legions, though diſordered and diſmayed by the unexpected treachery of their chief, defended themſelves with deſperate valour, till they were cut in pieces almoſt to a man, in the bloody and memorable battle, which was fought near Chalons, in Champagne. The retreat of the irregular auxiliaries, Franks and Batavians, whom the conqueror ſoon compelled or perſuaded to repaſs the Rhine, reſtored the general tranquillity, and the power of Aurelian was acknowledged from the wall of Antoninus to the columns of Hercules.

Aurelian, having ſecured the perſon and the provinces of Tetricus, turned his arms, A. D. 272, againſt Zenobia, the celebrated queen of Palmyra and the Eaſt. Upon his arrival in Aſia, he advanced at the head of his legions, and took poſſeſſion of Ancyra and Tyana; and as he approached Antioch, it was deſerted by the inhabitants; but by his ſalutary edicts he recalled the fugitives, and granted a general pardon to all, who, from neceſſity rather than choice, had been engaged in the ſervice of the Palmyrenian queen. This unexpected mildneſs of conduct, on the part of the emperor, conciliated the minds of the Syrians; and as far as the gates of Emeſa, the wiſhes of the people ſeconded the terror of his arms. Zenobia attempted to check his further progreſs: but the fate of the eaſt was decided in two great battles; the firſt of which was fought near Antioch, and the ſecond near Emeſa. In both theſe battles, Zenobia animated the armies by her preſence; but the veteran troops of Aurelian, whoſe valour had been ſeverely tried in the Alemannic war, prevailed. After the defeat at Emeſa, Zenobia found it impoſſible to collect a third army. As far as the frontier of Egypt, the nations ſubject to her empire had joined the ſtandard of the conqueror, who detached Probus, the braveſt of his generals, to poſſeſs himſelf of the Egyptian provinces. The queen retired within the walls of her capital, Palmyra; and for ſome time reſiſted, with the intrepidity and firmneſs of a heroine, the arms of the emperor, who inveſted the city. But diſappointed of adequate ſuccours, and alarmed by the return of Probus with his victorious troops from the conqueſt of Egypt, ſhe at length reſolved to fly. She mounted the fleeteſt of her dromedaries, and had already reached the banks of the Euphrates, about 60 miles from Palmyra, when ſhe was overtaken by the purſuit of Aurelian's light horſe, ſeized, and brought back a captive to the [illegible], A. D. 273. To [illegible] of her friends ſhe imputed the guilt of her obſtinate reſiſtance; and on their heads, and particularly againſt the celebrated Longinus, ſhe directed the vengeance of the cruel Aurelian. (See ZENOBIA.) Soon after her capital ſurrendered, and was treated with unexpected lenity. By a war thus terminated, thoſe provinces that had renounced their allegiance ſince the captivity of Valerian, were reſtored to the obedience of Rome.

Aurelian, on his return from the conqueſt of the Eaſt, had already croſſed the [illegible] from Aſia, when he was ſuddenly recalled by the news of the revolt of the Palmyrenians, who had [illegible] and garriſon, and proclaimed a new emperor. [illegible]

moment's deliberation, he turned his face towards Syria, and ſoon arrived to execute vengeance on the revolted city, which for three days was delivered to the unreſtrained rage and rapine of the ſoldiers. Women, children, and ſervants, were involved in this dreadful execution, which ought to have been confined to armed rebellion; and although the emperor's principal concern ſeems to have been directed to the re-eſtabliſhment of a temple of the Sun, he diſcovered ſome pity for the remnant of the Palmyrenians, to whom he granted the permiſſion of rebuilding and inhabiting their city. See PALMYRA.

Aurelian, having thus completely reduced Palmyra, and having alſo ſuppreſſed a rebellion in Egypt, excited by Firmus, a wealthy merchant, and a friend and ally of Odenathus and Zenobia, who had taken poſſeſſion of Alexandria, and aſſumed the purple, and whom he firſt tortured and then put to death; returned to Rome; congratulating the ſenate, himſelf, and the people, that in little leſs than three years he had reſtored univerſal peace and order to the Roman world.

Since the foundation of Rome, no general had more nobly deſerved a triumph than Aurelian; nor was any triumph ever celebrated with ſuperior pride and magnificence. It is thus deſcribed by Gibbon: "The pomp was opened by twenty elephants, four royal tigers, and above two hundred of the moſt curious animals from every climate of the North, the Eaſt, and the South. They were followed by 1600 gladiators, devoted to the cruel amuſement of the amphitheatre. The wealth of Aſia, the arms and enſigns of ſo many conquered nations, and the magnificent plate and wardrobe of the Syrian queen, were diſpoſed in exact ſymmetry or artful diſorder. The ambaſſadors of the moſt remote parts of the earth, of Æthiopia, Arabia, Perſia, Bactriana, India, and China, all remarkable by their rich or ſingular dreſſes, diſplayed the fame and power of the Roman emperor, who expoſed likewiſe to the public view the preſents he had received, and particularly a great number of crowns of gold, the offerings of grateful cities. The victories of Aurelian were atteſted by the long train of captives who reluctantly attended his triumph; Goths, Vandals, Sarmatians, Alemanni, Franks, Gauls, Syrians, and Egyptians. Each people was diſtinguiſhed by its peculiar inſcription; and the title of Amazons was beſtowed on ten martial heroines of the Gothic nation, who had been taken in arms. But every eye, diſregarding the crowd of captives, was fixed on the emperor Tetricus, and the queen of the Eaſt. The former, as well as his ſon, whom he had created Auguſtus, was dreſſed in Gallic trowſers, a ſaffron tunic, and a robe of purple. The beauteous figure of Zenobia was confined by fetters of gold; a ſlave ſupported the gold chain which encircled her neck, and ſhe almoſt fainted under the intolerable weight of jewels. She preceded on foot the magnificent chariot, in which ſhe once hoped to enter the gates of Rome. It was followed by two other chariots, ſtill more ſumptuous, of Odenathus, and of the Perſian monarch. The triumphal car of Aurelian (it had formerly been uſed by a Gothic king) was drawn, on this memorable occaſion, either by four ſtags or by four elephants. The moſt illuſtrious of the ſenate, the people, and the army, cloſed the ſolemn proceſſion. Unfeigned joy, wonder, and gratitude, ſwelled the acclamations of the multitude; but the ſatisfaction of the ſenate was clouded by the appearance of Tetricus; nor could they ſuppreſs a riſing murmur, that the haughty emperor ſhould thus expoſe to public ignominy the perſon of a Roman and a magiſtrate.

"But, however, in the treatment of his unfortunate rivals, Aurelian might indulge his pride, he behaved towards them with a generous clemency, which was ſeldom exerciſed by the ancient conquerors. Princes who, without ſucceſs, had defended their throne or freedom, were frequently ſtrangled in priſon, as ſoon as the triumphal pomp aſcended the Capitol. Theſe uſurpers, whom their defeat had convicted of the crime of treaſon, were permitted to ſpend their lives in affluence and honourable repoſe. The emperor preſented Zenobia with an elegant villa at Tibur, or Tivoli, about twenty miles from the capital: the Syrian queen inſenſibly ſunk into a Roman matron, her daughters married into noble families, and her race was not yet extinct in the fifth century. Tetricus and his ſons were re-inſtated in their rank and fortunes. They erected on the Cælian hill a magnificent palace, and as ſoon as it was finiſhed, invited Aurelian to ſupper. On his entrance, he was agreeably ſurpriſed with a picture which repreſented their ſingular hiſtory. They were delineated offering to the emperor a civic crown and the ſceptre of Gaul, and again receiving at his hands the ornaments of the ſenatorial dignity. The father was afterwards inveſted with the government of Lucania; and Aurelian, who ſoon admitted the abdicated monarch to his friendſhip and converſation, familiarly aſked him, Whether it were not more deſirable to adminiſter a province of Italy, than to reign beyond the Alps? The ſon long continued a reſpectable member of the ſenate; nor was there any one of the Roman nobility more eſteemed by Aurelian, as well as by his ſucceſſors.

"The feſtival was protracted by theatrical repreſentations, the games of the circus, the hunting of wild beaſts, combats of gladiators, and naval engagements. Liberal donatives were diſtributed to the army and people; and ſeveral inſtitutions, agreeable or beneficial to the city, contributed to perpetuate the glory of Aurelian. A conſiderable portion of his oriental ſpoils was conſecrated to the gods of Rome; the Capitol, and every other temple, glittered with the offerings of his oſtentatious piety; and the temple of the ſun alone received above 15,000 pounds of gold."

The arms of Aurelian vanquiſhed the foreign and domeſtic foes of the republic; and we are aſſured, that by his ſalutary rigour, crimes and factions, miſchievous arts and pernicious connivance, the luxuriant growth of a feeble and oppreſſive government, were eradicated through the Roman world. Nevertheleſs, a few ſhort intervals of peace were inſufficient for the arduous work of reformation; and even his attempt to reſtore the integrity of the coin was oppoſed by a formidable inſurrection, which originated with the workmen of the mint, and terminated by a bloody battle, in which the emperor loſt 7000 of his troops. Of this inſurrection, the real cauſe was diſguiſed, and the reformation of the coin furniſhed merely a feigned pretence to a party already powerful and diſcontented. The emperor, who was himſelf a plebeian, and who always expreſſed a peculiar fondneſs for this order, had excited the jealouſy and incurred the hatred and oppoſition of the ſenate, the equeſtrian order, and the Prætorian guards; and it was a conſpiracy of theſe ſeveral orders that procured a ſtrength capable of contending in battle with the veteran legions of the Danube. The rebellion, however, was ſuppreſſed, and Aurelian uſed his victory with unrelenting rigour. The nobleſt families of the capital were involved in the guilt or ſuſpicion of this dark conſpiracy; and it was puniſhed with a ſpirit of revenge that produced the moſt ſanguinary effects. The executioners, ſays Calphurnius a contemporary poet, were fatigued; the priſons were crowded; and the unhappy ſenate lamented the death or abſence of its moſt illuſtrious members.

Some of the concluding months of Aurelian's reign were occupied

occupied by a viſit to Gaul, where he rebuilt the ancient city of Genabum, called after his own name "Aurelianum," now Orleans, and by an expedition againſt the barbarians who had made an incurſion into Vindelicia. But the object, which engaged his principal attention, was an expedition againſt Perſia; in the proſecution of which he advanced as far as the ſtraits which divide Europe from Aſia. Here a conſpiracy was formed againſt his life by one of his ſecretaries, who was accuſed of extortion. This criminal, dreading the effects of the emperor's diſpleaſure, determined to involve ſome of the principal officers of the army in his danger, or at leaſt in his fears. With this view he artfully counterfeited his maſter's hand, and ſhewed them in a long and bloody liſt their own names devoted to death. Without ſuſpecting or examining the fraud, they reſolved to ſecure their lives by the murder of the emperor. On his march, between Byzantium and Heraclea, Aurelian was ſuddenly attacked by the conſpirators, and, after a ſhort reſiſtance, fell by the hand of Mucapor, a general whom he had always loved and truſted. Accordingly he died, A. D. 275, regretted by the army, deteſted by the ſenate, but univerſally acknowledged as a warlike and fortunate prince, the uſeful, though ſevere, reformer of a degenerate ſtate.

As to his general diſpoſition and character, it has been obſerved by Diocleſian, one of the moſt ſagacious of the Roman princes, that the talents of his predeceſſor Aurelian were better ſuited to the command of an army, than to the government of an empire. His temper was haughty and vindictive. Trained from his youth in the exerciſe of arms, he transferred the diſcipline of the camp into the civil adminiſtration of the laws; and his love of juſtice often became a blind and furious paſſion. Ignorant or impatient of the reſtraints of civil inſtitutions, he diſdained to hold his power by any other title than that of the ſword, and governed by right of conqueſt an empire which he had ſaved and ſubdued. Aurelian has been reckoned by ſeveral Chriſtian authors among the perſecutors of the church; and it is ſaid that he not only intended perſecution and framed cruel edicts for this purpoſe juſt before his death, but did actually perſecute. His perſecution, however, reckoned by Auguſtine the ninth, was ſhort; as he died ſoon after the publication of his edicts, and before they could reach the more diſtant provinces. Moſheim is of opinion that many Chriſtians did not ſuffer at this time; but conſidering Aurelian's cruel temper, and how much he was addicted to the Gentile ſuperſtitions, he thinks that if he had lived, his perſecution would have exceeded all the former perſecutions in ſeverity.

The hiſtorians of this reign are Vopiſcus, the Victors, Pollio, Zoſimus, and Eutropius. Crevier's Hiſt. Rom. Emp. vol. ix. p. 149—186. Gibbon's Hiſt. vol. ii. p. 15—56. Lardner's works, vol. viii. p. 172—176. Moſheim's Eccl. Hiſt. vol. i. p. 153.

AURELIANA, in *Botany*. See PANAX.

AURELIOPOLIS, in *Ancient Geography*, an epiſcopal city of Aſia Minor, in Lydia.—Alſo, another epiſcopal city of Aſia Minor, in Aſia properly ſo called.

AURELIUS, AMBROSIUS. See AMBROSIUS.

AURELIUS, *Marcus*. See ANTONINUS.

AURELIUS VICTOR, SEXTUS, in *Biography*, a Roman hiſtorian, flouriſhed in the 4th century, probably from the reign of Conſtantius to that of Theodoſius; was born of mean and illiterate parents, perhaps in Africa, and notwithſtanding the obſcurity of his origin, was advanced by his talents to diſtinction. In 361, he was appointed by Julian, prefect of the ſecond Pannonia; afterwards prefect of Rome; and in 369, conſul with Valentinian. The abridgment of the Roman hiſtory, intitled "Libellus de origine Gentis Romanæ," and by ſome aſcribed to Aſconius Pedianus, though it bears the names of Victor and Livius, propoſes a hiſtory of the whole period, from the uncertain time of Janus and Saturn to the 12th conſulſhip of Conſtantius, but really cloſes in the firſt year of the city. This treatiſe was publiſhed, together with the works of Dionyſius Halicarnaſſenſis, at Frankfort, in 1586; and with a collection of ancient hiſtorians, by Gothofred, in 18mo. at Lyons, in 1591. The biographical treatiſe under the title "De Viris Illuſtribus Urbis Romæ," received by many as the work of Aurelius Victor, commences with Proca king of the Albans, and terminates with Pompey; it was published in 4to. with notes, by Machaneus, at Leipſic, in 1516, and with thoſe of Lycoſthenes, in folio, at Baſil, in 1563. "The Hiſtory of the Cæſars from Auguſtus to Conſtantius," the unqueſtionable production of Victor, was firſt publiſhed by Schurerus at Straſburg, in 8vo. in 1505; at Venice, by Aldus, in 1516; by Schottus, at Antwerp, in 1579, in 8vo.; and at Baſil, in folio, in 1546, with Suetonius and other Auguſtan writers. The firſt general edition of all the writings of Aurelius Victor was printed at Antwerp, in 8vo. with the commentary of Schottus, in 1579, by Plantin, and in 1582, again by Gruter, at Hanau, in the 2d volume of the "Hiſtoriæ Auguſtæ Scriptores," in folio, in 1610. An elegant edition, with heads, "cum notis variorum," was printed in 8vo. in 1671; another by Pitiſcus, at Utrecht, in 8vo. 1696; and a third by Artnezius, in 4to. at Amſterdam, in 1733. Aurelius Victor is reckoned an induſtrious and faithful hiſtorian; but his ſtyle is much leſs elegant than that of the earlier writers of the Roman hiſtory. Fabr. Bib. Lat. l. iii. c. 9. t. 2. p. 79. &c. See AUGUSTA *Hiſtoria*.

AURELIUS, in *Entomology*, a ſpecies of PAPILIO that inhabits India. The wings are brown, black at the tip, and ſpotted with white; two eye-ſhaped ſpots on the poſterior ones beneath. Fabricius, &c.

AURELIUS, in *Geography*, a military townſhip of New York, in Onondago county, on the Owaſco lake, having the Cayuaga reſervation lands on the weſt, and Marcellus to the eaſt, nine miles eaſt of the ferry on the Cayuaga lake. By the ſtate cenſus of 1796, 123 of the inhabitants are electors.

AURELLA, in *Entomology*, a ſpecies of PHALÆNA (*Tinea*), wings golden, poſterior ones black, with a ſtripe of ſilver on the firſt pair. A minute inſect that inhabits Europe, and feeds on apple trees.

AURENG-ZEBE, AURING-ZEBE, or AURUNG-ZEBE, denoting "Ornament of the throne," in *Biography*, the great mogul, was the third ſon of Shah Jehan, and born in the year 1618. His diſpoſition was ſerious and thoughtful; and in order to prevent jealouſy and ſuſpicion, he aſſumed the auſterity of a religious mendicant. Dara, however, his elder brother, diſcovered his real character through this diſguiſe; and as he had contrived to gain the eſteem and confidence of his father, Dara uſed to ſay of him, "I fear none of all my brothers but this teller of beads." Shah Jehan, who thought it moſt prudent and ſafe to remove all his ſons from court, ſent Aureng-Zebe to govern the Deccan, where he made an unſucceſsful attempt againſt the king of Golconda. Towards the cloſe of the year 1656, Dara, endeavouring to gain poſſeſſion of the empire, confined his father Shah Jehan; upon which Aureng-Zebe began to make preparations, and with the profeſſed deſign of ſecuring the throne to his brother Morad, who was then at Akmedabad, requeſted that he would join him with his forces at Eugene, the capital of the province of Malva. In the beginning of the year 1658, he marched form

from Aurungabad in the Deccan, and the two brothers joined at Eugene, near which place they encountered and defeated the troops which Dara had sent to oppose them. They afterwards marched towards Delhi; and in the fields of Kojouh, near Agra, obtained a complete victory over Dara and his army; so that Dara himself fled towards Lahore, and Aureng-Zebe entered the gates of Agra. After this victory he took possession of the throne, July 20, A.D.1658, and was proclaimed emperor at the town of Feerabad, about six miles from Delhi. On the 15th of May 1659, he was proclaimed a second time, and he then issued a decree, that for the future the beginning of his reign should be dated from the first Ramazan, in the year 1069 of the Hegira, or the 12th of May 1659. For the security of his throne, he confined his father at Agra; and his brother Morad, in violation of a solemn oath of fidelity, he imprisoned in a fortress near Dehli, where he was afterwards beheaded. During the civil war which commenced at the time of his accession to the throne, and which was continued till his power was completely established, his brother Sujah was first defeated at a place called Kuvra, in the province of Bengal, and compelled to fly; but being concerned in a plot for dethroning him, he was put to death, and his whole family was extirpated. Dara was taken prisoner, and brought in triumph to Dehli, and sent from thence to Khesrabad, a place at the distance of about 118 miles, where he was murdered by Aureng-Zebe's order, August 28th, 1659. In 1661, Aureng-Zebe confined his own son Mahommed, and the son of Dara, in the castle of Gualiar, where the former died, as some say, in consequence of confinement, and the latter was dispatched by slow poison. Aureng-Zebe, after his accession to the throne, found some difficulty in persuading the chief cadi to acknowledge his sovereignty, because the old king, Shah Jehan, was still living. But another cadi being appointed in his room, the ceremonial of coronation was performed, and Aureng-Zebe obtained undisputed and peaceable possession of the throne. The recollection, however, of the crimes by which he had gained the sovereignty, was an occasion of remorse; and in order to quiet his mind, he imposed upon himself a rigorous penance; eating only barley bread, herbs, and fruits, and drinking nothing but water. This abstemious diet brought on an illness, which endangered his life; and during the agitation which ensued at court, he had an opportunity of displaying that resolution and firmness of mind for which he was always distinguished. Although he had deposed his father, his behaviour to him was so respectful and submissive, that he at length obtained, before his death in 1666, his forgiveness and paternal blessing. When Aureng-Zebe became emperor, he assumed the titles of "Mohy o' din," i. e. the reviver of religion; and "Alumguir," or the conqueror of the world, of which his ignorance and vanity led him to believe that he possessed three parts in four.

From the year 1660 until the year 1678, there prevailed, through Hindostan in general, the most profound peace that had ever perhaps been known; but Aureng-Zebe disdained to have any other boundary on the south besides the ocean. Accordingly, the conquest of the remote part of the Deccan employed a very considerable part of his leisure, during the latter part of his reign, when the whole of that region, together with the peninsula, a few mountainous and inaccessible tracts excepted, were either entirely subjected, or rendered tributary to the throne of Dehli. Aureng-Zebe was particularly induced to subdue the Deccan, by the determined spirit and growing power of Sevajee, the founder of the Mahratta state, who, by his conquests in Visiapour, appeared under the character of his rival. Soon after he had quelled by his personal presence a rebellion of the Patans beyond the Indus, in 1678, his persecution of the Hindoos stirred up the Rajpoot tribes in Agimere. This war he also undertook in person; but he and his whole army were shut up between the mountains, and the emperor herself was taken prisoner. She, however, and also the emperor, were permitted to escape. This disaster did not discourage him from carrying the war into the Rajpoot country again, in 1681; when he took and destroyed Cheitore, the famous capital of the Rana, as well as all the objects of Hindoo worship which he found in this place. Nevertheless the spirits of these gallant people were still unsubdued, and Aureng-Zebe was under a necessity of granting them peace. In Mr. Orme's "Historical Fragments of the Mogul Empire," we have a letter written by Jeswont Sing, rajah of Joudypour, to Aureng-Zebe, expostulating with him on the unjust measures he was pursuing with respect to the Hindoos. This letter breathes the most admirable spirit of philanthropy, and of toleration in matters of religion, together with the most determined resolution to oppose the meditated attack on the civil and religious rights of the Hindoos. Whilst Aureng-Zebe was engaged in his contests with the Rajpoots, consisting of several of the most warlike tribes among the Indians, his son, sultan Mahommed Akbar, revolted from him, and joined them; but he was pursued by the emperor to Deccan, from whence he found means for escaping to Persia. In the year 1680, upon the death of Sevajee, the rising state of the Mahrattas devolved on his son Sambajee, who was afterwards betrayed into the hands of Aureng-Zebe, and barbarously put to death. Still, however, the mountainous parts of Baglana were unsubdued; and although the kingdom of Visiapour was reduced in 1686, and Golconda in the following year, he found it very difficult to prosecute his conquests towards the west, as we may infer from his camp's being fixed on the Kistnah river, about 200 miles to the north-east of Goa, in 1695. But we have no regular history of any later period than the 10th year of Aureng-Zebe, or the year 1670, when Mr. Dow's history terminates. It is said, that Aureng-Zebe was employed in the Deccan from the year 1678 to the time of his death, and was actually in the field during the greatest part of the last fifteen years of his life. This dereliction of his original empire and capital for nearly thirty years, was the occasion of various disorders. To this circumstance were owing the second rebellion of the Rajpoots in Agimere, that of the Patans towards the Indus, and also that of the Iats, or Iates, in the province of Agra. Besides the conquests of Visiapour, Golconda, and the Carnatic, to the south; and those in the kingdom of Asam to the north, Aureng-Zebe reduced Bengal, and rescued the mouths of the Ganges from the Portuguese pirates, who had long infested them. Under his reign the empire attained its full measure of extent. His authority reached from the 10th to the 35th degree of latitude, and nearly as much in longitude; and his revenue, says major Rennell, exceeded thirty-two millions of pounds sterling, in a country where the products of the earth are about four times as cheap as in England. Fraser estimates the whole revenue of the empire from 21 soubahs, or provinces, at 12,071,876,840 dams, which at 320 dams to a pound sterling, amount to 37,724,615 l. 2 s. 6 d. Such indeed was the reputation for power and wealth which Aureng-Zebe acquired, that embassies were sent to him from all the neighbouring nations, as well as from the European powers, who wished to obtain commercial advantages in his dominions. But under an apprehension of the designs of his sons both against himself and against each other, he was obliged to pass most of his time

in his camp, which formed a kind of moving city. It is described by the curious traveller Bernier, who followed it from Dehli to Cashmir. The guard of cavalry consisted of 35,000 men, that of infantry of [illegible]. The number of horses, mules, and elephants, was computed at 150,000; of camels and oxen at 50,000 each; and of people between 300,000 and 400,000. Almost all Dehli followed the court, whose magnificence supported the industry of its traders and artisans.

Aureng-Zebe fixed his residence, when in winter quarters, at Ahmednagur in the Deccan; and here he died, February 21st, 1707, in the 90th year of his age. According to the directions of his will, he was buried in the cell of a holy dervise near this city: and as he professed great zeal for Mahometanism, the votaries of this religion deem it a meritorious pilgrimage to visit his tomb, particularly on the 28th of the month Zeccadih, the day on which he died. In his will, after making this declaration, "I came naked into the world, and naked I go out of it," he prohibits any ensigns or royal pomp to accompany his funeral, and any concern to be manifested by his [illegible] about a monument; and he orders 1000 rupees, about 125 l. to be distributed among the poor at his funeral. Aureng-Zebe foresaw the contests that would arise between his sons for the empire; and it has been asserted that he made a partition of it among them. His will expressly intimates, that he had made a division among his children, for preventing confusion and bloodshed; and he says, that as there were two imperial seats, Agra and Dehli, whoever settled in Agra might have the provinces thereof, Deccan, Malva, and Guzerat; and he who resided at Dehli, might have Cabul and the other provinces. Nevertheless, two letters, written by Aureng-Zebe to two of his sons a few days before his death, cited by major Rennell, indicate no intention of dividing the empire, but express in doubtful terms his apprehension of a civil war. These letters furnish this striking lesson to frail mortality, that however men may forget themselves during the tide of prosperity, a day of 'recollection' will inevitably come sooner or later. Here we are presented with the dying confession of an aged monarch, who made his way to the throne by the murder of his brethren, and the imprisonment of his father, and who, after being in peaceable possession of it, persecuted the most inoffensive part of his subjects, either through bigotry or hypocrisy. Here we behold him in the act of resigning *that*, to obtain possession of which he incurred his guilt; and presented to us as a mere sinful man, trembling on the verge of eternity; equally deploring the past, and dreading the future. How awful must his situation appear to him, when he says, 'wherever I look, I see nothing but the DIVINITY.'

Aureng-Zebe left four sons; Mauzum, afterwards emperor, under the title of Bahader Shah; Azem, and Kaum Buksh, who severally contested the empire with their elder brother; and Akbar, who had rebelled against his father, and fled to Persia. The death of their father was the signal of hostility between Mauzum and Azem; the former approached from Cabul, and the latter from the Deccan, and disputed the possession of the whole empire (for Azem had proposed a partition of it), with armies of about 300,000 men each. Near Agra it was decided by a battle, and the death of Azem. Mauzum was proclaimed emperor, and reigned between five and six years. In the course of fifty years after the death of Aureng-Zebe, a succession of weak princes and wicked ministers annihilated the extensive and mighty empire which he had established.

Aureng-Zebe possessed many talents which qualified him for governing a large empire. He was sober, active, and resolute, and though he was not scrupulous as to the means by which he acquired power, he was generally moderate in the exercise of it; but he allowed his subordinate governors and omrahs to oppress the people with impunity. In the observance of the outward ceremonies of religion, he was rigid [illegible]; and his [illegible], whatever were the views in which it originated, led him to adopt [illegible]. In [illegible]; [illegible] occupations, when his military enterprises afforded him intervals of leisure, he condescended to employ himself in [illegible] court. The traveller Gemelli Carreri, who saw him in 1695, gives the following description of his person. "He [illegible] olive complexion. He was slender, and stooping with age, [illegible]." Forbes's History of [illegible]. Bernier's Account of a Map of [illegible]. Mod. Un. Hist. vol. [illegible].

AUREOLA, the crown of glory, given by painters and statuaries to saints, martyrs, and confessors, as a mark of the victory which they have obtained.

F. Simond says, this custom was borrowed from the heathens, who used to encompass the heads of their deities with such rays.

AUREOLARIA, in *Entomology*, a species of PHALÆNA (*Geometra*), of a small size, that inhabits Germany. The wings are deep yellow, with three streaks and the margin brown. Fabricius.

AUREOLUS, MANIUS ACILIUS, in *Biography*, a native of Dacia, was advanced from the humble occupation of a shepherd, by enlisting in the Roman army, to the command of a body of cavalry, and distinguished himself by the service he performed to the emperor Gallienus, in a battle against the rebel Ingenuus. Whilst he commanded in Illyricum, he defeated Macrianus, who assumed the purple, and continued to maintain a partial attachment to Gallienus. At length, A. D. 268, a considerable army, stationed on the Upper Danube, invested with the imperial purple their leader Aureolus; who, disdaining a confined and barren reign over the mountains of Rhætia, passed the Alps, occupied Milan, threatened Rome, and challenged Gallienus to dispute in the field the sovereignty of Italy. Defeated by the emperor in a battle near Milan, Aureolus retired into the city; and during the siege, he contrived to form a conspiracy in the besieging army of Gallienus, which terminated in his death. Upon the accession of Claudius II., Aureolus was compelled to deliver up the city and himself to the discretion of the new emperor. The judgment of the army [illegible] him worthy of death; and Claudius, after a feeble resistance, consented to the execution of the sentence. Crevier's Hist. Emp. vol. ix. p. 77, &c. Gibbon's Hist. vol. ii. p. 2—7.

AUREOLUS, in *Entomology*, a species of SCARABÆUS, of a [illegible] somewhat mutilated shape, and powdered with gold; the [illegible] and thighs dotted with black. Inhabits Dania. Fabr.

AUREOLUS *Pons*, now PONTIROLO, in *Geography*, a bridge of Italy over the Adda, 13 miles from Bergamo, and 32 from Milan, near which the usurper Aureolus was defeated by the army of the emperor Gallienus. Near this place, in 1703, the obstinate battle of Cassano was fought between the French and the Austrians.

AURESS, AURES, or [illegible], JEBEL, the name given

to the mons Aurafius of the middle age, and the mons Audus of Ptolemy, being a part of the ATLAS, extending ſouthward from Conſtantina, quite to Biledulgerid. See ATLAS.

AURETTE, a river of France, which runs into the Eure, near Bourges.

AUREUS, in *Entomology*, a ſpecies of STAPHYLINUS, that inhabits Siam. The head, thorax, and wing-caſes, are covered with yelloviſh or golden down; abdomen black, faſciated with aſh-colour. Fabricius, &c.

AUREUS, *Mons*, in *Geography*, a mountain of Mœſia Prima, near the Danube.—And alſo, a town of the ſame name at the foot of it on the ſame river.—Alſo, a mountain of the northern part of the iſland of Corſica, the ridge of which runs out to the north-eaſt and ſouth-eaſt, and forms a kind of elbow. The emperor Probus planted vines on this mountain. Ptolemy.

AUREUS, in *Ichthyology*, a very ſplendid ſpecies of CHÆTODON, figured and deſcribed by Bloch in his Hiſtory of Fiſhes, under the title of C. aureus, and la bandouliére dorée. This author acquaints us, that he found the drawing of this ſpecies amongſt the deſigns of father Plumier, and that it inhabits the Antilles, but of its hiſtory he is entirely ignorant.

The body is of an oval form, golden-yellow colour, and covered with hard denticulated ſcales; the mouth is ſmall, lips ſtrong, and jaws furniſhed with ſetaceous teeth; gill-cover of a ſingle piece; lateral line rather arched; fins yellow, green at the end; pectoral and tail fin rounded, the others falcated; in the dorſal fin twelve rays.—It is ſpecifically diſtinguiſhed by being of a golden colour, and having a ſpine near the cheek bone. Gmelin, Bloch, &c.

AUREUS, in *Natural Hiſtory*, a ſpecies of LIMAX, that inhabits trees in Denmark and Norway, and deſcribed by Müll. as being yellow, and without ſpots. This creature is an inch and a half in length; beneath white; feelers, and a line between them, black.

AUREUS, in *Ornithology*, a ſpecies of ORIOLUS in the Linnæan ſyſtem, and Paradiſe bird in that of Latham. A bird that is ſuppoſed to inhabit New Guinea. General colour tawny yellow, with the frontlet, chin, edges of the wings, and tail black.—*Obſ.* The length of this bird is eight inches; bill an inch long, and rather bent; ſhafts of the tail feathers, and fringe, near the tip yellow. This is the golden paradiſe bird of Latham; le troupiale des Indes of Briſſon; and le rollier de paradis of Buffon.

AUREUS, a ſpecies of PSITTACUS, that inhabits Braſil, and is called by Engliſh naturaliſts the golden-crowned parrakeet. This kind is green, with the cere and orbits blueiſh-fleſh colour; crown golden; an oblique blue band on the wing-coverts. Gmelin. Briſſ. calls it pſittaca Braſilienſis; and Buff. perruche couronée d'or.

AUREUS, in *Zoology*, the ſpecies of CANIS uſually called the JACKAL; an animal about the ſize of a middling dog, and ſpecifically diſtinguiſhed by having a ſtraight tail, and body pale fulvous. Schreber Saeugth.—Gmel. &c. Kæmpfer calls it lupus aureus; Valent. vulpes Indiæ Orientalis; Briſſ. adil; Buffon, chacal, adive; Voſmaer, chien ſauvage Indien; and Gmel. and Penn. ſchakall, &c.

This animal inhabits the warmer parts of Aſia and Africa, lurking among the woods and mountains in the day time, and venturing out in ſearch of prey only during the night; when they aſſemble together in herds to the amount of two or three hundred, and indiſcriminately attack and devour the leſſer kinds of animals and birds; and will occaſionally eat alſo certain kinds of vegetables. The voice of the jackal is deſcribed as peculiarly hideous, conſiſting of a kind of howling and indiſtinct barking; and when they hunt in troops, by their dreadful yellings alarm and put to flight deer, antelopes, and other timid quadrupeds; while the lion, inſtinctively attending to the clamour, is ſaid to follow till the jackals have hunted down the prey, and having ſatiated himſelf, leaves only the mangled remains to be devoured by the jackals. It is for this reaſon, Dr. Shaw obſerves, that the jackal is popularly termed the lion's provider. When preſſed by hunger, jackals have been frequently known to enter towns, and devour indiſcriminately whatever animal ſubſtance they can find. They commit ravages among the flocks, kill fowls, &c. and have been known to attack mankind.

There is great reaſon, according to Dr. Shaw, for ſuppoſing this animal to be the real origin of the dog, ſince almoſt all its manners and propenſities are the ſame. When taken young, it is eaſily tamed; attaches itſelf to mankind, diſtinguiſhes its maſter, comes on being called by its name, ſhews an attachment to dogs inſtead of flying from them, and has all the other peculiarities of character by which the dog is diſtinguiſhed; amongſt others, the important obſervation of profeſſor Guldenſtadt, who has given an accurate deſcription of the jackal in the Peterſburg Tranſactions, ſhould by no means be omitted, viz. that the jackal and dog agree in the ſtructure of the coecum or ſhort inteſtine, and differ in that reſpect both from the wolf and the fox.

Dr. Pallas has favoured the world with an accurate deſcription of this animal. In external figure, he remarks, the jackal reſembles the wolf more than the fox. It is alſo larger and ſtands higher on its legs than the fox. The head is of a fox-red colour above, mixed with aſh-grey hairs which have each a blackiſh ring and tip; the upper lip is white on each ſide of the noſe, and the throat is of the ſame colour; the whiſkers, the long hairs on the chin, and thoſe above the eyes, which are five in number, are black; the ears are fox-red externally, and white internally; the neck and back are all over grey-yellow, and both, but eſpecially the latter, are daſhed with a ſhade of duſky, owing to the tips of the long hairs on thoſe parts; the under part of the body, and the legs, are of a light reddiſh yellow, but the ſhoulders and thighs are externally of a fox-red; the claws are black; the thumb claw ſtands higher than that of the dog, and is crooked; the tail is ſtraight, ſomewhat longer and more hairy than in the wolf, and is of a greyiſh-yellow, more inclining to fox-red towards the end; the long hairs have black tips, and conſequently the tip of the tail appears black; the hair of the jackal is coarſer and ſtronger than that of the wolf, and is longeſt on the ſhoulders and tail, where it meaſures four inches; on the neck and back it is ſhorter by an inch; between the hairs is ſituated a woolly fur of a grey colour; the four middle front teeth are of a truncated form, or, as if cut off, flat, not perceptibly notched or indented; the two exterior larger ones in the upper jaw are ſomewhat larger than the under; the grinders are ſix on each ſide, the firſt being the ſmalleſt, and of a conical ſhape; the next grinders, to the number of two in the upper, and three in the lower, are gradually larger, and divided into three points; the fourth of the upper jaw and the fifth of the under are the largeſt, and have two points; the remaining ones ſtand deeper in the jaw or more inwards, and are ſmaller than the preceding; the tongue has, on each ſide, a border or row of ſmall verrucæ or warts.

Mr. Pennant deſcribes the uſual length of the jackal to be about two feet and a half; the female rather ſmaller than the male, and with from ſix to eight paps. Dr. Pallas counted in a young jackal three teats on one ſide, and four

on the other, of which the foremoſt one was ſituated near the ſide of the breaſt.

The more we conſider the nature and manners of this animal, ſays Dr. Shaw, the more reaſon we ſhall find to coincide with profeſſor Guldenſtadt in opinion, that the jackal is the real origin of the dog (unleſs, indeed, we allow the wild dogs of Africa to be the dog in a ſtate of nature). M. Guldenſtadt very properly obſerves, that the natale ſolum of the wolf does not ſeem to fit it for the ſuppoſed origin of the dog, ſince it is generally confined to the frigid zone; its ſize is alſo againſt the ſuppoſition; for the natural ſize of any ſpecies of animal appears to be between that of the large and ſmall varieties. The fox is ſtill more unlike the dog, as to ſome particulars in the ſtructure of the inteſtines; the native country of the jackal, which is properly Aſia Minor, is the land where we ſhould naturally ſuppoſe the primæval domeſtic dog to have originated. The jackal, according to M. Guldenſtadt, has a natural propenſity to follow mankind, inſtead of flying from him, like the wolf and the fox. The whelp, he adds, is very readily tamed, and when grown up, aſſumes all the habits of the domeſtic dog. That the jackal and dog readily intermix, appears from various teſtimonies, according to Buffon. M. Guldenſtadt cannot conſider the recurvate tail as a ſpecific character of the dog, but thinks it may have originated from cicuration. The general colour of the jackals, which this author has ſeen, is a dirty fulvous, rather blacker on the back, and yellowiſh-white beneath; on each knee in general a black patch, and the tip of the tail of the ſame colour.

AUREUS, in *Antiquity*, the Roman gold coin, equivalent to 25 denarii, or 100 ſeſterces. Suet. in Oth. c. iv. Tacit. Hiſt. lib. i. Beverin. de Ponder. p. 33, ſeq.

In *Modern* and *Middle Age Writers*, it is called *ſolidus*, or *ſolidus aureus*.

The aureus, according to Arbuthnot, generally weighed double the denarius; whence it muſt have been worth, according to the firſt proportion of coinage mentioned by Pliny, 1l. 4s. 3¾d. ſterling.—According to the proportion that now obtains among us, 1l. 0s. 9d. Plin. lib. xxxiii. c. 3. Arbuth. tab. 25.—Ainſworth, however, makes the aurei (denarii) of the higher empire, weigh only five pennyweights; and under the lower empire, little more than half ſo much.

The weight of the aureus was gradually diminiſhed by the emperors. The conſular aureus weighed at a mean 126 troy grains, 40 of them being contained in the Roman pound; the imperial aureus, being 45 to the pound, weighed 112 grains; and the ſolidus, being 72 to the pound, weighed 70 grains. Alexander Severus coined pieces of one-half and one-third of the aureus, called ſemiſſes and tremiſſes; whence the aureus came to be called ſolidus, as being their integer. Phil. Tranſ. vol. lxi. part ii. art. 42. See COIN, and DENARIUS.

AURIA, VINCENT, in *Biography*, an Italian hiſtorian, was born at Palermo in 1625, devoted himſelf to the profeſſion of the law, and was admitted doctor of laws at Catania, in 1652. He afterwards relinquiſhed this employment, and poſſeſſing a liberal fortune, dedicated his time to literature. His works were chiefly Italian, and partly Latin, on ſubjects of hiſtory and antiquities. Thoſe in higheſt eſtimation are "An Hiſtory of the Great Men in Sicily," 4to., Palermo, 1704; and "An Hiſtory of the Viceroys of Sicily," fol. Palermo, 1697. Nouv. Dict. Hiſt.

AURICELLA, in *Entomology*, a ſpecies of PHALÆNA (*Tinea*) found in France. It is ſnowy-white, with teſtaceous ſtreaks on the wings, and a projecting tuft of hairs on the firſt joint of the antennæ.

AURICH, in *Geography*, a town of Germany, in the circle of Weſtphalia, and country of East Friſeland, to the north-eaſt of Leerdam. It is ſurrounded with foreſts that abound with game. N. lat. 53° 28'. E. long. 6° 50'.

AURICHALCEUS, in *Entomology*, a ſpecies of [illegible], of a braſſy-opake colour, [illegible] and ſpotted with white. Fabricius. Inhabits the East Indies.

AURICHALCEUS, a ſpecies of CARABUS (*Cancellatus* Fabr.), of a ſmall ſize. It is braſſy-brown and ſhining; thorax depreſſed; antennæ and legs black. Degeer.

AURICHALCEUS, a ſpecies of CARABUS found in Denmark. It is of a yellowiſh colour, and braſſy above. Müll. Zool. Dan.

AURICHALCUM. See ORICHALCUM.

AURICLE, AURICULA, in *Anatomy*, the external ear, or that part of the ear which is prominent from the head. The word is a diminution of *auris*, *aur*; for the deſcription of this part, ſee EAR.

AURICLE, is alſo applied, by the Engliſh anatomiſts, to denote thoſe cavities of the heart into which the veins pour their blood; but foreign anatomiſts call theſe cavities venous ſinuſes, and apply the word auricle to thoſe [illegible] of the general cavity which reſemble an animal's ear in ſhape. See HEART.

AURICOLLIS, in *Ornithology*, a ſpecies of MOTACILLA. Colour above olive, beneath orange; belly yellowiſh; vent whitiſh; greater wing-coverts, and middle tail-feathers aſh-colour; lateral ones white within, without and at the tips black. Inhabits Canada. Gmelin.

AURICOMA, in *Entomology*, a ſpecies of PHALÆNA (*Noctua*), with wings of a greyiſh-brown colour; upper pair marked with black, in ſtreaks and characters; legs annulated with white at the tip. Gmel. &c.

AURICULA LEPORIS, in *Botany*. See BUPHTHALMUM, and BUPLEURUM.

AURICULA *Muris*. See ARENARIA, CERASTIUM, HIERACIUM, MYOSOTIS, and SILENE.

AURICULA *Urſi*. See ARCTIA, PRIMULA, DODECATHEON, and VERBASCUM.

AURICULA, in *Conchology*, a ſpecies of CARDIUM, with a white and very pellucid ſhell, that is found on the ſhores of Arabia and Egypt. It is heart-ſhaped and ſub-rhombic; ribs twenty-four on each ſide; the grooves very finely crenulated; beaks remote. Forſk. About two inches and a quarter in length, and one inch and three quarters in breadth.

AURICULA, a ſpecies of PATELLA, with a ſubrotund ſhell, radiated with furrows and ſtriæ; apex recurved; internal cavity ear-ſhaped. Inhabits the ſhores of the iſlands of Borneo, Santa Cruz, and St. Thomas. This ſhell is ſnowy-white, with the crown ſometimes encircled with violet; ſometimes radiated with black; brown within; border white or yellow; and the vertex brown. Gmelin, &c.

AURICULA, in *Gardening*, a well-known beautiful plant of the flower kind. This is conſidered in the Linnæan ſyſtem as a ſpecies of primula. See PRIMULA.

The varieties of this plant are extremely numerous, as every year produces a great number of flowers, different in ſhape, ſize, and colour; in the leaves alſo there is often great variety, ſo that the experienced floriſt is frequently capable of diſtinguiſhing the particular ſorts by that means. The characters of a good auricula are, that the ſtems of the flowers be lofty and ſtrong; the footſtalks of the ſingle flowers ſhort, with the umbels regular and cloſe; the neck of each flower ſhort, and the flowers large, regular, and ſpreading, but not inclinable to cup; the colours very bright

and well mixed; the eye of the flower large, round, and of a good white or yellow, with the tube or neck not too wide. Such flowers as want any of these properties are constantly rejected by experienced florists; and as the varieties every year increase from seeds, the bad ones are turned out to make room for such as are good. The proper time for sowing the seeds is commonly about August; but a month or two later will answer the purpose. The most proper soil for it is a good light, fresh, tender mould, mixed with very rotten dung, or well-rotted dung from the bottom of old hot-beds. The manner of propagating the best flowers, when they are blown, is by offsets or slips, taken from the old roots in April, when the flowers are in full bloom. As those plants which have their stems headed always produce the largest clusters of flowers, the early shoots must be cut off as offsets, as soon as it can be done with safety to the plant, in order to encourage them to flower stronger. But in order to have them to flower in the greatest perfection, they should be preserved from too much wet in winter, and have free air, and not too much sun. And in the beginning of February, if the weather be mild, the earth in the auricula pots should be taken off as far as it can be without disturbing the roots, and such as is new and fresh laid in its place. The pots must then be well covered with mats in the night to defend them from frosts while the plants are budding. When the stalks begin to become long, they should be defended from hasty rains, but not kept too much under cover, as it is apt to draw up the stalks too long, and make them weak. They should likewise be watered frequently, a little at a time, care being taken that none of the water falls on the plant. When the flowers begin to open, the pots should be removed to stages, formed with shelves, one above another, placed under cover, but open to the morning sun, and sheltered from the mid-day sun. They may remain in this situation till their flowering is over, and then be set out to have the benefit of the rains and free air, for the ripening of their seeds, which should be carefully preserved and spread on paper to dry before they are put up.

AURICULA, in *Natural History*, a species of LUCERNARIA, of a shape resembling a flask, with a round neck; the lower part is very large, and encircled with eight tufts of tentaculæ or feelers. Fabr. Groen. Müll. calls this species holothuria lagenam referens tentaculis octonis fasciculatis. It inhabits the Greenland seas, adheres firmly to the leaves of the largest ulvæ, and rarely moves; feeds on marine insects, particularly on onisci, and is about an inch and a half in length. The body is black or reddish, and sometimes, though rarely, chesnut, glossed with gold; the mouth is white; the tufts of tentaculæ on the body black, with white tips.

AURICULA *Judæ*, or *Jew's ear*, a kind of fungus or mushroom, somewhat resembling, in figure, a human ear.

It grows on old elder-trees, the tree on which, as some pretend, Judas hanged himself; and hence, they think, the name is derived.

This fungus steeped in water, and applied to the eyes, is said to free them of inflammations; but its chief use is under the form of a gargle in decoctions, against inflammations of the throat, or swelling of the tonsils.

AURICULÆ *Arearium*. See ALVEARIUM.

AURICULÆ, *primus musculus*, in *Anatomy*, the name given by Fallopius to the *attollens auriculam*. He also calls the *retrahens auriculam* the *secundus musculus*.

AURICULAM *Retrahens*. See RETRAHENS.

AURICULAR, something that relates to the ears.

Thus we say, an auricular witness, *auritus testis*, *a witness by hearing*.

AURICULAR *Confession*, is that made in the ear privately.

AURICULAR *Medicines*, are such as are suited to the cure of distempers of the ear.

AURICULARIA, in *Botany*. See HEDYOTIS.

AURICULARIA, in *Conchology*, a species of HELIX, or fresh-water snail, found in stagnant waters in Europe. This shell is imperforate, obtusely-ovate, with a short and acute spire, and capacious aperture. Linn. Faun. Suec. Müll. Zool. Dan. Donov. Brit. Shells, &c. It is a very thin and brittle shell, rather pellucid, and of a horny or whitish colour; length from half an inch to an inch and a quarter, and easily known by the very ventricose appearance of the first whorl.

AURICULARIA, in *Entomology*, a species of FORFICULA, that is perfectly known in England by the name of common *ear-wig*, or *ear-piercer*, from an opinion generally prevalent that it creeps into the ears, and thence into the brain, of people who inadvertently lie down to sleep in fields, gardens, and other places which those creatures inhabit. It is specifically distinguished from other insects of the same genus by having the wing-cases white, and fourteen joints in the antennæ. Lister calls it scarabæus subrufus cauda furcata; and Frisch vermis auricularius.

The ear-wig is a very destructive creature, both in the orchard and flower-garden, and especially to wall-fruit, carnations, and roses. In order to prevent the mischief attending them, it is usual to erect stands supporting basons of water, or to hang the hollow claws of crabs or lobsters, tobacco-pipes, &c. on sticks in differents parts of the garden, for them to creep into in the day-time, in order to catch and dèstroy them. Reeds open at both ends, and placed among the branches of fruit-trees, are also a good trap for them, as they crowd into their open channels, and may be easily collected, and thrown into a tub of water.

That the ear-wig or ear-piercer will creep into the ears of such as sleep in the open air, in those places where they inhabit, cannot be denied; but those who are acquainted with the anatomy of the head, assert that it is impossible it can ever enter the brain, because, say they, there is no open communication between the ear and the brain, and the jaws of the insect are too weak to effect one. In France the same prejudice prevails against this creature, among the lower orders of people, as in England; and, as with us, it is called from that circumstance the ear-piercer (perce-oreille). Its most formidable weapon, in their opinion, is the pair of forceps at the extremity of the body, a character peculiar to the genus, and not to this particular species. "C'est cette armure," says Degeer, "qui a fait donner a ces insectes le nom de forficula, et en françois le nom redoutable de perce-oreille, parce qu'on s'est imaginé que cet insecte s'introduisoit dans les oreilles, que de la il pénétroit dans le cerveau & faisoit périr. Ceux qui sçavant l'anatomie, connoissent l'impossibilité d'une pareille introduction dans l'intérieur du crâne, attendu qu'il n'y a point d'ouverture qui y communique; mais la frayeur de quelqu'un à qui un de ces insectes sera par hasard entré dans la conduit de l'oreille, aura pu donner lieu a cette fable, &c."

The use of the forceps, with which the ear-wig is furnished, is to defend itself against other small insects, and when touched it never fails to display them in a threatening posture, by turning up the extremity of its abdomen. The larva differs very little from the complete insect, and runs with great agility.

AURICULARIS *Abductor*, in *Anatomy*. See ABDUCTOR.

The finger next the little finger is also called auricularis, by the Greeks ἀνώνυμος, because used in picking the ear.

AURICU-

AURICULATA, in *Natural Hiſtory*, a ſpecies of VORTICELLA that inhabits the freſh waters of Denmark. It is naked, with two ſmall briſtles at the tail. Müll. Hiſt. Vermi. This kind is pellucid, cylindrical; the aperture dilated into a ſmall ear on each ſide.

AURICULATA, a ſpecies of DORIS, of a white colour, with dorſal faſciculate papillæ of a red colour tipped with white. The ſhell inhabits the North ſeas. Gmelin.

AURICULATED *Leaf*, in *Botany*, is a leaf which has a lobe on each ſide towards the baſe.

AURIENSIS, in *Ancient Geography*, an epiſcopal city of Africa, in Mauritania.

AURIFER, in *Entomology*, a ſpecies of CURCULIO, with a ferruginous body ſpotted with gold. Fabricius, Sp. Inſ. Inhabits America, and has the front legs long.

AURIFER, a beautiful ſpecies of BUPRESTIS that inhabits Cayenne. The wing-caſes are green, with numerous impreſſed golden dots, and each terminating in two teeth; legs azure. Fabricius. Olivier.

AURIFLAMMA, in the *French Hiſtory*, properly denotes a flag or ſtandard, belonging to the abbey of St. Dennis, ſuſpended over the tomb of that ſaint, which the religious, on occaſion of any war in defence of their lands or rights, took down, with great ceremony, and gave to their protector or advocate, to be borne at the head of their forces. Du-Cange.

AURIFLAMMA is alſo ſometimes uſed to denote the chief flag or ſtandard, in any army.

AURIFLUA, in *Entomology*, a ſpecies of PHALÆNA (*Bombyx*), that infeſts the apple-trees in Germany, and bears a ſtrong reſemblance to phalæna chryſorrhœa. The wings are white, with a brown rib on the underſide of the anterior pair; tail bearded and yellow. The larva is hairy, black, with red lines, and white dots on the ſides; a protuberance on the neck, and another near the tail. Gmelin.

AURIGA, in *Aſtronomy*, the *Waggoner*; a conſtellation of ſtars in the northern hemiſphere: whoſe ſtars, in Ptolemy's catalogue, at 14; in Tycho's, 27; in Hevelius's, 40; in the Britannic catalogue, 66. This is one of the 48 aſteriſms, mentioned by all the ancient aſtronomers; and repreſented by the figure of an old man in a kind of ſitting poſture, with a goat and her kids in his left hand, and a bridle in his right. Beſides the Hoedi, this conſtellation includes another of the ſtars which the ancients diſtinguiſhed by peculiar names, that is, Capella, the goat Capra, and Amalthæa Capra, which is the bright one near the ſhoulder, and ſuppoſed to be the mother of the Hoedi, and the nurſe of Jupiter. The Hoedi, or the two ſtars in the arm of Auriga, were regarded by the ancients as affording preſages of the weather: and they were ſo much dreaded on account of the ſtorms and tempeſts that ſucceeded their riſing, that they are ſaid to ſhut up the navigation of the ſea at this ſeaſon. When the day of their peculiar influence was paſſed, they celebrated a feſtival with ſports and games, under the denomination of "Natalis Navigationis." Germanicus calls them unfriendly ſtars to mariners; and Virgil joins them with Arcturus, mentioning their ſetting and riſing as circumſtances of the moſt important preſage. To the ſame purpoſe all the ancient critics repreſent a part of the conſtellation Auriga, if not the whole of it, as deſerving particular attention, and as much an object of terror as the blazing Arcturus.

AURIGA, in *Ichthyology*, a ſpecies of CHÆTODON, found in the Arabian ſeas. It is whitiſh, obliquely faſciated with brown; and the fifth ray of the dorſal fin, filiform. Forſk. Fn. Arab.

The length of this fiſh is five inches; form nearly rhombic; whitiſh colour tinged with blue; the brown oblique bands ſixteen in number, and diſpoſed nearly parallel to each other. The ſides are [illegible] above flat, ſcaly, of a reddiſh white colour, with [illegible] fulvous ſtripes; iris black; mouth [illegible]; lip reticulated and equal; pectoral margin [illegible] black; anal fin varied with black and yellowiſh-white; tail truncated and fulvous; lateral line bent.

AURIGNAC, in *Geography*, a town of France, in the department of the [illegible], and chief place of a canton in the diſtrict of St. Gaudens, 33 miles ſouth-weſt of Toulouſe.

AVRIGNY, [illegible] a French hiſtorian, born at [illegible], a member of the [illegible]; died in 1750. His works, compoſed [illegible] Paris in 1725 and in 1757, are "Memoirs, chronological and dogmatical, for Eccleſiaſtical Hiſtory, from 1600 to 1716," with critical remarks; and "Memoirs for the Univerſal Hiſtory of Europe," [illegible] valued for variety of materials, accuracy of dates, and elegance of ſtyle; but are not deemed [illegible]. Dict. Hiſt.

AURIGRAPHUS, from [illegible], in *Middle Age Writers*, a [illegible], who wrote in gold letters.

AURILLAC, in *Geography*, a town of France, and principal place of a diſtrict in the department of Cantal, and, before the revolution, the capital of Lower Auvergne. It is ſituated on the river Jordane, in a fertile valley; and the caſtle, which is high, commands the town. N. lat. 44° 55′. E. long. 2° 27′.

AURILLE, a town of France, in the department of the Mayne and Loire, and chief place of a canton in the diſtrict of Angers, [illegible] Angers.

AURINIA, in *Ancient Geography*, a town of Italy, in Etruria.

AURIOL, in *Geography*, a town of France, in the department of the Mouths of the Rhone, and chief place of a canton in the diſtrict of Aix, four leagues ſouth-eaſt of Aix, and four N. N. E. of Marſeilles.

AURIPIGMENT, called alſo *Orpiment*. See ARSENIC, *Ores of*, ſp. 3. var. 2.

AURIS, the ear. See EAR.

AURIS, in *Conchology*, a ſpecies of STROMBUS, adopted by Linnæus and Gmelin, after Argenville. The lip projects into a ſharp point; back muricated; tail erect and pointed. Linn. Inhabits the ſouthern coaſts of Africa; is about three inches long; thick; ſeldom of one colour, but variegated; on the back are generally three, and ſometimes four, rows of tubercles, with the interſtices tranſverſely ribbed; and the outer whorl cancellated; mouth fleſh-colour; pillar white. Gmelin, &c.

AURIS HIRSUTA, a name given by Rumphius to the [illegible], but called *auris* by Linn. and Gmel., and [illegible] by Argenville.

[illegible] a ſpecies of VOLUTA, with a contracted oblong ſhell, having a ſmooth ſpire, and undulated pillar-lip. Linn. Muſ. Lud.—Müll. deſcribes it as helix teſta cylindrica ſubgranulata, apertura lanceolata, labro ad axin tridentato. This ſhell inhabits the ſens in India, and remains [illegible] long. The colour is brown, or white with [illegible] ſpots; whorls of ſix ſpires, the firſt and exterior ones very finely ſtriated. Gmelin.

AURIS MARINA, a ſpecies of VOLUTA, about three inches in length, and [illegible] of New Caledonia. The ſhell is fuſiform, granulated, with an ovate aperture; pillar-lip cut and much ſpread. This is called [illegible] by

by Müll; verm. fluv. et terr. Chemnitz figures it, and two varieties of the same species, tab. 121. Conch.

Auris Midæ, a species of Voluta, found in India, where it inhabits marshy woods and swamps, and in its manners resembles an Helix. The shell is contracted, ovaloblong, spire rugose, pillar-lip bidentated. This is Helix testa fusiformi granulata, apertura lanceolata, labro ad axin bidentato of Müll. verm. fluv. et terr.—*Auris midæ* of Rumphius; and *auricula rufa* of Argenville. Lister figures one variety of this species in pl. 577. Conch. and Chemnitz another, tab. 149. f. 1395, 1396.

The length of this kind is four inches; it is brown, solid, rugose, or striated; spire large; whorls from six to nine, each terminating in a granulated band; the outer ones cancellated; aperture long, and widest beneath.

Auris Porci, a name synonymous with Crista galli, &c. and given by Argenville to the species of Mytilus called by Gmelin, *M. crista galli*.

Auris Silveni, a species of Voluta, about two inches in length; of a ventricose form, and short; colour brown, with longitudinal undulated striæ of a chesnut colour; aperture ovate, and spire obtuse. It is specifically described as being an oval, gibbous, umbilicated shell, with a single thick and flexuous plait on the pillar-lip. Born. Mus. This is called in England Silenus's ear-shell. Its country is unknown.

Auris Marina, or sea ear-shell, a vague term for several shells of the Haliotis genus, but chiefly for the species *tuberculata*, which is common in the Mediterranean, and is found, though rarely, on the western coasts of England. Donov. Brit. Shells, &c.

AURISCALPIUM, a species of Turbo, that inhabits the Mediterranean sea. This shell is white, and very smooth; aperture with an advanced flattish, concave, obtuse lip. Gmel. &c. This kind is milky-white and subulate; whorls of the spire seven or eight; aperture dilated, and resembling an ear-picker; with a margin.

Auriscalpium, an instrument wherewith to pick and cleanse the ear from wax; and also serving for some other operations relating to that part.

The word is compounded of *auris*, *ear*, and *scalpo*, *I scratch*, or *pick*.

AURISPA, John, in *Biography*, was born in 1369, at Noto, in Sicily. He studied the Greek language at Constantinople; and on his return to Italy, brought with him more than 100 Greek MSS. chiefly of pagan writers, which were more easily obtained than the writings of Christians; after a second visit to Constantinople in the train of the emperor John Palæologus, he taught the Greek and Latin languages at Bologna, Florence, and Ferrara. He was secretary to pope Eugenius IV. and Nicholas V. and enjoyed benefices in Sicily. After the death of the latter, who was his patron, he returned to Ferrara, and continued to teach and write till the time of his death in 1460. He translated some of the writings of Archimedes, and the commentaries of Hierocles on the golden verses of Pythagoras; and published poems and letters. His version of Hierocles was printed at Basle in 1543. Nouv. Dict. Hist. Gen. Biog.

AURIST, in *Medicine* and *Surgery*, one whose profession it is to cure diseases of the ear.

AURITA, in *Conchology*, a species of Balanus, that inhabits the North Seas, and is described by Ellis. This shell is membranaceous, ventricose, seated on a tube, and eared; mouth with eight valves, and dentated. Gmelin, &c.—Ellis calls this lepas nuda comosa aurita.

Aurita, a species of Anomia, with a shell of a somewhat ovate form, striated, and slightly eared; beak perforated. Gualt. Inhabits the seas about Norway, and bears some affinity to another species of the same genus, called by Linn. and Gmel. *caput serpentinis*.

Aurita, a species of Mya, that inhabits New Zealand. The shell is ovate, compressed, and eared; hinge with two lateral teeth. Chemnitz. Colour sordid ochraceous.

Aurita, in *Entomology*, a species of Pimelia, with the thorax margined, dilated in front; each side on the wing-cases bicarinated. Inhabits Siberia, and is entirely of a black colour. Pallas, &c.

Aurita, a species of Phalæna (*Noctua*) that inhabits Spain. The wings are brown, with a cinereous band in the middle; two denticles of stiff hairs on the head, and four others on the thorax. Fabricius, &c.

Aurita, a species of Cicada that inhabits Europe. The thorax is dilated into the form of two ears; shield of the head spreading, and rounded. Geoffroy calls this cicada thorace obtuse bicorni. It feeds on the oak and nut trees, and is entirely of a cinereous colour. Gmel. &c.

Aurita, in *Natural History*, a species of Medusa, having four cavities beneath. Linn. Fn. Suec. This kind inhabits the Baltic and other seas; is of an hemispherical form; hyaline; from two to four inches in diameter; and when floating on the sea in sunshine, reflects a beautiful splendor. The margins are fringed and yellow. Aldrovandus calls this *urtica sexta*.

Aurita, in *Zoology*, a species of Lacerta that inhabits the sandy parts of Siberia about Naryn, and the desert of Comani. It is described by Pallas as having a tail of a moderate size, round, with callous dots on each side, dilated into a semiorbicular, soft, scabrous, dentated crest. This animal is rather larger than *lacerta gecko*; the colour above is cinereous and yellowish, clouded, and thickly speckled with brown; beneath whitish; spot on the chest, and tip of the tail beneath, black. The head is retuse; crest of the animal, when alive, turgid with blood; body ventricose and depressed, and with the legs and tail rough, with acute prominent dots; toes five, each furnished with a claw, and the three middle-most ones serrated, the inner one having a single notch, and the others two notches each. Gmelin, &c.

AURITÆ, called also Hyksos, and Shepherds, in *Ancient History*, the denomination of a large body of adventurers who migrated into Egypt at a very early period. Ancient and modern writers have not agreed in their conjectures concerning these enterprising and fortunate people. Manetho supposes the Auritæ to have been Arabians; but the learned Bryant maintains that they were Arkites, who had been expelled from Babylon by the sons of Shem, at the second dispersion. Unwilling to remain at home indigent and inactive, or unable to resist the shock of some powerful foe, they abandoned a region which they could no longer possess in tranquillity, precipitated themselves into Egypt, drove the disunited tribes of Ham from the most fertile part of their territories at the upper end of the Delta, and settled there. This invasion happened soon after the Syrians had become formidable by the conquests of Ninus; for we are told that the Auritæ fortified the eastern borders of their new settlements towards Arabia and Chaldæa. About this time, as all the ancient historians assert, the Delta had acquired the consistence of a morass. Drained by the shepherds, it soon became a temperate and beautiful, as it was naturally a fertile, region. For the space of two centuries and a half, this bold and enterprising race kept possession of Middle and Lower Egypt. In the course of this period they discovered, we are told, many useful arts and inventions, and from time to time sent out colonies in quest of new settlements. Two hundred and sixty years after their arrival in Egypt, the posterity of the original nations, not finding

finding ſufficient accommodation in Upper Egypt, to which they had been hitherto confined, or envying the riches of their fortunate invaders, commenced hoſtilities againſt them. After a long, doubtful, and bloody conteſt, the Arimæ were obliged to retire. They ſeparated into ſeveral bodies, and migrated into Phœnicia, Syria, Greece, and other regions, carrying their inventions and improvements along with them. This memorable revolution happened not long before the deſcent of Jacob. Playfair's Chronology, p. 64. See DISPERSION *of* MANKIND, and SHEPHERDS.

AURITINA, in *Ancient Geography*, a town of Africa, in the Pentapolis. Ptolemy.

AURITUS, in *Entomology*, a ſpecies of CANCER that inhabits Iceland; and is diſtinguiſhed by having a ſingle ſpine on both ſides of the anterior part of the thorax; back grooved, and ſoftiſh. Fab. Gmel. &c.

AURITUS, a ſpecies of CRYPTOCEPHALUS, found on the oak, in Saxony. It is black, with a yellow ſpot on both ſides of the thorax, and ſhanks of the legs yellow. Fabricius.—*Obſ.* This is *chryſomela aurita* of Linnæus. Syſt. Nat.

AURITUS, in *Natural Hiſtory*, a ſpecies of ECHINUS that inhabits the Perſian ſeas. The colour is yellowiſh-grey, with the upper margin cheſnut; baſe flat; punctured and marked with radiated ſtreaks; anus oblong and ſituated near the mouth. It is ſpecifically deſcribed by Leſke *apud Klein echinod.* as having a waved margin, the lower one rotundate, upper one nearly ſquare, and twice divided, and a gaping pore between every two avenues.—Geoorde ſtomphart. Phelſ. Zee-eg, &c.

AURITUS, in *Ornithology*, a ſpecies of TURDUS that inhabits Cayenne, and is called *fourmilier à oreilles blanches* by Buffon; and white-eared thruſh by Latham. Above, it is varied with rufous and olive; beneath white; crown and pectoral band reddiſh-brown; chin and throat black; ſtreak behind the eye deſcending on the neck, and conſiſting of elongated, white, gloſſy feathers. Gmelin. &c. Length four inches aud three quarters.

AURITUS, a ſpecies of COLYMBUS, with a black head, and ears creſted with a tuft of ferruginous feathers. Linn. Fn. Suec.

"The length of this ſpecies is twelve inches. In England, they inhabit the fens near Spalding, where they breed; they are found in the northern parts of Europe, and in the temperate parts of Siberia and Iceland. It is ſaid by Bougainville to be met with in the Falkland Iſlands, where it is called the *diver with ſpectacles*.

"The neſt, like thoſe of moſt other birds in this genus, is compoſed of twigs, roots, and ſtalks of aquatic-plants, and is uſually found floating among the reeds and flags nearly filled with water. The female lays four or five ſmall white eggs, which are hatched in the neſt while it remains thus immerſed in water." Donov. Brit. Birds, &c. C. auritus, eared grebe.

Geſner calls this ſpecies *merguli genus alterum*; and Buffon *le petit grèbe huppé*. Gmelin ſpeaks of a variety of this ſpecies *colymbus cornutus minor* of Briſſon; and *colymbus ju- podiceps minor* of Will. Orn. Ray, and Albin.

AURITUS, a ſpecies of TROCHILUS, of a green-gold colour above, and white beneath; below the eyes a band of black; and in the male two tufts of feathers of a violet colour on each ſide of the head under the ears; legs downy. This is *mellifuga Cayenenſis* of Briſ.; and *l'oiſeau-mouche à oreilles* of Buff. Latham deſcribes it under the name of violet-eared humming-bird. There is a variety of this bird with a purple ſtripe below the eyes; near the ears a black ſpot, and beneath it another of blue. This ſpecies inhabits Cayenne, and is about four inches and a half in length.

AURIUM APPENDIX, in *Agriculture*, a [illegible] was a punishment inflicted by the [illegible] robbed churches; and afterwards on every thief; and at length on divers other criminals.

AUROLZMUNSTER, in *Geography*, a town of Germany, in the circle of Bavaria, 16 miles ſouth of Paſſau.

AUROCAPILLA, in *Ornithology*, a ſpecies of MOTACILLA, found in St. Domingo, Jamaica, and other iſlands in the American ſeas. It is olive, beneath white; crown golden; eye-brows black; breaſt ſpotted with black. Gmelin. This is [illegible] *mingue* of Buff. and golden-crowned thruſh of the Arctic Zoology.

AUROGALLUS, MATTHEW, in *Biography*, a grammarian of the 16th century, was a native of Bohemia; and became profeſſor of languages in the univerſity of Wittemberg. Beſides the aſſiſtance he gave to Luther in tranſlating the Bible, he wrote in Latin a "Compendium of Hebrew and Chaldæan Grammar," printed at Wittemberg, in 1525, and at Baſil, in 1539; and a treatiſe on the geography of the Holy Land, intitled "De Hebræis Urbium, Regionum, Populorum, &c. Nominibus," printed at Wittemberg, in 1526, and at Baſil, in 1529. 8vo. He died in 1543. Gen. Dict.

AUROIR, in *Geography*, a town of France, in the department of the Cher, 21 leagues north-weſt of Sancoins.

AURON, a river of France which runs into the Eure, near Bourges.

AURONITENS, in *Entomology*, a ſpecies of CARABUS of the apterous kind. The ſhells are green and rough, with raiſed lines; thighs rufous. Inhabits Saxony. An intermediate ſpecies between *carabus auratus*, and *nitens*.

AURONZA, in *Geography*, a town of Italy, belonging to the ſtate of Venice, in the Cadorin, ſeven miles north of Pieve di Cadora.

AURORA, in *Aſtronomy*, the morning twilight; or that faint light which begins to appear in a morning, when the ſun is within eighteen degrees of the horizon.

AURORA, in *Conchology*, a very rare ſpecies of CYPRÆA, diſcovered on the coaſt of Otaheite by captain Cook. It is rather ovate; margin whitiſh; back fine orange, and without ſpots. Among collectors of exotic ſhells, it is known by the name of *cypræa aurora*, or *morning-dawn cowry*.

AURORA, in *Entomology*, a ſpecies of PHALÆNA, in Abbot's Inſects of Georgia. The upper wings are yellow; baſe and margin ſpeckled with red. Smith.

AURORA, the ſpecific name under which PAPILIO CARDAMINES is deſcribed by Linn. in Fn. Suec. i. n. 801.

AURORA, a ſpecies of PAPILIO (*Dan. Cand.*) found in Siberia. The wings are fulvous; beneath, an ocellar dot on the anterior wings, and a ſilvery dot, with a contiguous one ſtill ſmaller in the middle of the poſterior pair. Fabricius, Gmelin, &c.

AURORA, a ſpecies of LAMPYRIS (*Pyrochroa* Fab.), given by Herbſt. as a native of Pomerania. It is black; thorax red and cancellated; wing-caſes cheſnut, with four elevated lines, and the intermediate ſpaces dotted in rows.

AURORA, in *Geography*, an iſland belonging to the Archipelago of the New Hebrides, in the South Pacific ocean, diſcovered by Bougainville, in 1768. It is about twenty leagues long, and two broad, and lies nearly north and ſouth. Its eaſtern ſhore is ſteep, but it has a ſmall bay on the north-weſt coaſt. It abounds with wood and freſh water; and is inhabited. The vegetation of this iſland is luxuriant. The middle of it lies in S. lat. 15° 8'. E. long. 168° 17'.

AURORA, in *Mythology*, the goddeſs of the morning, was, according to Heſiod, the daughter of Thea and Hyperion, and ſiſter of Sol and Luna; but according to others, the daughter of Titan and Terra. Under this title the ancients deified the light which precedes the riſing of the ſun above our hemiſphere. The poets repreſent her as riſing out of the ocean in a chariot, drawn by two roſe-coloured horſes, called by Homer, Lampus and Phaeton, with roſy fingers dropping gentle dew. The large veil on her head was folded backwards, to denote that the brightneſs of day was already advanced, fit to diſperſe the darkneſs of the night. Virgil deſcribes her as aſcending in a flame-coloured chariot with four horſes.

AURORA, in *Ornithology*, a ſpecies of PSITTACUS that inhabits Braſil. It is yellow; arm-pits, margins of the wings, and outer great quill-feathers in the middle, red. This is *ſtatuera luea* of Briſſ. *perroquet jaune* of Satern. Orn. *amazone jaune* Buffon, and *arara-parrot* of Lathan.

The length of this bird is twelve inches; bill, cere, legs and claws white; eye-brows and irides red; tail rounded, the four exterior feathers red within from the baſe to the middle. Gmelin.

AURORA, in *Zoology*, a ſpecies of COLUBER with 179 abdominal plates, and thirty-ſeven ſubcaudal ſcales. This is a native of America, and is of a livid colour, with the back yellow. Gmelin. Dr. Shaw deſcribes it as an orange-coloured ſnake, with yellow dorſal band and abdomen. Length about two feet and a half, and moderately thick in proportion; head rather large, and covered with very large ſcales; tail ſhort, and tapering to an obtuſe point.

AURORA *Borealis*, or AURORA *Septentrionalis*, in *Phyſiology*, the northern dawn or light, ſometimes called *ſtreamers*, is an extraordinary meteor, or luminous appearance, ſhewing itſelf in the night-time, in the northern part of the heavens: and moſt uſually in froſty weather.

It is uſually of a reddiſh colour, inclining to yellow, and ſends out frequent coruſcations of pale light, which ſeem to riſe from the horizon in a pyramidal undulating form, and ſhoot, with great velocity, up to the zenith. This light ſometimes appears remarkably red, as it happened Dec. 5, 1737, of which we have very full accounts from divers parts of Europe, in the Phil. Tranſ. N° 459. ſect. 7. p. 583—606.

The aurora borealis appears frequently in form of an arch; chiefly in the ſpring and autumn; after a dry year.—The arch is partly bright, partly dark; but generally tranſparent. And the matter of which it conſiſts is alſo found to have no effect on the rays of light which paſs through it. Dr. Hamilton obſerves, that he could plainly diſcern the ſmalleſt ſpeck in the Pleiades through the denſity of thoſe clouds which formed the aurora borealis in 1763, without the leaſt diminution of its ſplendor, or increaſe of twinkling. Phil. Eſſays, Eſſ. iii. p. 106.

Sometimes it preſents an irid—M. Godin judges, that moſt of the extraordinary meteors and appearances in the ſkies, related as prodigies by hiſtorians, e. gr. battles, and the like, may be probably enough reduced to the claſs of auroræ borcales. Vide Hiſt. Acad. R. Scienc. an. 1762. p. 405.

This kind of meteor, which is more uncommon as we approach towards the equator, is almoſt conſtant during the long winter, and appears with the greateſt luſtre, in the polar regions.

In the ſouthern ſeas, the "merry dancers," as the northern lights are there called, are the conſtant attendants of clear evenings, and afford great relief amidſt the gloom of the long winter nights. They commonly appear at twilight, near the horizon, of a dun colour, approaching to yellow; they ſometimes continue in that ſtate for ſeveral hours, without any perceptible motion; and afterwards they break out into ſtreams of ſtronger light, ſpreading into columns, and altering ſlowly into 10,000 different ſhapes, and varying their colours from all the tints of yellow to the moſt obſcure ruſſet. They often cover the whole hemiſphere, and then exhibit the moſt brilliant appearance. Their motions at this time are moſt amazingly quick; and they ſtrike the ſpectator with the rapid change of their form. They break out in places where none were ſeen before, ſkimming briſkly along the heavens, are ſuddenly extinguiſhed, and ſucceeded by an uniform duſky tract. This again is brilliantly illuminated in the ſame manner, and as ſuddenly left a dark ſpace. In ſome nights, they aſſume the appearance of large columns, on one ſide of the deepeſt yellow, and on the other, gradually changing till it becomes undiſtinguiſhed from the ſky. They have generally a ſtrong tremulous motion from one end to the other, and this continues till the whole vaniſhes. As for us, who ſee only the extremities of theſe northern phænomena, we can have but a faint idea of their ſplendor and motions. According to the ſtate of the atmoſphere, they differ in colour; and ſometimes aſſuming the colour of blood, they make a dreadful appearance. The ſuperſtitious, who obſerve them, become prophetic, and terrify the ignorant with alarms of war, peſtilence, and famine: not, indeed, were theſe ſuperſtitious preſages peculiar to the northern iſlands: appearances of a ſimilar nature are of ancient date; and they were diſtinguiſhed by the appellations of "phaſmata," "trabes," and "bolides," according to their forms and colours. In old times they were either more rare, or leſs frequently noticed: but when they occurred, they were ſuppoſed to portend great events, and the timid imagination formed of them aerial conflicts.

In the northern latitudes of Sweden and Lapland, the auroræ boreales are not only ſingularly beautiful in their appearance, but afford travellers by their almoſt conſtant effulgence a very beautiful light during the whole night. In Hudſon's bay, the aurora borealis diffuſes a variegated ſplendor, which is ſaid to equal that of the full moon. In the north-eaſtern parts of Siberia, according to the deſcription of Gmelin (Reiſe durch Siberien, vol. iii. p. 135.), cited and tranſlated by Dr. Blagden (Phil. Tranſ. vol. lxxiv. p. 228.), theſe northern lights are obſerved to "begin with ſingle bright pillars, riſing in the north, and almoſt at the ſame time in the north-eaſt, which gradually increaſing comprehend a large ſpace of the heavens, ruſh about from place to place with incredible velocity, and finally almoſt cover the whole ſky up to the zenith, and produce an appearance as if a vaſt tent was expanded in the heavens, glittering with gold, rubies, and ſapphire. A more beautiful ſpectacle cannot be painted; but whoever ſhould ſee ſuch a northern light for the firſt time, could not behold it without terror. For however fine the illumination may be, it is attended, as I have learned from the relation of many perſons, with ſuch a hiſſing, cracking, and ruſhing noiſe through the air, as if the largeſt fire-works were playing off. To deſcribe what they then hear, they make uſe of the expreſſion "ſpolochi chodjat," that is, the raging hoſt is paſſing. The hunters, who purſue the white and blue foxes in the confines of the Icy ſea, are often overtaken in their courſe by theſe northern lights. Their dogs are then ſo much frightened, that they will not move, but lie obſtinately on the ground till the noiſe has paſſed. Commonly clear and calm weather follows this kind of northern lights. I have heard this account, not from one perſon only, but confirmed by the uniform teſtimony of many who have ſpent part of ſeveral years in theſe very northern regions, and inhabited

different countries from the Yeniſei to the Lena; ſo that no doubt of its truth can remain. This ſeems indeed to be the real birth-place of the aurora borealis." This account of the noiſes attending the aurora borealis, allowing for ſome degree of exaggeration, has been corroborated by other teſtimonies. A perſon, who reſided ſeven years at Hudſon's Bay, confirms M. Gmelin's relation of the fine appearance and brilliant colours of the northern lights, and particularly of their ruſhing noiſe, which he affirms he has frequently heard, and compares it to the ſound produced by whirling round a ſtick ſwiftly at the end of a ſtring. A ſimilar noiſe has alſo been heard in Sweden. Mr. Nairne alſo, being in Northampton, at a time when the northern lights were remarkably bright, is confident he perceived a hiſſing or whizzing ſound. Mr. Belknap, of Dover, in New Hampſhire, North America, teſtifies to this fact. American Tranſ. vol. ii. p. 196. M. Cavallo ſays that the crackling noiſe is diſtinctly audible, and that he has heard it more than once. Elem. of Nat. and Exper. Philoſ. vol. iii. p. 449. See alſo Muſſchenbroek Introd. Philoſ. vol. ii. p. 1056. § 2495. Beccaria dell' Elettriciſmo Artif. et Nat. p. 221.

Similar lights, called *auroræ auſtrales*, have been long ſince obſerved towards the ſouth pole (ſee Phil. Tranſ. N° 461. § 23, 24, and 25. and vol. liv. N° 53.); and their exiſtence has been more lately aſcertained by Mr. Forſter, who aſſures us, that, in his voyage round the world with captain Cook, he obſerved them in high ſouthern latitudes, though attended with phenomena ſomewhat different from thoſe which are ſeen here. On Feb. 17, 1773, in ſouth lat. 58°, "a beautiful phenomenon (he ſays) was obſerved during the preceding night, which appeared again this and ſeveral following nights. It conſiſted of long columns of a clear white light, ſhooting up from the horizon to the eaſtward, almoſt to the zenith, and gradually ſpreading on the whole ſouthern part of the ſky. Theſe columns were ſometimes bent ſideways at their upper extremities; and though in moſt reſpects ſimilar to the northern lights (*aurora borealis*) of our hemiſphere, yet differed from them in being always of a whitiſh colour, whereas ours aſſume various tints, eſpecially thoſe of a fiery and purple hue. The ſky was generally clear when they appeared, and the air ſharp and cold, the thermometer ſtanding at the freezing point."

The periods of the appearance of theſe northern lights are very inconſtant. In ſome years they occur very frequently, and in others they are more rare; and it has been obſerved that they are more common about the time of the equinoxes than at other ſeaſons of the year.

Dr. Halley (ſee Philoſ. Tranſ. N° 347. p. 406. or Abr. vol. iv. p. 138.) has collected together ſeveral obſervations, which form a kind of hiſtory of this phenomenon. After having particularly deſcribed the various circumſtances which attended that obſerved by himſelf and many others in March 1716, and which was ſingularly brilliant, he proceeds with informing us, that the firſt account of ſimilar phenomena recorded in the Engliſh annals, is that of the appearance which was noticed Jan. 30, 1560, and called "burning ſpears" by the author of a book intitled "A Deſcription of Meteors," by W. F. D. D. reprinted at London, in 1654. The next appearance of a like kind, recorded by Stow, occurred on October 7, 1564. In 1574, as Camden and Stow inform us, an aurora borealis was ſeen for two ſucceſſive nights, viz. 14th and 15th of November, with appearances ſimilar to thoſe obſerved in 1716, and which are now commonly noticed. The ſame phenomenon was twice ſeen in Brabant in 1575, viz. on the 13th of February and the 28th of September; and the circumſtances attending it were deſcribed by Cornelius Gemma, who compares them to ſpears, fortified cities, and armies fighting in the air. In the year 1580, M. Maſtlin obſerved theſe phaſmata, as he calls them, at Baknang, in the county of Wirtemberg, in Germany, no leſs than ſeven times in the ſpace of twelve months; and again, at ſeveral different times, in 1581. On September 2d, 1621, the ſame phenomenon was ſeen over all France; and it was particularly deſcribed by Gaſſendus, in his "Phyſics," who gave it the name of "aurora borealis." Another was ſeen all over Germany, in Nov. 1623, and was deſcribed by Kepler. Since that time, for more than eighty years, we have no account of any ſuch phenomenon either at home or abroad. In 1707, Mr. Neve obſerved one of ſmall continuance in Ireland; and in the ſame year, a ſimilar appearance was ſeen by Romer at Copenhagen; and during an interval of eighteen months, in the years 1707 and 1708, this ſort of light had been ſeen no leſs than five times. Hence it ſhould ſeem, ſays Dr. Halley, that the air, or earth, or both, are not at all times diſpoſed to produce this phenomenon, though it is poſſible it may happen in the day time, in bright moon-ſhine, or in cloudy weather, and ſo paſs unobſerved. Dr. Halley further obſerves, that the aurora borealis of 1716, which he deſcribed, was viſible from the weſt of Ireland to the confines of Ruſſia, and to the eaſt of Poland; extending at leaſt near 30° of longitude, and from about the 50th degree of north latitude, over almoſt all the north of Europe; and in all places at the ſame time, it exhibited appearances ſimilar to thoſe which he obſerved at London. He regrets, however, that he was unable to determine its height for want of contemporary obſervations at different places. Father Boſcovich has determined the height of an aurora borealis, obſerved on the 16th of December 1737, by the marquis of Poleni, to have been 825 miles; and Mr. Bergman, from a mean of thirty computations, makes the average height of the aurora borealis to be 72 Swediſh, or (ſuppoſing a Swediſh mile to be about 6¼ Engliſh miles) 468 Engliſh miles. Euler ſuppoſes the height to be ſeveral thouſands of miles; and Mairan alſo aſſigns to theſe phenomena a very elevated region, the far greater number of them being, according to him, about 200 leagues above the ſurface of the earth. Dr. Blagden, ſpeaking of the height of ſome fiery meteors (Phil. Tranſ. vol lxxiv. p. 227.), ſays, that "the aurora borealis appears to occupy as high, if not a higher region, above the ſurface of the earth, as may be judged from the very diſtant countries to which it has been viſible at the ſame time;" he adds, that "the great accumulation of electric matter ſeems to lie beyond the verge of our atmoſphere, as eſtimated by the ceſſation of twilight." However the height of theſe meteors, none of which appear to have aſcended ſo high as 100 miles, is trivial, compared with the elevations above aſcribed to the aurora borealis. But as it is difficult to make ſuch obſervations on this phenomenon as are ſufficient to afford a juſt eſtimate of its altitude, they muſt be ſubject to conſiderable variation and to material error. It is not improbable, that the higheſt regions of the aurora borealis are the ſame with thoſe in which fire-balls move; more eſpecially as Dr. Blagden informs us, that inſtances are recorded, in which the northern lights have been ſeen to join, and form luminous balls, darting about with great velocity, and even leaving a train behind like the common fire-balls. This ingenious author, however, conjecturing that diſtinct regions are allotted to the electrical phenomena of our atmoſphere, aſſigns the appearance of fire-balls to that region which lies beyond the limits of our crepuſcular atmoſphere; and a greater elevation above the earth to that accumulation

accumulation of electricity in a lighter and leſs condenſed form, which produces the wonderfully diverſified ſtreams and coruſcations of the aurora borealis.

Many attempts have been made to aſſign the cauſe of this phenomenon. Dr. Halley firſt imagined that the watery vapours, or effluvia, rarefied exceedingly by ſubterraneous fire, and tinged with ſulphureous ſtreams, which many naturaliſts have ſuppoſed to be the cauſe of earthquakes, might have alſo been the cauſe of this appearance. But this hypotheſis was not ſufficient to account for the immenſe extent of theſe phenomena over the ſurface of the earth, and for their being always ſeen on the north ſide of the horizon, and never to the ſouth. Abandoning this hypotheſis, he conceived that the aurora borealis is produced by a kind of ſubtile matter, or magnetic effluvia, freely pervading the pores of the earth, and which, entering into it near its ſouthern pole, paſſes out again with a like force into the æther at the ſame diſtance from the northern; the obliquity of its direction being proportioned to its diſtance from the pole. This ſubtile matter, by becoming ſome way or other more denſe, or having its velocity increaſed, may be capable of producing a ſmall degree of light, after the manner of effluvia from electric bodies, which, by a ſtrong and quick friction, emit light in the dark: to which ſort of light this ſeems to have a great affinity. If Dr. Halley had known, that an electrical ſtroke would give polarity to a needle deſtitute of it, and reverſe the poles of one previouſly endued with it, he would have been led of courſe to conclude the electric and magnetic effluvia to be the ſame, and that the aurora borealis was this fluid performing its circulation from one pole of the earth to another; and he would thus have anticipated the hypotheſis of Sign. Beccaria. See Mr. Cotes's deſcription of this phenomenon, and method of explaining it, by ſtreams emitted from the heterogeneous and fermenting vapours of the atmoſphere, in Smith's Optics, p. 69, &c. or Phil. Tranſ. Abr. vol. vi. part ii.

The celebrated M. de Mairan, in an expreſs treatiſe on the aurora borealis, publiſhed in 1731, aſſigns its cauſe to be the Zodiacal light, which, according to him, is no other than the ſun's atmoſphere; this light happening, on ſome occaſions, to meet the upper parts of our air, on the ſide of the limits where univerſal gravity begins to act more forcibly towards the earth than towards the ſun, falls into our atmoſphere, to a greater or leſs depth, as its ſpecific gravity is greater or leſs, compared with the air through which it paſſes. Although the whole atmoſphere of the earth be involved in the ſolar atmoſphere, it is thrown off both ways from the equatorial to the polar regions. This projection is owing partly to the centrifugal force ariſing from the diurnal motion of the earth, which, being greateſt at the equator, and decreaſing towards the poles, turns aſide the zodiacal matter towards each pole; ſo that by his hypothe- [illegible] the diſcovery of auroræ auſtrales: and partly to the progreſſive motion of the earth in its annual orbit. In this caſe the light ſhould dart from the equator to the poles, and not, as it really does, from the poles to the equator. Vide Tract. Phyſ. & Hiſt. del Aurore Boreal. Suites des Mem. de l'Acad. R. des Scienc. ann. 1731. p. 3, ſeq. There is an abſtract of Mr. Mairan's Phyſical and Hiſtorical Treatiſe of the aurora borealis, in the Phil. Tranſ. N° 433. or Abridg. vol. viii. p. 450.

M. Euler thinks the cauſe of the aurora borealis not owing to the zodiacal light, as Mr. de Mairan ſuppoſes; but to particles of our atmoſphere, driven beyond its limits by the impulſe of the light of the ſun. On this ſuppoſition he endeavours to account for the phenomena obſerved concerning this light. He ſuppoſes the zodiacal light, and the tails of comets, to be owing to a ſimilar cauſe. See Tail *of Comets*, and Zodiacal *Light*.

Ever ſince the identity of lightning and of the electric matter has been aſcertained, philoſophers have been naturally led to ſeek the explication of aerial meteors in the principles of electricity; and there is now no doubt but moſt of them, and eſpecially the aurora borealis, are electrical phenomena. Beſide the more obvious and known appearances which conſtitute a reſemblance between this meteor and the electric matter whereby lightning is produced, it has been obſerved, that the aurora occaſions a very ſenſible fluctuation in the magnetic needle; that the atmoſphere yields, at the time of its occurrence, a quantity of electric fire; and that, when it has extended lower than uſual into the atmoſphere, the flaſhes have been attended with various ſounds of rumbling and hiſſing, already mentioned, and attributed by Dr. Blagden (ubi ſupra) to ſmall ſtreams of electric matter running off to the earth from the great maſſes, or accumulations, of electricity, by which he ſuppoſes both meteors and the northern lights to be produced. Beſides, the aurora borealis may be partly imitated by means of artificial electricity. Dr. Hamilton, of Dublin, (Phil. Eſſ. eſſ. iii.) ſeems to have been the firſt perſon who attempted to diſcover any poſitive evidence of the electrical quality of the aurora borealis; but the only proof he produces is an experiment of Mr. Hawkſbee, by which the electrical fluid is ſhewn to aſſume appearances reſembling the aurora borealis, when it paſſes through a vacuum. He obſerved, that when the air was moſt perfectly exhauſted, the ſtreams of electric matter were then quite white; but when a ſmall quantity of air was let in, the light aſſumed more of a purple colour. The flaſhing of this light, therefore, from the denſe regions of the atmoſphere into ſuch as are more rare, and the tranſitions through mediums of different denſities, he conſiders as the cauſe of the aurora borealis, and of the different colours it aſſumes. Mr. Canton, ſoon after he had obtained electricity from the clouds, offered a conjecture, that the aurora borealis is occaſioned by the flaſhing of electric fire from poſitive towards negative clouds at a great diſtance, through the upper part of the atmoſphere where the reſiſtance is leaſt. And he ſuppoſes, that the aurora, which happens at the time when the magnetic needle is diſturbed by the heat of the earth, is the electricity of the heated air above it; and this appears chiefly in the northern regions, as the alteration in the heat of the air in thoſe parts will be the greateſt; nor is this hypotheſis, he ſays, improbable, when it is conſidered, that electricity is the known cauſe of thunder and lightning; that it has been extracted from the air at the time of an aurora borealis (ſee Condenser); that the inhabitants of the northern countries obſerve it to be remarkably ſtrong when a ſudden thaw ſucceeds ſevere cold weather; and that the tourmalin is known to emit and abſorb the electric fluid only by the increaſe or diminution of its heat. Poſitive and negative electricity in the air, with a proper quantity of moiſture to ſerve as a conductor, will, he conceives, account for this and other meteors ſometimes ſeen in a ſerene ſky. Mr. Canton afterwards contrived to exhibit this meteor by means of the *Torricellian* vacuum, in a glaſs tube about three feet long, and ſealed hermetically. When one end of the tube is held in the hand, and the other applied to the conductor, the whole tube will be illuminated from end to end; and will continue luminous without interruption for a conſiderable time after it has been removed from the conductor. If, after this, it be drawn through the hand either way, the light will be uncommonly intenſe, and without the leaſt interruption, from one hand to the other, even to its whole length. And though

though a great part of the electricity is discharged by this operation, it will flash at intervals, when held only at one extremity, and kept quite still; but if it be grasped by the other hand at the same time in a different place, flashes of light will hardly ever fail to dart from one coat to the other, and these will continue twenty-four hours and longer, without any fresh excitation. An ardent double barometer of a considerable height is an improvement of this contrivance, for exhibiting the appearance of an aurora borealis, by means of the electric fire. To Mr. Canton's hypothesis it has been objected, that the electrical fire would flash in every direction, according to the position of the clouds, as well as from north to south; and that upon his hypothesis, illustrated by the tourmalin, the aurora borealis ought to be more frequent in summer, when the air is most heated, whereas it is found to be the reverse. Signior Beccaria, who pursued his observations on atmospherical electricity farther than any of his associates in these inquiries, conjectures that there is a constant and regular circulation of the electric fluid from north to south, which may be the original course of magnetism in general; and he thinks, that the aurora borealis may be this electric matter performing its circulation in such a state of the atmosphere as renders it visible, or approaching nearer the earth than usual. Against this supposed circulation it has been alleged that it ought to dart from the horizon towards the zenith in the northern hemisphere, and from the zenith towards the horizon in the southern one; whereas Mr. Forster, as we have already mentioned, informs us, that the columns shot up from the horizon towards the zenith as well in the southern hemisphere as in the northern; so that if the aurora borealis is to be regarded as the flashings of electric matter, its course is plainly directed from both poles towards the equator, and not from one pole to the other. Why the electricity of the atmosphere should be constantly found to direct its course from the poles towards the equator, and not from the equator to the poles, suggests a difficulty which an anonymous writer (Encycl. Brit.) has attempted to solve in the following manner.—Assuming three axioms; viz. that all electric bodies, when considerably heated, become conductors of electricity; that, *é converso*, non-electrics when subjected to violent degrees of cold, ought to become electric; and that cold must also increase the electric powers of such substances as are already electric; it is easy (says this writer) to deduce from these principles the cause of the aurora borealis. "The air, all round the globe, at a certain height above its surface, is found to be exceedingly cold, and as far as experiments have yet determined, exceedingly electrical also. The inferior parts of the atmosphere between the tropics, are violently heated during the day-time by the reflection of the sun's rays from the earth. Such air will therefore be a kind of conductor, and much more readily part with its electricity to the clouds and vapours floating in it, than the colder air towards the north and south poles. Hence the prodigious appearances of electricity in these regions, shewing itself in thunder and other tempests of the most terrible kind. Immense quantities of the electric fluid are thus communicated to the earth; and the inferior warm atmosphere having once exhausted itself, must necessarily be recruited from the upper and colder region. This becomes very probable from what the French mathematicians observed when on the top of one of the Andes. They were often involved in clouds, which, sinking down into the warmer air, appeared there to be highly electrified, and discharged themselves in violent tempests of thunder and lightning; while in the mean time, on the top of the mountain, they enjoyed a calm and serene sky. In the temperate and frigid zones, the [illegible] of the atmosphere, never being [illegible] part with their electricity to [illegible] zone, and consequently do not require such recruits from the upper regions [illegible] formed in the warmer parts of the earth; [illegible], it is very probable that at considerable heights the degrees of cold [illegible]. When [illegible] in the heat of the under part, there could never be any considerable loss of equilibrium in the electricity of the atmosphere; but as the hot air of the torrid zone is perpetually bringing [illegible] from the cold air that lies directly above it; and as the inferior parts of the atmosphere lying towards the north and south poles do not conduct in any great degrees; it follows, that the upper parts of the atmosphere lying over the torrid zone will continually require a supply from the northern and southern regions. This easily shews the necessity of an electric current in the upper parts of the atmosphere from each pole towards the equator: and thus we are also furnished with a reason why the aurora borealis appears more frequently in winter than in summer; namely, because at that time the electric power of the inferior atmosphere is greater on account of the cold than in summer; and consequently the abundant electricity of the upper regions must go almost wholly off to the equatorial parts, it being impossible for it to get down to the earth: hence also the aurora borealis appears very frequent and bright in the frigid zones, the degree of cold in the upper and under regions of the atmosphere being much more nearly equal in these parts than in any other. In some parts of Siberia particularly, this meteor appears constantly from October to Christmas, and its coruscations are said to be very terrifying. Travellers agree, that here the aurora borealis appears in greatest perfection; and it is to be remarked, that Siberia is the coldest country on earth. In confirmation of this, it may also be observed, that, from the experiments hitherto made with the electrical kite, the air appears considerably more electrical in winter than in summer, though the clouds are known to be often most violently electrified in the summer-time; a proof, that the electricity naturally belonging to the air is in summer much more powerfully drawn off by the clouds than in the winter, owing to the excess of heat in summer, as already observed.

"A considerable difficulty, however, still remains from the upright position which the streams of the aurora borealis are generally supposed to have; whereas, according to the hypothesis above mentioned, they ought rather to run directly from north to south. This difficulty occurred to Dr. Halley; but he answers it by supposing his magnetic effluvia to pass from one pole to another in arches of great circles, arising to a vast height above the earth, and consequently darting from the places whence they arose almost like the radii of a circle; in which case, being set off in a direction nearly perpendicular to the surface of the earth, they must necessarily appear erect to those who see them from any part of the surface, as is demonstrated by mathematicians. It is also reasonable to think that they will take this direction rather than any other, on account of their meeting with less resistance in the very high regions of the air than in such as are lower.

"But the greatest difficulty still remains: for we have supposed the equilibrium of the atmosphere to be broken in the day-time, and restored only in the night; whereas, considering the immense velocity with which the electric fluid moves, the equilibrium ought to be restored in all parts almost instantaneously; yet the aurora borealis never appears except

except in the night, although its brightneſs is ſuch as muſt ſometimes make it viſible to us did it really exiſt in the day-time.

"In anſwer to this it muſt be obſerved, that though the paſſage of electricity through a good conductor is inſtantaneous, yet through a bad conductor it is obſerved to take ſome time in paſſing. As our atmoſphere therefore, unleſs very violently heated, is but a bad conductor of electricity; though the equilibrium in it is broken, it can by no means be inſtantaneouſly reſtored. Add to this, that as it is the action of the ſun which breaks the equilibrium, ſo the ſame action, extending over half the globe, prevents almoſt any attempt to reſtore it till night, when flaſhes ariſe from various parts of the atmoſphere, gradually extending themſelves with a variety of undulations towards the equator."

It has been obſerved, that the ſtreams of the aurora borealis do not always move with rapidity; but they ſometimes appear for a conſiderable time quite ſtationary, and they are ſometimes carried in different directions with a ſlow motion. In order to account for theſe circumſtances, it ſhould be conſidered, that weak electric lights have been ſometimes obſerved to exhibit the ſame appearance at the ſurface of the earth, and we may therefore ſuppoſe them much more capable of doing ſo at great heights above it, where the conductors are fewer in number, and much more imperfect. From inſtances that might be adduced, we may reaſonably conclude, that ſmall portions of our atmoſphere may by various cauſes be ſo much electrified as to ſhine, and likewiſe be moved from one place to another, without parting with the electricity they have received for a conſiderable time. In this manner we may account for the corona, or circle, which is often formed near the zenith by the aurora borealis, when any of its parallel ſtreams of light that ſhoot upwards, and by the laws of perſpective, appear to converge towards a point, are over our heads, and actually come to a point. As this corona is commonly ſtationary for ſome time, it would ſerve as a mark by which to determine the diſtance of the object; e. g. let two perſons, one at London, and the other at Edinburgh, obſerve an aurora borealis; then by noting the ſtars among which the corona was obſerved at each place, its true altitude from the ſurface of the earth may eaſily be determined by trigonometry. Although the true height of the aurora borealis has never yet been determined, there is no ſufficient reaſon for ſuppoſing that it is higher than a meteor, ſeventy miles above the ſurface of the earth, which meteor, both by its ſplendor and figure, ſeems to prove that the air poſſeſſes a conſiderable degree of denſity at that diſtance from the earth. Beſides, if its ſtreams reſemble the paſſage of electric light through a vacuum, it cannot be hence inferred, that the air is in a ſtate ſimilar to the vacuum of an air pump in thoſe places where the aurora borealis is produced; becauſe we have inſtances of ſimilar appearances that are produced in very denſe air. "The plate of an electrophorus is often ſo highly electrified, as to throw out flaſhes from different parts as ſoon as it is lifted up, and by proper management, it may be always made to emit long and broad flaſhes, which ſhall ſcarcely be felt by the finger; inſtead of ſmall, denſe, and pungent ſparks; ſo that, though long flaſhes may be produced in rarefied air, it by no means follows, that the ſame may not alſo be produced in denſer air. As little can we infer any thing from the colours, for we obſerve the electric ſpark ſometimes white, ſometimes blue, and ſometimes purple, in the very ſame ſtate of the atmoſphere, and from the ſame ſubſtance." Mr. Little, the inventor of an air-pump of a new conſtruction, ſtating the boundaries of the atmoſphere within which the aurora borealis, conſidered as an electrical phenomenon, is viſible, conceives that it cannot appear in air leſs rarefied than near 4000 times, and conſequently that its neareſt diſtance from the earth is about 45 miles, according to Dr. Halley's table of the air's refraction at different altitudes; and that in air rarefied more than 26000 times, it would not be viſible, and therefore its greateſt diſtance is about fifty miles, by the ſame table. He is alſo of opinion, that it is air burnt and exploded in its paſſage, which makes the electric matter viſible, and that without air, if it could paſs at all, it would not be luminous. Upon the whole he concludes, that the aurora borealis is confined within our atmoſphere. Iriſh Tranſ. vol. vi. p. 387.

Dr. Franklin ſuppoſes, that the electrical fire diſcharged into the polar regions from many leagues of vaporiſed air raiſed from the ocean between the tropics, accounts for the aurora borealis; and that it appears firſt, where it is firſt in motion, i. e. in the moſt northern part, and the appearance proceeds ſouthward, though the fire really moves northward. Franklin's Exper. and Obſ. 1769, p. 49. Phil. Tranſ. vol. xlviii. part i. p. 358, part ii. p. 784. Ib. vol. li. part i. p. 403. Ib. vol. lxxii. p. 15. Lettere dell'Ellettriciſmo, p. 269.; or Prieſtley's Hiſt. of Electricity, vol. i.

Mr. Kirwan (Iriſh Tranſ. 1788, p. 70, &c.) ſuppoſes, that the rarefaction of the atmoſphere in the polar regions proceeds from the auroræ borealis and auſtralis, and that theſe are produced by a combuſtion of inflammable air, cauſed by electricity. This inflammable air is generated, particularly between the tropics, by many natural operations, ſuch as the putrefaction of animal and vegetable ſubſtances, volcanoes, &c.; and being lighter than any other, occupies of courſe the higheſt regions of the atmoſphere. Conſequently, this kind of air is chiefly thrown off towards the poles, and occaſions the northern lights, which are the higheſt of all meteors, though they ſometimes extend pretty low into the atmoſphere. Mr. Kirwan further adds, that after the appearance of an aurora borealis, the barometer commonly falls, and that it is generally followed by high winds, proceeding uſually from the ſouth; all which facts ſtrongly prove a rarefaction in the northern regions. To the ſame purpoſe, it is obſerved by Mr. Winn (Phil. Tranſ. vol. 73.), that the appearance of an aurora borealis is a certain ſign of an hard gale of wind from the ſouth or ſouth-weſt. This occurred, without fail, in twenty-three inſtances; and he thinks that the ſplendor of meteors will enable the obſerver to form ſome judgment concerning the enſuing tempeſt. If the aurora is bright, the gale will come on within twenty-four hours, but will be of no long duration; if the light is faint and dull, the gale will be leſs violent, and longer in coming on, but will laſt longer. His obſervations were made in the Engliſh Channel, where ſuch winds are very dangerous; and by attending to the auroræ, he ſays, that he often eſcaped, when others were nearly wrecked. Obſervations of this kind would ſerve to leſſen the dangers of navigation.

"That the aurora borealis ought to be ſucceeded by winds, may be eaſily deduced from the hypotheſis above-mentioned. If this phenomenon is occaſioned by the vaſt quantity of electric matter conveyed to the equatorial parts of the earth, it is certain that the earth cannot receive any great quantity of this matter at one place without emitting it at another. The electricity, therefore, which is conſtantly received at the equator, muſt be emitted nearer the poles, in order to perform its courſe; otherwiſe there would not be a conſtant ſupply of it for the common operations of nature. It is to be obſerved, that electrified bodies are always

always ſurrounded by a blaſt of air, which is ſent forth from them in all directions; hence, if the electric matter find a more ready paſſage through one part of the earth than another, a wind will be found to blow from that quarter. If, therefore, one of theſe places happens to be in the Atlantic ocean, near the coaſt of France, or in the bay of Biſcay, the electric matter which has been received at the equator during an aurora borealis, will be diſcharged there ſome time after, and conſequently a wind will blow from that quarter, which will be from the ſouth-weſt to thoſe ſhips which are in the Engliſh channel. It cannot be imagined, however, that all the matter can be diſcharged from one place; and therefore, according to the different ſituations of thoſe electrical vents, winds may blow in different directions; and thus the ſame aurora borealis may produce a ſouth-weſt wind in the Engliſh channel, and a north-weſt one in Scotland."

Aurora *Surgens*, a phraſe uſed by *Alchemiſts*, to expreſs the multiplicative virtue of the philoſopher's ſtone.

AUROREA, in *Ornithology*, a ſpecies of Motacilla, called by Latham the *Daurian warbler*. This bird is fulvous beneath; crown and upper part of the neck hoary; front whitiſh; throat black; back and wings black, with a white triangular ſpot on the latter; tail-feathers fulvous, two middle feathers black. Pallas. This bird is the ſize of the red-ſtart, and inhabits Siberia to the confines of China; moſt common in the vicinity of the river Selinga, among willows.

AUROS, in *Geography*, a town of France, in the department of the Gironde, and chief place of a canton in the diſtrict of Bazas, five miles north-eaſt of Bazas.

AUROTA, in *Entomology*, a ſpecies of Papilio (*Dan. Cand.*) that inhabits the coaſt of Coromandel. The wings are entire and white; margin black, ſpotted with white; poſterior ones yellow beneath. Cramer.

AUROTUS, a ſpecies of Phalæna, of the larger kind of *Bombyces*, with falcated wings; above and beneath of the ſame yellowiſh colour; with a white band, and tranſparent lunar ſpot in the diſk of each. This kind inhabits America, and was deſcribed by Fabricius from a ſpecimen in the Muſeum of the late Dr. Hunter.

AUROUX, in *Geography*, a town of France, in the department of the Lozerre, and chief place of a canton in the diſtrict of Langogne, ſeventeen miles north of Mende.

AURULENTA, in *Entomology*, a ſpecies of Buprestis, of a ſomewhat oblong or rather narrow form, that inhabits Carolina. The wing-caſes are faſtigiate, bidentated at the end, and green with a golden margin; body golden; thorax ſlightly dotted. Fabricius.

Aurulenta, a ſpecies of Cicada (*Renatra* Sect.), of the ſize and ſhape of cimex obtuſa. The head and thorax are rufous; wing-caſes brown, cinereous at the tip. A native of Cayenne. Fabricius.

Aurulenta, a ſpecies of Sphex, the head and thorax of which are covered with golden coloured down; the abdomen black, with the margin of the ſegments aſh-colour, and the legs rufous. This inſect is of the middle ſize, and inhabits China. Fabricius.—*Obſ.* Both Fabricius and Gmelin have evidently deſcribed this inſect twice, once under the ſpecific name aurulenta, and afterwards under that of aurata; or at leaſt the only difference in the deſcription is, that the legs are not mentioned in the ſpecific character of the latter, but we are told in the general deſcription, that they are of a ferruginous colour, which approaches pretty nearly to that of rufous; and as both kinds are ſaid to be natives of Aſia, the one of China, and the other of India, we have no doubt that Fabricius has inadvertently deſcribed the ſame inſect in both inſtances; and that Gmelin, without inquiry, has implicitly relied on his authority. See Aurulenta, Fabr. Mant. Inſ. 1. p. 274. n. 10. and Fabr. Mant. Inſ. 1. p. 276. n. 45.

AURUM, in *Natural Hiſtory*, denotes gold. See Gold. The word is chiefly uſed among us as applied to certain chemical preparations, whereof gold is the baſis, or principal ingredient.—Such are the *aurum potabile*, *aurum fulminans*, &c.

Aurum *Fulminans*, in *Chemiſtry*. See Gold, *Salts of*.

Aurum *Moſaicum*, *muſicum*, or *muſivum*. See Tin.

Aurum *Potabile*, potable gold, a liquid preparation of this metal formerly much uſed in medicine, but now entirely obſolete.

The diſcovery of an univerſal medicine was a favourite ſpeculation of the ancient alchemiſts, and they eagerly indulged the hope of finding it in the precious metal which alone was the object of all their attention. Hence we meet with a number of vaunted preparations of gold, moſt of them kept ſecret, but ſome revealed by the inventors, all of which had a certain reputation for a time, but are now ſunk into deſerved neglect.

Two methods were practiſed for the preparation of this metal as a medicine; the one was to grind gold leaves to a moſt impalpable powder, by a trituration of ſeveral days or even weeks; the other was to diſſolve the metal in its proper menſtruum, the nitro-muriatic acid, and to mix it with ether or any eſſential oil, which by operating a reduction of the metal in a very divided ſtate, has the power of ſeparating it from its acid ſolvent. As this fact is important in the chemical hiſtory of this metal, we ſhall mention it more particularly under the article Gold.

The potable gold of Helvetius, retained till within theſe few years in the Paris pharmacopœia, is thus prepared. "Diſſolve half a dram of pure gold in two ounces of aqua regia, employing a gentle heat; to the ſolution add one ounce of oil of roſemary, ſhake the mixture, and immediately the gold will quit the acid, and unite with the eſſential oil, giving it a beautiful yellow colour; this is to be decanted from off the acid which remains at the bottom, and mixed with fifteen ounces of rectified ſpirit of wine, which forms the potable gold."

The doſe is from ſix to twenty drops.

The powers of this medicine are ſuppoſed to be in a high degree cordial, ſtimulating, and tonic.

In ſuch a preparation as this, when the quantity of gold in each doſe is ſo extremely minute (though ſtill ſufficient to give it ſomewhat of a yellow colour), it requires little diſcernment to ſee that all the medicinal powers, whatever they may be, depend altogether on the ethereal oil and the ardent ſpirit with which the gold is united; and accordingly it is now entirely rejected in every pharmacopœia.

A fairer trial, however, has been made of the virtues of gold in medicine. We read that ſome of the crafty alchemical empirics had the addreſs to perſuade ſeveral of their noble patrons that the royal metal was peculiarly well calculated to cure the diſeaſes of perſons of exalted rank; and under this circumſtance this precious metal has been ſwallowed in larger doſes. Theſe, however, are not the follies of the preſent day, public credulity being diverted into other channels.

From all that we know concerning the properties of gold, it appears, that its inertneſs when taken into the human body, depends on the eaſe with which it is reduced to the reguline ſtate, and when in this ſtate, its abſolute inſolubility in any of the animal juices. As the nitro-muriate of gold poſſeſſes this power in a very high degree, of ſtaining almoſt every animal matter, it is probable that it would act

as a topical ſtimulant with equal energy as the lunar cauſtic, or nitrate of ſilver, but it does not appear that gold would in any caſe be preferable to the other metals. It is now, therefore, entirely rejected from the Materia Medica.

Aurum, *Problematicum*, *Paradoxum*, and *Graphicum*, in *Mineralogy*. See Gold, *Ores of*; and Titanium, *Ores of*.

Aurum, *Regiæ*, in *Antiquity*. See Queen *Gold*.

Aurum *Coronarium*. See Coronary *Gold*.

Aurum *Sophiſticum*, *mimic gold*, in *Chemiſtry*, a preparation made as follows: take fine diſtilled verdigris, eight ounces; crude Alexandrian tutty, four ounces; borax, twelve ounces; ſalt-petre, one ounce and a half; pulverize and mix them all together, tempering them with oil to the conſiſtence of a plaſter; then put a German crucible into a wind-furnace, heat it red-hot, and putting your maſs into it, let it be covered, and the furnace filled with coals over the crucible. When the maſs is melted, let it cool of itſelf, then break the crucible, and you will find at the bottom a fine regulus, like gold, weighing about four ounces, which being malleable, may be wrought into any form.

Aurum *Vegetabile*, a name given to ſaffron.

AURUNCI, in *Ancient Geography*, a people of Italy, in Latium. They have been often confounded with the Auſones; though Pliny diſtinguiſhes them. They appeared in a war againſt the Romans, in the year of Rome 258; but were entirely defeated in 408.

AURUNGABAD, Auringabad, or Aurengabad, in *Geography*, a modern city of India, owing its riſe from a ſmall town to the capital of the province of Dowlatabad, in the Deccan, to Aureng-Zebe; from whom alſo it had its name. When the Deccan became a province of the Mogul empire, this city became the provincial capital, and continued to retain its rank after the Nizams became independent of Delhi; and until the encroachments of the Poonah Mahrattas, of late years, made it an uncomfortable reſidence to the Nizam. It is ſituated on a plain, almoſt ſurrounded with mountains; it is large and populous; and was encompaſſed, by Aureng-Zebe, with walls and baſtions. His palace, in which he reſided, was alſo ſurrounded by walls and gates of entrance. The country about is fertile, and produces millet, wheat, and other proviſions, but not ſufficient for the immenſe number of its inhabitants, as it is one of the largeſt and moſt populous cities of India. N. lat. 19° 45'. E. long. 76° 2' 30'.

AURUNGZEBED. See Aurengzebed.

AURUSPI, in *Ancient Geography*, a people of Africa, in Ethiopia, whoſe capital, according to Pliny, was not far from the Nile.

AURUSULIANA, an epiſcopal city of Africa, in Numidia.

AUSA, in the middle ages called *Auſona*, a town of Hiſpania Citerior or Tarraconenſis, ſouth-weſt of the Indigetes, between Gerunda and Mandreſa. The inhabitants were called Auſetani and Authetani. It is now *Vic* or *Vich de Oſona*, in Catalonia. N. lat. 41° 50'. E. long. 2°.

AUSANA, a village of Belgic Gaul, where the twelfth legion had its winter quarters.—Alſo, an epiſcopal ſee of Africa, in the proconſular province.

AUSANCALI, a town of Italy, in Liburnia. Ptolemy.

AUSARA, a town of Arabia Felix, in the country of the Sachalites, near the ſea.—Alſo, a town in the interior part of Arabia Felix. Ptolemy.

AUSCHE, in *Geography*, a town of Bohemia, in the circle of Leitmeritz, eight miles E.N.E. of Leitmeritz.

AUSCHISÆ, in *Ancient Geography*, a people of Africa, in Libya, to the weſt of the Aſbyſtæ, and eaſt of the Naſamons. Herodotus.

AUSCII, a people of Europe, in that part of Gaul called Aquitania. Their capital was Climberris, which afterwards aſſumed the name of the people. They occupied the country correſponding to the territory of Auch, weſt of the Toloſates. See Auch.

AUSCULTARE, in *Ancient Cuſtoms*.—Becauſe the reading of prayers with a graceful tone or accent, makes ſome impreſſion on the hearers; there was anciently a perſon appointed, in monaſteries, to hear the monks read and ſing, who inſtructed them how to perform, before they were admitted to read or chant publicly in the church, or before the people.—This was called *auſcultare*, q. d. *to hear*, or *liſten*.

AUSER, or Ausar, in *Ancient Geography*, now *Serchio*, a ſmall river of Italy, in Etruria, which diſcharges itſelf into the ſea, about ſix miles north of the mouth of the Arnus.

AUSI, a people of Africa, on the ſea-coaſt of Libya, encompaſſing the lake of Tritonis, and ſeparated by the river Triton from the Machlyes. Herodotus relates, that theſe ſavage people celebrated a feaſt in honour of Minerva, at which the young women ſeparated into two companies, and fought againſt one another with clubs and ſtones; thoſe who fell in the combat, or died of their wounds, were deemed not to have been virgins. They paid no reſpect to marriage, but poſſeſſed their women in common. Their children were nurſed by their mothers till they were able to walk; and they were then introduced to an aſſembly of the men, who met every three months, and the man to whom any child firſt ſpoke, was acknowledged as its father.

AUSIGDA, a town of Africa, in the Pentapolis, watered by the river Cinnydhius. An iſland of the ſame name is mentioned by Stephanus.

AUSILINDUM, a place of Africa, in the province of Tripoli, on the road from Tacapé to the greater Leptis.

AUSIMUM, or Auximum, an ancient Roman colony, in the Picenum; now *Oſmo*, or Osimo.

AUSINZA, a town of Aſia, in Perſia Propria. Ptolemy.

AUSITÆ. See Æsitæ.

AUSONA, a town of the Auſones, reckoned among the moſt ancient people of Italy, who occupied that part of Italy, which extends from the promontory of Circæum to the ſtraits of Sicily; but they were afterwards reduced to a more limited territory between the montes Circæi and Maſſici. They were extirpated before the time of Pliny. Virgil repreſents them as a colony of Trojans.

AUSONIA, a name firſt reſtricted to the territory of the Auſones, and afterwards applied to the whole of Italy.

AUSONIUM Mare, denotes that part of the Mediterranean now called the ſea of Sicily. It was formerly a part of the ſea called Ionian, extending ſouthwards from the promontory of Japygium to Sicily, which it waſhes on the eaſt, as it does the Brutii and Magna Græcia on the ſouth and eaſt. It is ſeparated from the Tuſcan ſea by the ſtrait of Meſſina.

AUSONIUS, Decius, or Decimus Magnus, in *Biography*, a Roman poet of the fourth century, was a native of Bourdeaux, where his father Julius Auſonius was an eminent phyſician. Having enjoyed the advantages of an excellent education, under his grandfather Arborius at Toulouſe, and alſo under other eminent profeſſors of grammar and rhetoric, he became himſelf profeſſor in theſe departments of literature in his native city. Such was his reputation,

tion, that he was called to court by the emperor Valentinian, and appointed preceptor to his ſon Gratian. By the latter he was advanced to the office of prætorian prefect of Gaul and Italy about the year 376, and to the conſulſhip in 379. He was much eſteemed by the emperor Theodoſius, and as ſome ſay, created by him a patrician. The time of his death is not accurately aſcertained; but he appears to have been alive in 392, and probably lived to an advanced age. Amongſt the learned it has been a ſubject of diſpute, whether Auſonius was a Chriſtian or a Pagan. If he was not a Chriſtian, the poems on Chriſtian topics aſcribed to him muſt have been ſuppoſititious; and the licentiouſneſs of ſeveral of his pieces ſuggeſts a preſumption, that he had not embraced Chriſtianity.

His poems manifeſt learning and ingenuity; but they cannot bear the teſt of compariſon with the productions of the Auguſtan age, as they are generally inſipid, harſh and inelegant, and bear obvious marks of the declining genius and taſte of the period in which they were written. The "Cento Nuptialis" is altogether formed of lines and hemiſtichs from Virgil, and the latter part of it is highly exceptionable for its obſcenity. The epigrams are generally flat and inſipid. The beſt editions of Auſonius are the "Variorum" of 1671, and the "Delphin" of 1730. Gen. Dict. Fabr. Bib. Lat. t. ii. p. 87, &c.

AUSPEX, in *Roman Antiquity*, a name originally given to thoſe who were afterwards denominated *augurs*. In which ſenſe the word is ſuppoſed to be formed from *avis*, *bird*, and *inſpicere*, *to inſpect*; *auſpices*, q. d. *aviſpices*, or inſpectors of birds.

At firſt the auſpices were properly thoſe who preſaged future events by inſpection of the flight of birds; as the aruſpices predicted them by the inſpection of victims, and augurs by the ſinging of the ſame birds. But Plutarch informs us (Quæſt. Rom. 72.), that in proceſs of time theſe diſtinctions were diſregarded; and that the name of augurs was given to thoſe who had been originally called auſpices.

AUSPICIUM, Auspicy, the ſame with Augury.

Servius, indeed, diſtinguiſhes between *auſpicy* and *augury*; making *auſpicy* comprehend the conſideration merely of birds, and of their flight; *augury*, of the notes of birds, and of all ſenſible objects; he adds, that the former was allowed a man any where abroad, whereas the latter might only be performed in his native place. And it is certain, that conſuls, generals, and others, who took omens out of Rome, were properly ſaid *auſpicari*: nevertheleſs, cuſtom appears to have over-ruled this diſtinction.

The auſpices were conſulted on a variety of occaſions, ſo that nothing was done reſpecting the public, either at home or abroad, in peace or war, without this ceremony; and at firſt in important affairs of a private nature they were ſcrupulouſly regarded. The auſpices were referred to before any battle; they aſſiſted at marriages (Juvenal, x. 336.); and they were conſulted on the choice of plebeian and patrician magiſtrates; and on the firſt day of every year, in order to determine whether the progreſs of it would be happy or otherwiſe. To this purpoſe Ovid, in his Faſti (1. 167.), ſays:

> "Tempora commiſi naſcentia rebus agendis;
> Totus ab auſpicio ne foret annus iners.
> Quiſque ſuas artes ob idem delibat agendo,
> Nec plus quàm ſolitum teſtificatur opus."

And in caſe of war he obſerves (Triſt. ii. 173.):

> "Per quem bella geris, cujus nunc corpore pugnas;
> Auſpicium cui das grande, deoſque tuos."

AUSPITZ, in *Geography*, a town of Moravia, in the circle of Brunn, forty-two miles S. S. W. of Olmutz, and 114 S. E. of Prague.

AUSSEE, New, a town of Germany, in the duchy of Styria, forty-eight miles W. N. W. of Judenburg.

AUSSIG, or Auſſig, a town of Bohemia, in the circle of Leitmeritz, on the Elbe; ten miles N. W. of Leitmeritz.

AUST, a very ſmall village of England, in the county of Gloucester, on the ſide of the Severn; whence is a paſſage-boat or ferry to the oppoſite ſhore in Glamorganſhire, and thence up the Wye to Chepſtow; 12 miles north of Briſtol, and 6 ſouth of Chepſtow.

AUSTER, in *Mythology*, was like each of the other winds, one of the ſons of Aſtræa and Aurora: and it denoted the ſouth wind. See Wind.

AUSTERE, is in general applied to a rough aſtringent taſte, united with that of ſourneſs. It is really ſynonymous with *ſour*.

AUSTERITY, among *Moral Writers*, ſometimes denotes rigour in the inflicting of puniſhments. We ſay alſo, auſterity of manners; the auſterities of the monaſtic life. The auſterity of the Roman cenſors kept the people in their duty. The greateſt auſterity of the Carthuſians is perpetual ſolitude.

AUSTERLITZ, or Austerlow, in *Geography*, a town of Moravia, in the circle of Brunn, which was almoſt deſtroyed by the Swedes, in the ſeventeenth century: twelve miles E. S. E. of Brunn, and 112 E. S. E. of Prague.

AUSTIL, or St. Austell, is a market and ſtannary town of Cornwall, in England. It is ſeated on the eaſtern ſide of a hill, and has greatly increaſed during the laſt century in the number of its houſes and inhabitants. This augmentation may be attributed to the proſperous tin mines that are in the immediate vicinity, to the privilege of having one of the ſtannary courts held here, and in conſequence of having a turnpike road carried through the town from Plymouth to the land's end. The church is a large ancient pile of building dedicated to St. Austin; and the town is ornamented with ſeveral ſtatues in canopied niches. The ſeats of the church, and the external walls, are carved with various devices emblematical of the crucifixion. The original charter for holding a weekly market was granted by queen Elizabeth, who directed that the tolls ſhould be applied to the relief and maintenance of the poor. The principal part of the inhabitants are employed in the mining concerns, in the ſtannary courts, and in a ſmall manufactory of coarſe woollens. At the weſt end of the town are three blowing-houſes, where the tin is ſeparated from the ore by means of fire. This proceſs was formerly effected by ſmelting-furnaces, but the preſent method ſeems to be more economical, and far preferable. The old ſmelting-houſes (ſome of which are ſtill uſed in common), are ſupplied with coals, and are reverberatory; but in the blowing-houſes, the fire is made with charcoal, and ignited by air impelled through cylindrical tubes. Beauties of England and Wales, vol. ii. p. 422, &c. See Blowing Houſe, Mines, Stannary.

AUSTIN, St. See Augustin.

Austin *friar*. See Augustines, and Hermits.

AUSTRAL, derived from *auſter*, *ſouth wind*, the ſame with *ſouthern*.

Thus *auſtral ſigns* are the ſix laſt ſigns of the zodiac: ſo called, becauſe they are on the ſouth ſide of the equinoctial.

Austral *Earth*, in *Mythology*. See Terra Auſtralis.

AUSTRALASIA, in *Geography*, a name given, about half a century ago, by the learned preſident De Broſſes (Hiſtoire des Navigations aux Terres Auſtrales, Paris, 1756, 2 vols.

2 vols. 4to.), to thoſe countries that lie to the ſouth of Aſia, namely, New Holland, New Guinea, New Zealand, &c.; whilſt he diſtinguiſhed the numerous iſles in the Pacific by the appellation Polynesia. Theſe regions conſtitute, by diſcoveries already made, about a fifth part of the world, and include, under the name of "Auſtral Lands," "Southern Indies," and other denominations, New Holland, New Guinea, New Britain, New Ireland, New Caledonia, New Zealand, the Friendly iſles, Society iſlands, the Marqueſas, and even the Sandwich iſlands in the north. But as theſe regions are of wide extent and diſtinct nature, conſiſting of almoſt a new continent in the ſouth of Aſia, and ſcattered groups of iſles in the Pacific, many of which are nearer to South America, than to Aſia, whilſt moſt of them are not above twenty degrees to the ſouth of the equator, the denomination of "Auſtral Lands," has been thought to be very objectionable, and that of the "Southern Indies," ridiculous. Since, therefore, they cannot well be blended under one common appellation, De Broſſes adopted the above-mentioned diſtribution. Some recent German geographers have conſidered Auſtralaſia and Polyneſia as ſynonymous terms, in contradiction to the firſt inventor of theſe appellations. This fifth part of the world, as the Germans call it, would not even then exceed the wide extent of Aſia or America; but it has been thought preferable, for ſeveral reaſons, to conſider Auſtralaſia and Polyneſia, as two great and diſtinct *maritime* diviſions of the globe. The name of Auſtralaſia is the more proper, becauſe it not only implies a continent but the reminiſcence that this region ſupplies the place of the ideal Terra Auſtralis, after which geographers and navigators have ſo long inquired in vain. Mr. Dalrymple (Introd. to Collect. of Voyages), whoſe judgment in theſe matters cannot be diſputed, approves of the two diviſions aſſigned by De Broſſes. But if theſe ſhould be rejected as diviſions of the globe, they muſt of courſe be arranged among the "Aſiatic iſlands;" and in this caſe the appellation may be ſtill retained. The length of Auſtralaſia may be computed from 95° of E. longitude to 185°, that is 90° in lat. 30°, or nearly 5000 geographical miles; while the breadth, N. lat. 3° to S. lat. 50°, will be 3180 geographical miles. "The weſtern boundary of Auſtralaſia may be taken in the meridian from the ſouth of Sumatra, or extended to 100°, or even 90°, eaſt from Greenwich; but as few or no iſles of conſequence have yet been diſcovered in that direction, the ſtrict demarcation may be diſcovered by future circumſtances. A like obſervation may be applied to the ſouthern boundary of Auſtralaſia, which, as including New Zealand, and ſome iſles not far diſtant, muſt be extended to the ſouthern latitude of 50°, or even of 60°, where the iſlands of ice begin to appear. The moſt difficult boundaries are thoſe on the north and eaſt. A wide and vacant channel ſeems to divide the north-weſt part of Notaſia, or New Holland, from the iſles of Sunda, or Sumatran chain. From the north cape of Van Diemen, E. long. 131° from Greenwich, a line aſcends to the north between the Indian and Pacific oceans, leaving in the former the iſles of Banda, Ceram, Myſol, and Gilolo; while in the Pacific, and belonging to Auſtralaſia, are Timorlaut, Waijoo, and other iſles immediately connected with Papua. This line being extended in the ſame direction about two degrees to the north of the equator, turns eaſt into a wide channel of ſeparation between the Carolines, &c. and New Ireland, and other iſles belonging to Auſtralaſia. Bending ſouth-eaſt, ſir Joſeph Banks's iſles and the New Hebrides are left in Auſtralaſia, while a conſiderable interval leaves the Feejee iſlands in Polyneſia. Thence a wide and open ſea gives the line of demarcation an ample ſweep, about ſix or ſeven degrees, to the eaſt of New Zealand, when bending S. W. it joins the ſouthern boundary."

"From theſe indications it will be perceived, that Auſtralaſia contains the following countries: 1. The central and chief land of Notaſia, or New Holland, with any iſles which may be diſcovered in the adjacent Indian ocean, twenty degrees to the W., and between twenty and thirty degrees to the E., including particularly all the large iſlands that follow. 2. Papua, or New Guinea. 3. New Britain, and New Ireland, with the Solomon iſles. 4. New Caledonia, and the New Hebrides. 5. New Zealand. 6. The large iſland called Van Diemen's land, recently diſcovered to be ſeparated from New Holland by a ſtrait, or rather channel, called Baſs's ſtrait." See the ſeveral articles. Pinkerton's Mod. Geog. vol. ii. p. 431—464, &c.

AUSTRALASIÆ, in *Entomology*, a ſpecies of Blatta, very frequently found in ſhips that have viſited the iſlands in the South ſeas. It is of a ferruginous colour, with a white ring on the thorax; and a little white line at the baſe of the wing-caſes. Fabricius, &c.

Australasiæ, one of the New Holland ſpecies of Phalæna, deſcribed by Fabricius in his Spec. Inſ. The wings reddiſh-orange; baſe of the lower ones beneath ferruginous. Muſ. ſir J. Banks.

Australasiæ, a ſpecies of Scorpio, deſcribed by Forſter as a native of the iſlands in the Southern ocean. It is diſtinguiſhed by having combs with ſix teeth, and the hands, or hand-claws being ſmooth. The body is rather depreſſed; brown above, paler beneath; extreme joint of the tail and legs pale.

AUSTRALASIAN Snake, in *Zoology*, a trivial name aſſigned by Dr. Shaw to a ſpecies of Coluber that is figured in White's Journal of a Voyage to New South Wales; and which he deſcribes as a blackiſh-brown ſnake, ſpeckled with yellow, with very narrow ſcuta, and abdomen clouded with brown and yellow. This is a large ſnake, meaſuring nine or ten feet, and is rather ſlender in proportion to its length. The number of abdominal ſcuta, and ſubcaudal ſcales, from the imperfect manner in which the dried ſkins of this kind have been preſerved, has not yet been aſcertained.

AUSTRALE, in *Conchology*, a ſpecies of Buccinum, found in rivers in New Zealand. The ſhell is oblong, ſmooth, thin, faſciated; aperture ovate and entire. *Obſ.* This appears to be an intermediate ſpecies between the Buccinum, Bulla, and Helix genera. Gmelin.

AUSTRALIS Corona, in *Aſtronomy*. See Corona *Auſtralis*.

Australis *Piſcis*, is a conſtellation of the ſouthern hemiſphere, being one of the forty-eight conſtellations mentioned by the ancients, not viſible in our latitude. The ſtars in Ptolemy's catalogue are 18; and in the Britannic catalogue 24. The ſtar Fomahaut, of the firſt magnitude, is in the mouth of this fiſh.

Australis, in *Conchology*, a ſpecies of Haliotis, rather exceeding three inches in length, and two inches in breadth. This ſhell is varied with grey, blueiſh, and red; form ovate, convex, and cancellated; ſpire prominent and inflated. Found adhering to the rocks upon the coaſt of New Zealand. Within, this kind is very pearly, and finely gloſſed with red and yellow.

Australis, a ſpecies of Murex that is found in the South Seas. The ſhell is ovate, with longitudinal ſtriæ; lip undulated; whorls of the ſpire guttered; firſt whorl turgid with four plaits; ſecond with three plaits. Gmel. Spengl. This ſhell bears affinity to Murex ſtramineus; is about an inch and a half in length; of a ſtraw colour, with a yellow pillar; and lip pure white.

Australis, a ſpecies of Venus, of a heart-ſhape, white, and gloſſy, with brownish characters, and entire margin. Chemn. Conch. A native of the South Seas.

Australis, in *Entomology*, a ſpecies of Cancer (*Sy-lanus*, Fabr.), deſcribed by Fabricius from a ſpecimen in the collection of ſir Joſeph Banks, that was brought from the South Seas. The plates of the antennæ are ſmooth and rounded. This kind bears ſome reſemblance to *Cancer Arctus*; but it is of a narrower ſhape; the plates of two joints; thorax unequal, with a crenated margin; legs ten; claws ſimple.

Australis, a ſpecies of Scorpio that inhabits Africa, and, according to Degeer and Fabricius, has thirty-two teeth in the combs, and the hand-claws ſmooth.

Australis, a ſpecies of Musca (*Stratiomys*) that inhabits South America. It is large and glabrous, with black eyes, and is ſpecifically deſcribed as being teſtaceous, with a bidentated ſcutel; and the firſt ſegment of the abdomen browniſh. Fabricius.

Australis, a ſpecies of Formica found in New Holland. It is black, with the thorax unarmed; and petiole ſcale armed with two ſpines. Fabricius.

Australis, a ſpecies of Sphex that inhabits New Holland. The colour is blackiſh blue; thorax lobed, fulvous in front. Fabr. Gmel. &c.

Australis, a ſpecies of Myrmeleon that inhabits the ſouth of Europe. The wings are white, with a black ſpot on the margin; and the body variegated. Fabricius.

Australis, a ſpecies of Lygæus (Fabr.) that inhabits Otaheite. It is black; thorax ſlightly ſpinous, with a red anterior band; ſhanks of the poſterior legs membranaceous.

Australis, a ſpecies of Cimex, with the upper-wing rufous, marked with a waved black ſtreak; under-wings black, with a white dot in the middle. Inhabits New Holland; and called by Fabricius *lygæus 2-guttatus*.

Australis, a ſpecies of Gryllus that inhabits Amſterdam iſland. It is greeniſh; thorax rotundate; wings and wing-caſes equal; legs anteriorly very ſpinous; is larger, but bears ſome affinity to the Braſilian ſpecies *ſpinipes*.

Australis, a ſpecies of Lampyris that inhabits New Holland. It is of a yellowiſh colour, with the head and wing-caſes brown. Fabricius.

Australis, a ſpecies of Cerambyx. (*Callidium* Fabr.) On the thorax two white lines; on the wing-caſes four; the two middle ones united and abbreviated. Inhabits New Zealand. Fabricius.

Australis, a ſpecies of Cryptocephalus (*Crioceris*) that inhabits New Holland. The colour is rufous; thorax cylindrical; and two ſtripes of white on the wing-caſes. Fabricius.

Australis, a ſpecies of Cyrinus, found in the freſh waters in New Holland. It is ſlightly ſtriated; greeniſh; wing-caſes ſhort; and furniſhed with a ſingle tooth. Fabricius.

Australis, in *Ornithology*, a ſpecies of Tringa that inhabits Cayenne, and is about eleven inches in length. It is grey above, ſpotted with brown; beneath reddiſh; belly and rump whitiſh; tail and wings duſky; bill and legs black. Gmelin, &c. The crown is ſtriated with brown.

Australis, a ſpecies of Sterna or Tern, that inhabits Nativity iſland, in the South Seas. It is grey; bill and legs black; front ſordid yellow; quill feathers white; connecting membrane of the feet tawny; length from ſeven inches and a half to nine inches; and called by Latham the ſouthern Tern.

Australis, a ſpecies of Cancer, [illegible] in length, that inhabits Cayenne. It [illegible] carinous; tail red; [illegible] rounded. Gmelin. This is the Cancer Latham. Cancer Gmelin [illegible] black. This is the South Sea Raven of Latham, and inhabits the [illegible] teen inches.

Australis, a ſpecies of Psittacus, [illegible]; crown blue, [illegible] of the abdomen red; [illegible] with black, [illegible] the blue-crested parrot. [illegible] inches and a half; [illegible] middle tail feathers green, and yellow at the extremity; the others yellowiſh-edged, [illegible] claws black. Gmelin.

Australis, a ſpecies of Falco that inhabits Staten-land. It is brown; [illegible] end with ſordid white; ſize of the plaintive eagle; voice like a hen. Gmelin.

AUSTRIA, Archduchy of, in *Geography*, one of the principal provinces of Germany, derives its name from its ſituation towards the eaſt: *Ooſt-ryak*, or *Oſterich*, ſignifying in German the *caſtern kingdom*. This name was ſoftened into Auſtria by the Italian and French enunciation; and this diviſion, which may be conſidered as partly belonging to ancient Pannonia, aroſe after Charlemagne had eſtabliſhed the weſtern empire; being a remnant of the ſovereignty of what was called Eaſtern France, eſtabliſhed by that conqueror. It was alſo ſtyled "Marchia Orientalis," the eaſtern march, or boundary; and after the failure of the Francic line, became a marquiſate feudatory to the dukes of Bavaria, till the emperor Frederic Barbaroſſa, in 1156, conſtituted it a duchy held immediately of the empire. See Archduke.

The archduchy of Auſtria is bounded on the north by Bohemia and Moravia, on the eaſt by Hungary, on the ſouth by Stiria, and on the weſt by Bavaria. It is divided by the river Ens into Upper and Lower Auſtria; the capital of the latter is Vienna, beſides which it contains 35 other cities, and 256 market towns; and that of the former is Lintz, beſides which it has 13 other cities, and 88 market-towns. The population of this archduchy has been uſually computed at 1,685,000 perſons; and more lately by Hoeck, in his "Statiſtical View of the ſtates of Germany," at 1,820,000.

The Auſtrian dominions, or hereditary ſtates of the houſe of Auſtria, comprehended, before the late war, beſides the archduchy of Lower Auſtria, containing the country on this ſide the river Ens, ſometimes called Lower-Auſtria, and the country beyond the Ens, denominated Upper Auſtria, and alſo the country called the Inn-Viertel, or the part taken from Bavaria, of which the capital is Branau, the following territories; viz. Interior Auſtria, including the duchies of Stiria, Carinthia, Carniola, Auſtrian Friuli, and Trieſte; Upper Auſtria, or the Tyroleſe; Anterior Auſtria, compriſing the Briſgaw, Auſtrian territories in Swabia, Hohenembs, Falkenſtein, Langenargen, and Tetnang; the kingdom of Bohemia; the margraviate of Moravia; Auſtrian Sileſia; Auſtrian Netherlands, now in poſſeſſion of the French; Lombardy, including the duchies of Milan and of Mantua, now in poſſeſſion of the French; the kingdom of Hungary, and bannate of Temeſ-

war; Illyricum, including Dalmatia, Croatia, and Sclavonia; Tranſylvania; the province of Buckovina, annexed to the Auſtrian territory in 1777; and the provinces of Gallicia and Lodomiria, being that part of Poland acquired by Auſtria in the partition of 1772. From the frontiers of Switzerland to the utmoſt limits of Tranſylvania, the length of the Auſtrian dominions may be reckoned at about 760 Britiſh miles, and the breadth about 520, from the river Bug, which forms a boundary between Auſtria and Pruſſian Poland, to the Save, which divides the Auſtrian from the Turkiſh ſovereignty. The contents may be about 184,000 ſquare miles; and Boetticher eſtimates the inhabitants at 108 to a ſquare mile. Since he wrote, the populous region of the Netherlands has been withdrawn; however the population of the Venetian territories is little inferior. Towards the eaſt, the Auſtrian dominions border on thoſe of Ruſſia and Turkey; to the north, on thoſe of Pruſſia, Upper Saxony, Bavaria, from which it is ſeparated by the river Inn, and Swabia; and on the utmoſt weſt are Switzerland and the Italian ſtates.

The original population of theſe extenſive regions is various; but chiefly Gothic and Slavonic. The native ancient Germans, a Gothic race, form the ruling, moſt induſtrious, and moſt important part of the inhabitants. The preſent population of the Auſtrian dominions is computed at more than 20,000,000; that of Hungary, Tranſylvania, and the Buckovina, being eſtimated at 4½ millions. Some authors, however, have computed the population of Hungary alone, at 7,000,000; and a late German author (ſee Townſon. ch. v.) has conſequently ſwelled the general population of the Auſtrian dominions to 25,000,000; and a modern geographer (ſee Pinkerton's Mod. Geog. vol. i. p. 345.) thinks it reaſonable to allow 23,000,000 as a medial computation of the numbers ſubject to the Auſtrian ſceptre. Of the other chief provinces, Bohemia is ſuppoſed to hold 2½ millions; Moravia 1½ million; the acquiſitions in Poland, more than 3 millions; and the archduchy of Auſtria, as we have already ſtated, 1,685,000.

Hoeck (ubi ſupra) has exhibited the hereditary ſtates of Auſtria, with their reſpective population, in three tables; from which it appears, that Bohemia contains 2,806,493 perſons; Moravia, 1,256,240; the duchy of Auſtrian Sileſia, 250,000; Lower Auſtria, 1,820,000; Interior Auſtria or Stiria, &c. 1,645,000; Superior Auſtria, or the Tyroleſe, 610,000; Anterior Auſtria, 293,433; Rovereit and the Vorarlberg, 77,971; Hungary and Illyria, 7,350,000; Tranſylvania, 1,443,364; Buckovina, 130,000; Eaſtern Gallicia, 2,797,119; and Weſtern Gallicia, 1,106,178; amounting in the whole to 21,585,798 perſons. The army is computed by Boetticher at 365,455 men, in 136 regiments, of which 46 are German, and only 11 Hungarian. But in the ſanguinary conteſt with France, this army has been greatly diminiſhed; and, at preſent, it is ſuppoſed not to be equal to that of Pruſſia, eſtimated at about 200,000; and far leſs than that of Ruſſia, which is ſuppoſed to double this number. The revenue is computed at more than ten millions ſterling; to which Auſtria contributes about three millions; and Hungary a little more than a million and a half. This revenue uſed to exceed the expences; but the public debt is now ſuppoſed to ſurpaſs 40,000,000 l. ſterling, and the recent wars have occaſioned great defalcations.

Auſtria, before the acquiſition of Venice, might have been regarded as an inland power; as the ſmall harbour of Trieſte had no commercial importance. Since the Auſtrian dominions have acquired their preſent extent and power, determined rivalry has ſubſiſted between them and France. There are alſo cauſes of confirmed jealouſy between Auſtria and Pruſſia, and of irreconcileable hatred between the Auſtrians and Turks. As Auſtria is alſo jealous of Ruſſian power, it is not eaſy to ſelect any ſtate on the continent with which it could enter into a ſtrict and permanent alliance.

The aſpect of the Auſtrian dominions is rather mountainous than level, and preſents in this reſpect a ſtriking contraſt to that of Ruſſia and Pruſſia. Of the elevated chains which diverſify the Auſtrian territories, the firſt that deſerves mention is the Rhætian or Tyroleſe Alps, called the Brenner mountains (ſee ALPS, and BRENNER), among which are ſeveral glaciers; and there are alſo conſiderable hills, which branch from the Swiſs and Tyroleſe Alps, in the northern parts of the territory that was formerly Venetian, ſuch as mount Baldo, mount Bolca, and the Euganean hills near Padua. The provinces of Carinthia and Carniola preſent many chains of mountains, as that of Lobel, which ſeparates theſe countries, and the Julian or Carnic Alps, now called Birnbaumer Wald, which divide Carinthia from Italy. The ſummits of the Carniolan mountains are covered with permanent ſnow; of theſe, the moſt memorable are the Kalenberg near the river Save, and the Runberg, and the Karſt to the ſouth of Idria. Here alſo terminates the vaſt chain which proceeds by the north of Dalmatia towards the Hæmus, and is known by many local appellations, as mount Promina near Gnin, mount Prologh, mount Clobu, &c. &c. but better diſtinguiſhed by the Dalmatian chain. The latter mountains are chiefly calcareous. Towards the north in the ſouth of Stiria, there firſt occurs the chain of Bacher; mount Graſan on the eaſt of Judenburg; and the chief mountains in this province, or thoſe of Grimin, in its weſtern extremity towards Salzburg. On the eaſt towards Hungary, this country is more plain and fertile. On the ſouth of Auſtria is a chain of inconſiderable elevation. (See CETIUS, and KALENBERG.) Upper Auſtria, or the weſtern part of this province, contains many conſiderable mountains, the higheſt of which is in the maps called Priel, but the proper name is Greſſenberg. Towards the north, Auſtria is divided from Bohemia by a ridge of conſiderable elevation, which paſſes to the north-eaſt of Bavaria. On the north-weſt, Bohemia is parted from Saxony by a chain of metallic mountains called the Erzgeberg, a word that denotes hills containing mines. On the weſt of the river Eger, near its junction with the Elbe, ſtands the mountainous group of Mileſſou, ſuppoſed to be the higheſt in the province. On the north-eaſt the Sudetic chain, which branching from the Carpathian, divides Bohemia and Moravia from Sileſia and the Pruſſian dominions. The Carpathian mountains, bounding Hungary on the north-eaſt, deſerve particular notice. See CARPATHIAN.

Of the rivers which pervade the Auſtrian dominions, the principal is the DANUBE. Next to this in importance is the TIESS; and there are alſo the SAVE, the DRAVE, the INN, the MULDA, the ELBE, the MORAU, the ADIGE, and ſeveral others of leſs note. The lakes are numerous, and ſome are of conſiderable ſize. In Auſtria proper, are the lake Traun, the Ebenſee, and others. Carinthia contains a large central lake not far from Clagenfurt, and Carniola another, called the Cirknitz ſee. Tyrol has no lake of any conſequence, except a part of the Lago di Garda; but its glaciers are numerous. For the moraſſes and lakes of Hungary, ſee HUNGARY. See NEUSIDLER and PALITZER. In Tranſylvania is the Teſege To; and many ſmall lakes are ſituated amidſt the Carpathian mountains.

The ſoil of the Auſtrian dominions is upon the whole extremely fertile and productive, in ſpite of the neglect of induſtry, which has permitted many parts of Hungary, and of the Poliſh provinces, to paſs into wide foreſts and marſhes. In Auſtria Proper, Mr. Marſhal obſerves (Travels, vol. iii. p. 104.), that oats were little cultivated; the other products were ſuch as thoſe of England, particularly abundance of cabbages and potatoes; but the cultivation was not neat, ſmall waſte ſpots being left by the plough, which harboured weeds to the great detriment of the field. The vineyards and fields of ſaffron were numerous; cattle appeared in abundance; and large herds of ſwine, which fed all the ſummer in the woods. At a more recent period, Mr. Coxe (Travels in Poland, &c. vol. i. p. 153, &c.) gives a deplorable picture of the want of cultivation in the ſouthern provinces of Poland, now ſubject to Auſtria; the country being chiefly overſpread with vaſt tracts of gloomy foreſts, and exhibiting few ſymptoms of an inhabited, and ſtill leſs of a civilized country. In travelling the high road from Cracow to Warſaw, in the courſe of 258 miles, he met with only two carriages and a dozen carts. The country was equally thin of human habitations; a few wooden villages ſucceeded one another at long intervals, whoſe miſerable appearance correſponded with the wretchedneſs of the ſurrounding country. The darkneſs of the night, during which he travelled for want of decent accomodation, deprived him of nothing but the ſight of indifferent crops of corn, gloomy foreſts, and objects of human miſery. The natives were poorer, humbler, and more miſerable, than any he had obſerved in the courſe of his travels; wherever he ſtopped, they flocked around him in crowds, and demanded charity with the moſt abject geſtures. The whole country is for the moſt part ſandy or marſhy. According to this deſcription, Auſtria ſeems to have made no great acquiſition in the Poliſh provinces.

The domeſtic animals in the Auſtrian dominions are commonly excellent, particularly the cattle. The mineralogy of theſe territories is the moſt various and intereſting of any in Europe. There is ſcarcely a province from the frontiers of Swiſſerland to thoſe of Turkey, which cannot boaſt of its minerals, and the acquiſitions made by the houſe of Auſtria in Poland, contain one of the moſt remarkable mines in Europe, the ſaline excavations of Wilizka. See SALT, and WILIZKA. See alſo BOHEMIA, and MORAVIA.

The fertile archduchy of Auſtria furniſhes few minerals; though mines of gold are found near the abbey Goettwig, and thoſe of alum near Krems; ſalt-petre, however, is prepared in abundance; and at a little diſtance from St. Annaberg, near the frontiers of Stiria, a rich mine of ſilver was opened in 1754. The ſouthern provinces of Stiria, Carinthia, and Carniola, afford many important minerals. See theſe articles. The northern parts of Italy, now ſubject to Auſtria, have been remarkable for mineralogy; but on paſſing into the Tyrol, ſeveral mines occur of ancient reputation, ſuch as that of ſilver and lead near Lermos; and in the ſame quarter, thoſe of Naſeriat, in the Verner mountains, about 30 miles north-weſt of Inſpruck, which are rich in ſilver, copper, lead, and iron; nor is the ſouthern region of Trent wholly deſtitute of mines. But the principal mines in the Auſtrian dominions are ſituated in the eaſtern provinces of HUNGARY and TRANSYLVANIA. See alſo CHEMNITZ, and SHEMNITZ.

The climate of Auſtria Proper is commonly mild and ſalubrious, though occaſionally expoſed to violent winds; and the ſouthern provinces in general enjoy a delightful temperature, excepting merely the ſeverities of Alpine winter in the mountainous parts. The more northern regions of Bohemia and Moravia, with the late acquiſitions in Poland, can boaſt of the maturity of the grape, and of gentle and favourable weather. The numerous lakes and moraſſes of Hungary, and the prodigious plains rich in rubbiſh deſerts, are ſuppoſed to render the air damp and unwholeſome, the cold of the night rivalling the heat of the day; but the keen blaſts from the Carpathian mountains ſeem in ſome meaſure to remedy theſe evils, the inhabitants being remarkable for health and vigour.

The manufactures ſeem not to have been cultivated to any great extent in any part of the Auſtrian dominions. Thoſe of Vienna are the moſt conſiderable. (See VIENNA, and alſo BOHEMIA.) The commerce of theſe dominions depends principally on their native opulence; Auſtria Proper, and the ſouthern provinces, producing abundance of horſes and cattle, corn, flax, ſaffron, and various wines, with ſeveral metals, particularly quickſilver from the mines of Idria. Bohemia and Moravia are alſo rich in oxen and ſheep, corn, flax, and hemp; in which they are rivalled by the diſmembered provinces of Poland. The linen manufactures of Bohemia, according to Hoeck, amount annually to 16,000,000 florins, beſides ſome in wool and in cotton. The woollen manufacture at Lintz employs 30,000 perſons; and in the whole archduchy of Auſtria there are ſeven great manufactures of cotton cloth, which occupy 140,000 individuals. The wide and marſhy plains of Hungary, afford excellent paſturage for numerous herds of cattle; and other parts of the ſame country produce corn, rice, the rich wines of Tokay, and tobacco of an excellent flavour, with extenſive mines of various metals and minerals. Upon the whole, the Auſtrian territories in general abound to ſuch a degree with the various neceſſaries and luxuries of life, which are found either in the north or ſouth of Europe, that the imports would ſeem to be few and inconſiderable; and before the acquiſition of Venice, the chief exports were from the port of Trieſte, conſiſting of quickſilver and other metals, with wines and other native products. From a table of the exports of Hungary for one year, given by Dr. Townſon, it appears, that they conſiſted chiefly of cattle, hogs, ſheep, flour, wheat, rye, wool, and wine, carried to other Auſtrian provinces; and only about one-ſeventh part ſent to foreign countries.

The prevailing religion of the Auſtrian dominions is the Roman Catholic. However, Proteſtants of various ſects are found in Bohemia and Moravia; nor are Lutherans unknown at Vienna, though they chiefly abound in Tranſylvania; and in Hungary the Proteſtants are ſuppoſed to be equal in number to the catholics.

The form of government is an hereditary monarchy, approaching to abſolute power. Hungary, indeed, retains its ancient ſtates, or rather an ariſtocratical ſenate; but as the military force is lodged wholly with the ſovereign, no diſtinct kingdom or ſtate can withſtand his will. Auſtria alſo has its ſtates, conſiſting of four orders, clergy, peers, knights, and burgeſſes: the aſſembly for Lower Auſtria being held at Vienna, and that of the Upper at Lintz. But theſe local conſtitutions can little avail againſt the will of a powerful monarch, ſupported by a numerous army. The laws vary according to the different provinces; and almoſt every ſtate has its peculiar code. (See HUNGARY.) Upon the whole, the laws may be regarded as mild and ſalutary; and the Auſtrians in particular are a well regulated and contented people, while the Hungarians are often diſſatisfied, and retain much of their ancient animoſity againſt the Germans.

The hiſtory of Auſtria properly ſo called, may be conciſely delineated in the following epochs, collected and detailed by Mr. Pinkerton, in his "Modern Geography," vol. i. p. 337.

"1. The houſe of Auſtria, which, by ſucceſſive fortunate marriages ſince the fifteenth century, has ariſen to ſuch a ſummit of power, is well known to have ſprung from the humble count of Hapſburg. Thoſe lords poſſeſſed a ſmall territory in Swiſſerland, in the northern corner of the canton of Bern, near the river Aar, about three miles ſouth of the town of Bruck, and the ſame diſtance to the north of Mellingen. On a lofty eminence, crowned with beech, ſtands an ancient tower, the firſt ſeat of the houſe of Auſtria. In the twelfth century Otho is deſigned count of Hapſburg, and even heraldry can ſcarcely aſcend beyond his grandſire Radebot, brother of Werner, biſhop of Straſburg. In 1273, Rodolph of Hapſburg was called to the imperial throne, after an inter-reign, during which the German potentates had increaſed, and ſecured their own power; and wiſely preferred a nominal ſovereign, whoſe humble extract, and ſmall poſſeſſions, could afford no check to their ambition. Yet Rodolph was at this time lord of the greater part of Swiſſerland; after the extinction of the powerful houſe of Zaeringen, and that of the counts of Kyburg, whoſe joint inheritance devolving to Rodolph, became the baſis of his power, and that of his ſucceſſors. (See Planta's Swiſs. i. 170.)

"2. Another emperor of the houſe of Auſtria appeared in Albert, A. D. 1298; from whom the Swiſs made their ſignal revolt in 1307. His ſon Frederic was obliged to yield the empire to Louis of Bavaria. (See ALBERT I.)

"3. Albert II. duke of Auſtria, A. D. 1438, ſucceeded to three crowns, on the death of his father-in-law the emperor Sigiſmond, thoſe of Hungary, and Bohemia, and that of the empire by unanimous election. This was the epoch of the laſting grandeur of the houſe of Auſtria. Yet his ſucceſſors Frederic III. and Maximilian I. were feeble princes; and Charles V. firſt aſtoniſhed Europe with a real diſplay of Auſtrian power. (See ALBERT II.)

"4. Maximilian having married the heireſs of Burgundy, the Netherlands became ſubject to the houſe of Auſtria in 1477; and his ſon Philip, in 1496, marrying the heireſs of Arragon and Caſtile, the ample dominions of Spain fell afterwards under the Auſtrian ſceptre. Charles V. inherited all theſe domains; but on his reſignation, Spain and the Netherlands paſſed to his ſon Philip II. and the former crown continued in the Auſtrian line till the cloſe of the 17th century. Auſtria, Bohemia, and Hungary, paſſed to Ferdinand, the brother of Charles V. who was alſo choſen emperor of Germany.

"5. The noted bigotry of the houſe of Auſtria was not confined to the Spaniſh branch, for though Maximilian II. about 1570, had granted liberty of conſcience even to the Proteſtants of Auſtria, yet thoſe of Bohemia, and other parts, were afterwards ſo much oppreſſed, that the Proteſtant princes of Germany called in Guſtaf Adolf, the celebrated Swediſh monarch, to their aſſiſtance, who ſhook the empire to its very foundation. Even France ſupported the Proteſtants, in the view of weakening the Auſtrian power; and the war continued till 1648, when the famous treaty of Weſtphalia was ſigned, which has ſerved as a baſis for other diplomatic tranſactions. (See WESTPHALIA.)

"6. The war with France was often rekindled during the long reign of Leopold I. 1658 to 1705; and in 1683, the Turks were ſo ſucceſsful as to lay ſiege to Vienna.

"7. His ſon Joſeph I. joined the allies againſt France, and ſhared in their ſucceſs. He married the daughter of John Frederic, duke of Hanover.

"8. By the death of the emperor Charles VI., on the 20th of October 1740, without male iſſue, the houſe of Auſtria became extinct. The elector of Bavaria ſeized the kingdom of Bohemia, and was elected emperor in 1742, but died in 1745.

"9. Francis of Lorrain, ſon of Leopold duke of Lorrain, having married Maria Thereſa, daughter of the emperor Charles VI. ſucceeded to the Auſtrian dominions, which continue to be held by his deſcendants. In 1745 he was elected emperor, and his ſucceſſors have enjoyed the imperial crown, as if hereditary. The powerful houſe of Lorrain is of great antiqnity, deſcending from Gerard count of Alſace, in the 11th century, whoſe origin is referred to a collateral branch of the houſe of Auſtria.

"10. The reign of the emperor Joſeph II. a beneficent but impetuous prince, whoſe grand deſigns of reformation were fruſtrated by his ignorance of the inveteracy of habits and prejudices, which muſt ever be conſidered in a due eſtimate of human affairs.

"11. The obdurate and ſanguinary conteſt with France, the events of which are known to all."

For an abridged detail of the hiſtory of the other Auſtrian dominions; ſee BOHEMIA, HUNGARY, VENICE, &c.

AUSTRIACA SYDERA, in *Aſtronomy*, a name given by Maupertuis to the ſpots in the ſun, as ſuppoſing them to be ſmall ſtars between the ſun and us.

AUSTRIACA, in *Entomology*, a ſpecies of SPHEX found in Auſtria, and deſcribed by Schranck. It is of a black colour, with a ſulphur-coloured band, and two dots of the ſame at the baſe of the abdomen; legs ſulphur-colour, with the thighs of the poſterior ones thick.

AUSTRIACA, a ſpecies of CICADA (*Rantra* Sec.), of a ſmall ſize, that inhabits Auſtria. It is black, with pale legs; white at the baſe of the eyes; wings tranſparent, with three faint bands of black. Schranck, &c.

AUSTRIACA, a ſpecies of BUPRESTIS, with braſſy, ſtriated, and bidentated wing-caſes; head and thorax greeniſh; abdomen violet. Gmelin. This kind inhabits Idria, is about the ſize of bupreſtis ruſtica, and is called *mordella gigantea* by Scopoli.

AUSTRIACA, a ſpecies of CICINDELA found in Auſtria. This inſect is green, with the breaſt and belly golden red; wing-caſes with a thin golden margin, and a few white ſpots. Schranck, Beytr.

AUSTRIACUS, in *Entomology*, a ſpecies of CIMEX that inhabits Auſtria. This inſect is ferruginous, and has the ſcutel divided by a black band. Schranck.

AUSTRIACUS, a ſpecies of CURCULIO found in Auſtria. It is apterous, cinereous; wing-caſes lineated with whitiſh, and dotted with black. Fabricius.

AUSTRIACUS, a ſpecies of SCARABÆUS (*Melolontha*) found in Auſtria. This kind is glabrous; wing-caſes brown, with an exterior elevated margin, and four ſpots on the ſcutel. Herbſt. &c. It is uncertain whether this is a diſtinct ſpecies or a variety only of ſcarabæus agricola.

AUSTRIACUS, in *Ornithology*, a ſpecies of FALCO, named by Latham the *Auſtrian kite*. Cere and legs rather woolly and yellow; body above cheſnut; beneath teſtaceous, ſpotted with brown; tail forked. Inhabits the woods in Germany, and feeds on ſmall birds and bats. Gmelin.

AUSTRIACUS, in *Zoology*, a ſpecies of COLUBER that is found in the environs of Vienna, and is ſo very analogous to

coluber natrix, or common ſnake, as to be formerly confounded with it. Laurenti, in his work on the Amphibia, appears to be the firſt writer who diſtinguiſhed them; the principal difference ſeems to conſiſt in the perfect ſmoothneſs of the ſcales in auſtriacus, while thoſe of natrix are ſlightly carinated. It is of a blueiſh-aſh, inclining to rufous on the ſides and abdomen, with a double row of alternate rufous ſpots along the back. This kind lives in moiſt meadows, hedges, and watery places, and is of a fierce diſpoſition, but incapable of producing injury, being unprovided with poiſonous fangs. It occaſionally varies a little in colour. Gmelin, Shaw, &c.

AUSTRO Africus, in *Meteorology*, the ſouth-ſouth-weſt point, or wind.

AUSTROMANCY, in *Mythology*, properly denotes ſoothſaying, or a vain method of predicting futurity, from obſervations of the winds.

AUSUFAL, in *Ancient Geography*, the name of a place in Africa, on the road from Carthage to Alexandria, thirty-four miles from this latter city. Anton. Itin.

AUSUM, a town of Africa, in Mauritania Cæſarienſis. Ptolemy.

AUTARIATES, a people of Illyria, mentioned by Arrian, in his account of Alexander's expedition into this country; and probably the ſame with thoſe placed by Strabo in Thrace, to the north of mount Rhodopus.

AUTARIS, a place in Arabia Felix. Pliny.

AUTEFAGE, in *Geography*, a town of France, in the department of the Lot and Garonne, and chief place of a canton in the diſtrict of Villeneuve d'Agen, nine miles N.N.E. of Agen.

AUTENIQUA, an extenſive and beautiful country of Africa, lying to the eaſt of the cape of Good Hope, and partly inhabited by Dutch coloniſts. The term "Auteniqua," in the language of the Hottentots, denotes, "loaded with honey," and is ſtrictly applicable to this country, as you cannot advance a ſtep in it, proceeding from the Cape, without ſeeing innumerable ſwarms of bees. M. Vaillant, who viſited this country in 1782, calls it the moſt delightful region in the univerſe. It is interſperſed with hills and vallies, enamelled meads and beautiful paſtures; and it abounds with ſmall rivulets, which contribute both to the ſcenery and fertility of it. The whole of Auteniqua, from the chain of mountains which divides it from the race of Hottentots called "Gonaquas," to the ſea, is inhabited by planters, who rear cattle, make butter, cut down timber, and collect honey, with all which they ſupply the Cape. But though they employ wood in commerce, they uſe none of it for building houſes. Their habitations are wretched hovels, conſtructed of wicker work, daubed over with clay; the ſkin of a buffalo, fixed at the four corners to as many ſtakes, ſerves them for a bed; and the door, which ſerves alſo for a window, is ſhut by a mat. The furniture is mean and ſcanty, as the dwelling is incommodious. With this appearance of poverty and wretchedneſs, the people live well; they have plenty of game and ſalt-water fiſh, and vegetables of every kind in their gardens through the year. For theſe they are indebted to the fertility of the ſoil, and the rivulets flowing in various directions from the mountains, by which it is watered. In the mountainous regions of this diſtrict, there are multitudes of elephants, buffaloes, panthers, hyenas, and antelopes of every ſpecies, which are hunted and killed by the natives, partly for food, and partly with a view to the preſervation of their herds and flocks. The kites and vultures of this country are ſingularly fierce and voracious. Beyond the limits of the country called "Auteniqua," is a [illegible] bay, with ſufficient depth of water for the largeſt veſſels, and ſafe anchorage ground, known to navigators by the name of the bay of "Agoa," but called by the coloniſts "Blettenberg's" bay, from the name of a governor who viſited it. In advancing about a league along the coaſt, there is a conſiderable river called "Queur-Boom," which affords an ample ſupply of water. The Hottentots, who in ſcattered "kraals" inhabit this delightful country, are deſcribed by Vaillant as a faithful, gentle, and rather timid race. He affirms, but probably without ſufficient evidence, that they have not any notion of ſuperior beings who govern the world. He alſo ſays that, totally free from jealouſy, they lend their wives to travellers who viſit them. In Vaillant's map, Auteniqua lies between 33° 30′ and 34° 50′ S. lat. and between 20° and 23° 40′ E. long.

AUTENOW, a town of Poland, in the palatinate of Kiov, eighteen miles W.S.W. of Bialacerkiew.

AUTENTUM, in *Ancient Geography*, a town of Africa, in the route from Thene to Theveſta, thirty miles from Suffetula, and twenty-five miles from Amudarſa. Anton. Itin.

AUTER *Droit*, in *Law*, is where perſons ſue or are ſued, in another's right; as executors, adminiſtrators, &c.

Auter *Vie*; a perſon who holds an eſtate by the life of another, is uſually called tenant *per auter vie*. Litt. ſect. 56.

AUTERFOITS *Acquit*, a plea by a criminal, that he was heretofore acquitted of the ſame treaſon or felony. For one ſhall not be brought in danger of his life, for the ſame offence, more than once. 3 Inſt. 213. But by ſtat. 3 Hen VII. c. 1. this plea ſhall be no bar to the proſecution of any appeal. See Acquittal.

Auterfoits *Attaint*, a plea of former attainder, which is a good plea in bar, whether it be for the ſame or any other felony, under ſome exceptions; ſo that this plea is never good but when a ſecond trial would be quite ſuperfluous. See Attainder.

Auterfoits *Convict*, a plea upon a former conviction for the ſame identical crime, though no judgment was or ever will be given; and this is a good plea in bar to an indictment.

AUTE RIVE, in *Geography*, a town of France, in the department of the Upper Garonne, and chief place of a canton in the diſtrict of Muret on the Arriege, fifteen miles ſouth of Toulouſe.

AUTHENTIC, ſomething of received authority. It alſo ſignifies ſomething ſolemn, and celebrated; clothed in all its formalities; and atteſted by proper perſons, to whom credit has been regularly given.

Biblical writers have differed in opinion about the meaning of the phraſe "Authentic letters," uſed by Tertullian, De Præſcrip. c. 36. p. 245. B. Some by authentic letters have underſtood the originals themſelves, in the apoſtle's hand-writing, or that of his amanuenſis, and ſigned at the concluſion by himſelf. Others are of opinion, that Tertullian means letters in their original language. But Dr. Lardner, rejecting theſe two interpretations, maintains that this ancient father means by authentic letters ſuch as were certain and well atteſted. In this ſenſe the word authentic is uſed by Cicero Ad. Attic. l. x. ep. 9. Accordingly, by "Authenticæ literæ" we are not to underſtand "Authentic letters, or epiſtles," but "Scriptures;" and ſo the word ſhould have been rendered. Hence it may be inferred, agreeably to the argument uſed by Tertullian, that the ſcriptures

ſcriptures received by the apoſtolical churches were authentic; the teſtimony given by thoſe churches being, according to this father, an authentic, original, and certain teſtimony. Lardner's Works, vol. ii. p. 266, &c.

AUTHENTIC, in *Muſic*, a term uſed in ſpeaking of the eccleſiaſtical modes of *cantu firmo*, or plain-ſong. An authentic tone or mode is that, when the octave is harmonically divided in this proportion, 6.4.3. that is to ſay, when the

d

fifth is at the bottom, and the fourth at top, as A. When

D

the octave is divided arithmetically, as 4.3.2. where the

a

fifth is above the fourth, as D, then the mode is termed

A

plagal. Of the eight ancient eccleſiaſtical modes, four are authentic; namely, the firſt, third, fifth, and ſeventh. The reſt, that is, the ſecond, fourth, ſixth, and eighth, are plagal. See MODES.

AUTHENTICATING, the puniſhing an adulteſs, by public whipping, and ſhutting her up in a convent for two years; after which, if the huſband be not willing to take her back, ſhe is ſhaven, veiled, and ſhut up for life. It is ſo called, as being the puniſhment preſcribed in the Authentics. If the huſband die within the two years, ſhe ſeems to have a right to petition the court for her liberty; at leaſt, another man, willing to marry her, may petition, and probably obtain it.

AUTHENTICITY of the *Old and New Teſtament*. See BIBLE, and TESTAMENT.

AUTHENTICS, AUTHENTICÆ, in the *Civil Law*, is a name given to the Novels of Juſtinian. See NOVEL.

The reaſon of the denomination is not well known.—Alciat will have it to have been firſt given them by Accurſius. The Novels were originally compoſed in Greek, and afterwards tranſlated into Latin by the patrician Julian, who alſo reduced them into fewer words, and leſs compaſs. And in the time of Bulgarius, there was a ſecond verſion made, more exact and literal, though not quite ſo elegant as the former.

This tranſlation, ſays the author juſt cited, being preferred by Accurſius, he called it *authentica*, by way of preference to that of Julian, as being more conformable to the original. They are hereby diſtinguiſhed from ſome other publications of later imperial conſtitutions, which are not regarded as of much authority.

AUTHIE, in *Geography*, a river of France, which runs into the ſea, eight miles north from the mouth of the Somme, and ſeparates the department of the Somme from the department of the Straits of Calais, through almoſt its whole courſe.

AUTHION, a river of France, which runs into the Loire, two miles ſouth of Angers.

AUTHON, a town of France, in the department of the Eure and Loire, and chief place of a canton in the diſtrict of Nogent le Rotrou; ſix leagues weſt-north-weſt of Chateaudun.

AUTHOR, formed of αυτος, *ipſe*, or rather from the Latin participle *auctus*, or *augeo*, *I increaſe*; properly denotes one who created or produced any thing; and is applied, by way of eminence, to the firſt cauſe; viz. God. Thus we ſay, the author of nature; author of the univerſe, &c.

The term author is ſometimes uſed in the ſame ſenſe with inſtitutor or inventor. Polydore Virgil has wrote eight books of the authors or inventors of things, &c. See INVENTION.

AUTHOR, in matters of *Literature*, denotes a perſon who has wrote or compoſed ſome book or writing. Accordingly we ſay, the ſacred authors, anonymous authors, ancient and modern authors, &c. An original author is he who firſt treated of any point or ſubject; who did not follow any other perſon, or imitate any model either in the matter or the manner of what he has wrote.

AUTHORITY, in a general ſenſe, denotes a right or power to command, and make one's ſelf obeyed. In this ſenſe we ſay, the ſupreme or ſovereign authority; abſolute or deſpotic authority; the royal authority; the epiſcopal authority; the authority of the church, of a father, &c. the authority of ſcripture, of a creed, confeſſion, or the like.

AUTHORITY is alſo uſed for the teſtimony of an author or writing.

The word is alſo particularly underſtood of an apophthegm, or ſentence of ſome great or eminent perſon, quoted in a diſcourſe, either by way of proof, or embelliſhment.

Authority alſo includes rules, laws, canons, decrees, deciſions, &c. alleged in confirmation of a matter in diſpute. Paſſages quoted from Ariſtotle were of great authority in the ſchools: texts of ſcripture are of deciſive authority.

Authorities make a ſpecies of arguments called by rhetoricians inartificial or extrinſic arguments. See ARGUMENTS.

For the uſe and effect of authorities, ſee EVIDENCE, FAITH, PREJUDICE, PROBABILITY, REASON, REVELATION, &c.

AUTHORITY, in *Law*, is a power to do ſomething, conveyed by word or writing; as alſo by writ, warrant, commiſſion, letter of attorney, &c.; and ſometimes by law.

AUTHORITY, or AUTHORITIES, likewiſe denote the treatiſes of ancient authors, ſuch as Glanvil, Bracton, Britton, the author of the book Fleta, Hengham, Littleton, Statham, Brooke, Fitzherbert, Staundforde, and ſome others of ancient date, which are cited as authority; and furniſh evidence that caſes have formerly happened in which particular points were determined, which are now become ſettled and firſt principles.

One of the laſt of theſe methodical writers, in point of time, whoſe works are of any intrinſic authority in the courts of juſtice, and do not entirely depend on the ſtrength of their quotations from older authors, is ſir Edward Coke, who hath written four volumes of Inſtitutes, as he is pleaſed to call them, though, ſays judge Blackſtone, they have little of the inſtitutional method to warrant ſuch a title.

AUTIRE, in *Geography*, a river of France, which runs into the Sevre, a little below Maillerais.

AUTO *Da Fe*. See ACT *of Faith*.

AUTOCABDALI, in *Antiquity*, an order of muſicians, who wore an ivy crown, or garland.

Scaliger ſeems to rank them in the number of *mimi*.

AUTOCEPHALUS, compounded of αυτος, *ipſe*, and κεφαλη, *caput*, *head*, a perſon who is his own ruler or maſter, and who has no other over him.

This denomination was given, by the Greeks, to certain archbiſhops, who were exempted from the juriſdiction of patriarchs.—Such were the archbiſhop of Cyprus, by a general decree of the council of Epheſus, which freed him from the juriſdiction of the patriarch of Antioch.

There were ſeveral other biſhops in the Eaſt, who were autocephali; and in the Weſt, thoſe of Ravenna pretended to the ſame right.—The ſixth council, canon 39, ſays, that the autocephali have the ſame authority with patriarchs; but

but this is not to be underſtood in the full latitude of the words; but only as intimating, that the autocephali have the ſame authority over their biſhops, that patriarchs had over their archbiſhops: in which ſenſe, only, they are equal to patriarchs.

AUTOCHTHONES, from αὐτὸς, *ipſe*, and χθὼν, *terra*; an appellation aſſumed by ſome nations, importing, that they ſprung, or were produced, from the ſame ſoil which they ſtill inhabited. In this ſenſe, autochthones amounts to the ſame with ABORIGINES. In this ſenſe it was that the Greeks, and eſpecially the Athenians, pretended to be *autochthones*, and, as a badge thereof, wore a golden graſshopper woven in their hair, an inſect ſuppoſed to have the ſame origin.

This favourite epithet of the Athenians, which gave denomination to one of the tribes of Athens, ſignifies only, "people born in the country where they live," in oppoſition to ſtrangers. The common people of Athens perverted this to ſignify people ſprung from the earth. See what Plato makes Socrates ſay on this matter, in Menexen, p. 518. See alſo Iſocr. in Paneg. p. 65. Cicero Orat. pro L. Flacc. 26. Iſocrates ſays, that people of ſenſe at Athens underſtood by this epithet, that Athens was the moſt ancient of the Greek cities, and that it had been built by thoſe who, from time immemorial, had been eſtabliſhed in the country known by the name of Attica. See Herod. l. vii. § 161. Suid. voc. Αὐλοχθονες, t. i. p. 389. Hiſtory, however, deſtroys this laſt pretenſion; as few circumſtances are better known than the time of the building of Athens.

AUTOCRATOR, from αὐτὸς, and κράτος, *power*; a perſon veſted with an abſolute independent power, by which he is rendered unaccountable to any other for his actions. The power of the Athenian generals, or commanders, was uſually limited; ſo that, at the expiration of their office, they were liable to render an account of their adminiſtration. But, on ſome extraordinary occaſions, they were exempted from this reſtraint, and ſent with a full and uncontrolable authority: in which caſe they were ſtyled αὐτοκράτορες.

The ſame people alſo applied the name to ſome of their ambaſſadors, who were veſted with a full power of determining matters according to their own diſcretion, and reſembled our *plenipotentiaries*.

AUTOCRATOR was alſo a title given to the Roman emperors, firſt to Julius, and afterwards to his ſucceſſors, like that of Cæſar, or Auguſtus.

AUTODIDACTUS, from αὐτὸς and διδασκω, *I teach*; a perſon ſelf-taught.

It is uſed in divers ſenſes, ſometimes to denote a perſon who received his knowledge immediately from heaven without any help or ſtudy. In which ſenſe the word occurs in Homer, and Clemens Alexandrinus.—Sometimes for him who acquires his knowledge without inſtruction, either by word of mouth, or reading of books. Such were the inventors of ſciences and laws.—Sometimes, and that moſt uſually, for him who arrives at learning by the uſe of books alone, without the aſſiſtance of any maſter, or inſtruction *vivâ voce*.

AUTOGLYPHUS *Lapis*, a ſtone, mentioned by Plutarch, and ſome other of the ancients, as having naturally impreſſed on it the figure of Cybele. It is ſaid to have been found in Sagaris, a river of Perſia. Doubtleſs, if any ſuch ſtone ever exiſted, the prieſts had got it made to deceive the people.

AUTOGRAPHUM, formed of αὐτὸς, and γραφὴ, *ſcribo*, the very hand writing of any perſon; or the original of a treatiſe, or diſcourſe.—The word is uſed in oppoſition to a *copy*.

Autographa, or original MSS. of the New Teſtament, are the firſt copies of each book, which were written either by the apoſtles themſelves or by amanuenſes under their immediate inſpection. St. Paul uſually adopted the latter mode; but to prevent the circulation of ſpurious epiſtles, he wrote the concluding benediction with his own hand. See Rom. xvi. 22. Gal. vi. 11. and 2 Theſſ. iii. 17, 18. compared with ch. ii. 2. and 1. Cor. xvi. 21. None of theſe original MSS. are now remaining, nor could they have been preſerved, without the interpoſition of a miracle, during the ſpace of eighteen centuries. "But what benefit (ſays Michaelis, Introd to the N. T. by Marſh, vol. i. p. 247.) ſhould we derive from the poſſeſſion of theſe MSS.; what inconvenience do we ſuſtain from their loſs? No critic in claſſical literature inquires after the original of a profane author, or doubts of the authenticity of Cicero's Offices, becauſe the copy is no longer extant which Cicero wrote with his own hand. An antiquarian, or collector of ancient records, will hardly maintain, that the probability of theſe books being genuine, is inferior to the probability that a record in his poſſeſſion of the twelfth century is an authentic document of that period; for though his record is only 600 years old, and the works of Cicero are thrice as ancient, we are more expoſed to impoſition in the former inſtance, as the forgery of antiquities is often practiſed by thoſe, whoſe buſineſs and profit are to lead the curious into error. But ſuppoſing that the original MSS. of Cicero, Cæſar, Paul, and Peter, were now extant, it would be impoſſible to decide whether they were ſpurious, or whether they were actually written by the hands of theſe authors. The caſe is different with reſpect to perſons, who have lived in the two laſt centuries, whoſe hand-writing is known, with which a copy in queſtion may be compared and determined; but we have no criterion, that can be applied to MSS. ſo old as the Chriſtian æra. Yet admitting that theſe original writings were extant, that we had poſitive proofs of their authenticity, and, what is ſtill more, that the long period of ſeventeen centuries had left the colour of the letters unfaded, ſtill they would be no infallible guide in regard to the various readings."

Knittel, in his edition of a fragment of Ulphilas, p. 129. accounts for the loſs of the original MSS. of the N. T. by ſuppoſing that the original goſpels and epiſtles, as ſoon as the different communities, for whoſe uſe they were written had taken a copy, were returned to the authors; and he ſays, that it was the general practice among the Chriſtians of that age, and in ſupport of the aſſertion appeals to a paſſage in Polycarp, and another in Jerom. But his arguments, in the opinion of Michaelis, are very unſatisfactory; and he thinks it reaſonable to ſuppoſe, that the very ſame accidents, which have robbed us of other ancient documents, have deprived us likewiſe of theſe originals. From a paſſage of Ignatius, in the eighth chapter of his epiſtle to the Philadelphians, it has been inferred, that ſome of the firſt Chriſtians appealed to the original MSS. at that time extant, and held them in great veneration; for which they were ridiculed, as the ſame paſſage is thought to ſuggeſt, by the early fathers, and thoſe who had the greateſt authority in the church. But the paſſage to which appeal is made, in order to prove the exiſtence of the original MSS. in the time of Ignatius, is found to relate to a different ſubject. See AUTHENTIC.

The early loſs of the autographa of the N. T. affords juſt matter of ſurpriſe, when we reflect that the original MSS.

MSS. of Luther and other eminent men who lived at the time of the reformation, whose writings are of much leſs importance than thoſe of the apoſtles, are ſtill ſubſiſting. Various circumſtances may have contributed to this circumſtance, of which ſeveral have been alleged in Griſbach's "Hiſtoria Textus Epiſtolarum Pauli," ſect. ii. § 7, 8. Michaelis has given the following account of it. The ſeveral books of the N. T. were collected among the Chriſtians in numerous copies; "theſe were ſoon collected into a volume, and formed the edition in general uſe; and as no diſputes had then ariſen on the ſubject of various readings, they felt not the neceſſity of preſerving in a common archive the MSS. of the apoſtles. The ſituation of the Chriſtian churches was at that time extremely different from the preſent: the moſt eminent, which were thoſe of Rome, and Corinth, conſiſted of a number of ſmall ſocieties, that aſſembled ſeparately in private houſes, having no public building as a common receptacle for the whole community; and even in theſe private houſes a moderate number only could meet together, as it was their cuſtom not merely to pray and to teach, but likewiſe to celebrate their feaſts of love. The epiſtle, which they had received from St. Paul, was not the property of any one ſociety in particular, but belonged to the community at large, and that which was ſent to the Corinthians was addreſſed to the communities throughout all Achaia. Each ſociety copied the epiſtle in its turn, and beſide the general copies, many individuals probably took copies for themſelves, whence the original MS. of the apoſtle, in paſſing through ſo many hands, where perhaps not always the greateſt care was taken, muſt unavoidably have ſuffered. The Chriſtian communities in Rome and Corinth had no common archive, or public library, in which the MS. of the apoſtle might have been afterwards depoſited, for want of which, the original, as ſoon as a ſufficient number of copies had been made, was forgotten and loſt. In other cities, the number of ſingle ſocieties, among which the epiſtle was divided, was inferior indeed to that in Rome, Corinth, or Epheſus, but the ſame cauſes contributed in each to the loſs of the original epiſtle."

The ſame learned author adds, "the late or early loſs of the autographa has no influence on the grounds of our faith; for the credibility of a book, which during the life of the author has been made known to the world, depends not on the preſervation of the author's manuſcript. No reader of the preſent work will inquire after the copy, which I ſend to the printer, to determine whether the work itſelf be ſpurious or authentic; nor was it neceſſary, for determining the authenticity of the New Teſtament, to preſerve the originals; for each book, during the lives of the apoſtles, was circulated throughout the Chriſtian world, in numberleſs copies, though they were not collected during that period into a ſingle volume." As the autographa of the N. T. fell ſo early into oblivion, it ſeems reaſonable, in certain caſes, to make uſe of critical conjecture for ſettling the true reading of diſputed paſſages in the N. T., as well as in other books. On this ſubject, ſee Michaelis Introd. vol. i. §. 2. p. 253, &c.

For the purpoſe of multiplying autographs, or original copies of the ſame writing, ſeveral machines have been invented. See WRITING *Machine*.

AUTOISON, in *Geography*, a town of France, in the department of the Upper Saone, and chief place of a canton, in the diſtrict of Veſoul; five leagues ſouth of Beſançon.

AUTOL, a town of Spain, in Old Caſtile, one league from Calahorra.

AUTOLITHOTOMUS, he who cuts himſelf for the ſtone. See LITHOTOMY.

Of this we have a very extraordinary inſtance given by Reiſelius, in the Ephemerides of the Academy Naturæ Curioſorum, an. 3. obſ. 195.

AUTOLALA, in *Ancient Geography*, a town of Gætulia, in Libya Interior, which ſtood betwixt the Subus and the Salathus, the only two rivers of note, except the Gir and Niger, that watered Gætulia. Nothing is now known of this ancient city, but that it gave name to the Autololes, a powerful tribe of Gætulia Proper, that ſpread themſelves over that part of Tingitania which bordered on the coaſt of the Atlantic ocean.

AUTOLYCUS, in *Biography*, a Greek mathematician and aſtronomer of Pitane, in Æolia, flouriſhed about 320 years before Chriſt. He was preceptor in mathematics to Arceſilaus, who was alſo a diſciple of Theophraſtus, the ſucceſſor of Ariſtotle. That he was an eminent mathematician appears from two of his works that are extant; viz. a treatiſe "On the moveable Sphere," publiſhed by Daſypodius in Greek and Latin, 8vo., at Straſburg, in 1572; and in a Latin tranſlation in the "Synopſis Mathematica" of Merſennus, publiſhed in 4to., at Paris, in 1644; and alſo a treatiſe "On the riſing and ſetting of the Stars," edited with the former work by Daſypodius. Diog. Laert. Vit. Arceſil. Fabr. Bib. Græc. tom. ii. p. 89. Montucla Hiſt. Mathem. t. i. p. 192.

AUTOMATON, or AUTOMATUM, compounded of αυτος, *ipſe*, and μαιμαω, *I am excited* or *ready*, whence αυτοματος, *ſpontaneous*; a ſelf-moving engine; or a machine which has the principle of motion within itſelf. Such were Archytas's flying dove, mentioned by Aulus Gellius, Noct. At. lib. x. c. 12. (ſee AEROSTATION); and Regiomontanus's wooden eagle, which, as hiſtorians relate, flew forth from the city of Nuremberg, met the emperor Maximilian on his arrival, June 7, 1470, ſaluted him, and returned; as alſo his iron fly, which, at a feaſt, flew out of his hands and taking a round, returned thither again; and alſo Dr. Hooke's flying chariot, capable of ſupporting itſelf in the air. Hakew. Apol. c. x. ſect. 1. None of the contemporary writers, though they often mention Regiomontanus, take any notice of thoſe pieces of mechaniſm that have been aſcribed to him; and it is probable, ſays Beckmann (Hiſt. Invent. vol. iii. p. 325.) that the whole tale originated from Peter Ramus (Schol. Mathem. l. ii. p. 65.), who never was at Nuremberg till the year 1571. Charles V., it is ſaid, after his abdication, amuſed himſelf during the latter period of his life, with automata of various kinds.

Among automata are alſo reckoned all mechanical engines which go by ſprings, weights, &c. included within them: ſuch are clocks, watches, &c. Vide Bapt. Port. Mag. Nat. c. 19. Scalig. Subtil. 326.

When clocks were brought to perfection, ſome artiſts added to them figures, which, at the time of ſtriking, performed certain movements; and as they ſucceeded in theſe, ſome of them attempted to conſtruct ſingle figures, detached from clocks, which either moved certain limbs, or advanced forward and ran. In the middle of the ſixteenth century, when Hans Bullman, of Nuremberg, conſtructed figures of men and women, which moved backwards and forwards by clockwork, beat a drum, and played on the lute, according to muſical time, they excited univerſal aſtoniſhment. The moſt ancient automata, of which we have any record, are the tripods conſtructed by Vulcan (ſee Iliad, xviii. 373. Philoſtrat. Oper. ed. Olearii, p. 117 and 240.), which being furniſhed with wheels, advanced forwards to be uſed, and

again

again returned to their places. Theſe tripods, which are mentioned alſo by Ariſtotle (Polit. i. 3.) were probably only a kind of ſmall tables, or dumb waiters, with wheels ſo contrived that they could be put in motion, and driven to a diſtance, on the ſmalleſt impulſe.

Automata that repreſent human figures are called Androides. (See ANDROIDES, under which article an account has been given of ſeveral figures of this kind.) From a letter addreſſed by Thomas Collinſon, eſq. to Dr. Hutton, we learn, that the ſecret of the chefs-playing figure exhibited in various places by M. Kempelen (baron Kempell), was diſcovered by a gentleman of rank and talents named Joſeph Freidrick Freyhere, who publiſhed, at Dreſden, in 1789, a treatiſe explaining its principles. A well-taught boy, very thin and ſmall of his age, ſo that he might be concealed in a drawer almoſt immediately under the chefs-board, agitated the whole machine. M. Droz of La Chaux de Fonds, in the province of Neufchatel, has alſo executed ſome very curious pieces of mechaniſm. One of theſe was a clock, preſented to the king of Spain, to which pertained, among other curious contrivances, a ſheep that imitated the bleating of this animal, and a dog, watching a baſket of fruit, that barked and ſnarled when any one offered to take it away, and a variety of moving human figures. Mr. Collinſon informs us, that when he was at Geneva, Droz, the ſon of the former, ſhewed him an oval gold ſnuff-box, about 4½ inches long, 3 broad, and 1½ thick, which was double, with an horizontal partition; one of the partitions contained ſnuff, and in the other, upon opening the lid, there ſprung up a very ſmall bird, of green enamelled gold, perching on a gold ſtand. This minute curioſity, being only three quarters of an inch from the beak to the extremity of the tail, wagged its tail, ſhook its wings, opened its bill of white enamelled gold, and poured forth ſuch a clear melodious ſong as would have filled a room of twenty or thirty feet ſquare with its harmony. Another automaton of Droz's was the figure of a man, about the natural ſize, which held in its hand a metal ſtyle; and by touching a ſpring that releaſed the internal clock-work from its ſtop, the figure began to draw on a card of Dutch vellum laid under the ſtyle. Having finiſhed its drawings on the firſt card, the figure reſted. It then proceeded to draw different ſubjects on five or ſix other cards, which number limited its delineating powers. The firſt card exhibited elegant portraits and likeneſſes of the king and queen facing each other; and the figure was obſerved with the moſt ſurpriſing preciſion to lift its pencil, in the tranſition from one point of the draft to the other; as, e. g. from the forehead to the eye, noſe, and chin, and from the waving curls of the hair to the ear, &c. without making the leaſt ſlur.

AUTOMEDON, in *Entomology*, a ſpecies of PAPILIO (*Heliconius*), with broad angulated wings of a brown colour above, and livid beneath; an ocellar ſpot in the anal angle. Fabricius, &c. Native place unknown.

AUTONINE, BERNARD, in *Biography*, a French lawyer and advocate to the parliament of Bourdeaux, was born at Agenois, in 1587, and died in 1666. The principal of the law treatiſes which he wrote are in French, "A Compariſon of the French with the Roman Law," publiſhed in 2 vols. fol. in 1644; and "A Commentary upon the Provincial Law, or 'La Coutume,' of Bourdeaux," the beſt edition of which is that of Dupin, 1728, fol. with notes. He alſo wrote in Latin "Cenſura Gallica in Jus Civile Romanum," Paris, 8vo. 1615; and he publiſhed at Paris, in 1607, in two volumes, 8vo., an edition of Juvenal and Perſius, with ample notes. He has been deemed an induſtrious rather than a judicious author. Nouv. Dict. Hiſt.

AUTONNE, in *Geography*, a river of France, which runs into the Oiſe near Verberie.

AUTONOMI, in *Ancient Geography*, ſo called becauſe they were their own law-givers, a people who inhabited the moſt rocky and barren parts of Thrace, ſeparated from Maſia by mount Hæmus. In their engagement with Alexander, they behaved with extraordinary valour; but their whole army was cut in pieces, and their baggage taken, together with their wives and children. After this defeat, they ſubmitted to the conqueror, who, in order to prevent their revolt during his abſence, took with him into Aſia all the chief men of their nation. They afterwards ſerved under Perſes againſt the Romans; but were allowed to live according to their own laws till the reign of Veſpaſian, who made their country part of the province of Thrace. Thucyd. l. ii. Arrian, l. i.

AUTONOMIA, from *αυτος*, *ſelf*, and *νομος*, *law*, a power of living or being governed by our own laws and magiſtrates. The liberty of the cities which lived under the faith and protection of the Romans, conſiſted in their autonomia, i. e. they were allowed to make their own laws, and elect their own magiſtrates, by whom juſtice was to be adminiſtered, and not by Roman preſidents or judges, as was done in other places which were not indulged the autonomia.

AUTOPRACTI, from *αυτος*, and *πρασσω*, *I exact*, in the *Civil Law*; thoſe indulged this privilege, that they ſhould not be ſummoned or compelled to pay taxes or tributes by the collectors, but ſhould be left to their own free will. Du-Cange.

Of this number were men of diſtinguiſhed dignity, and thoſe eminent for their probity and honour.

AUTOPSY, compounded of *αυτος*, *one's ſelf*, and *οψις*, *ſight*, ocular inſpection, or the ſeeing a thing with one's own eyes.

AUTOPYROS, from *αυτος*, and *πυρος*, *wheat*, in the *Ancient Diet*, an epithet given to a ſpecies of bread, wherein the whole ſubſtance of the wheat was retained, without retrenching any part of the bran.

Galen deſcribes it otherwiſe, viz. as bread where only the coarſer bran was taken out.—And thus, it was a medium between the fineſt bread, called *ſimilagineus*, and the coarſeſt, called *furfuraceus*.

This was alſo called *autopyrites*, and *ſyncomiſtus*.

AUTOUR, in *Ornithology*, the name under which Buffon deſcribes the gos-hawk, or *falco palumbarius* of Linnæus.

AUTOUR, in *Natural Hiſtory*, a ſort of bark which reſembles cinnamon, but is paler and thicker; it is of the colour of a broken nutmeg, and full of ſpangles. It comes from the Levant, and is an ingredient in the carmine dye.

AUTREAU, JAMES D', in *Biography*, a painter and a poet, was born at Paris, in 1656; but being of a ſingular and miſanthropic diſpoſition, ſecluded himſelf from the world, lived in obſcurity, and died in an hoſpital. As a painter, though not eminent, he produced ſome pieces that were eſteemed. With a view of doing honour to the character of cardinal Fleury, he adopted the device of exhibiting Diogenes with a lanthorn ſearching for an honeſt man, and pointing him out in a portrait of the cardinal. Having nearly attained the age of ſixty, he began to write for the ſtage; and the ſpecies of compoſition which he firſt adopted, notwithſtanding his contrary diſpoſition and habits, was light and humourous comedy. He wrote both for the Italian and French theatres. His "Port a l'Anglois" was

his firſt piece, and another of his works was the "Amans Ignorans." He alſo compoſed ſome tragedies and ſerious pieces for the French theatre; and wrote Lyric compoſitions for the opera. The plots of his pieces are ſimple and inartificial; but the dialogue is eaſy and natural; and ſome of his ſcenes contain genuine comedy. Notwithſtanding all his exertions, Autreau died in extreme poverty, at the hoſpital of the Incurables in Paris, in 1745. His works were collected and publiſhed, with a preface, by Feſſelier, in four volumes, 12mo. in 1749. Nouv. Dict. Hiſtor.

AUTRECOURT, in *Geography*, a town of France, in the department of the Meuſe, and chief place of a canton in the diſtrict of Clermont; four miles S. S. E. of Clermont, and eleven ſouth-weſt of Verdun.

AUTREY, a town of France, in the department of the Upper Saone, and chief place of a canton in the diſtrict of Champlitte; one league north-weſt of Gray.

AUTRICOURT, a town of France, in the department of the Coté d'Or, and chief place of a canton in the diſtrict of Chatillon ſur Seine, eight miles north of Chatillon.

AUTRICUM, in *Ancient Geography*, now *Chartres*, a town of Gaul, the capital of the Carnutes, and called *Civitas Carnotum*, and *Carnotena*. It was ſeated on an eminence, and ſeems to have derived its firſt name from the river *Autura*. It was celebrated in Gaul, as the principal reſidence of the Druids, who held their aſſemblies among the woods in its vicinity. The name of Carnotum was probably derived from the Celtic *Kar* or *Ker*, denoting a *city*, and expreſſing its peculiar excellence.

AUTRIGANES, a people of Hiſpania Citerior, in Cantabria, who dwelt near the foot of the Pyrenées, towards the ſouth-weſt. The only town they had on the coaſt was *Flaviobriga*.

AUTRUCHE, in *Ornithology*. See STRUTHIO CAMELUS.

AUTRY, in *Geography*, a town of France, in the department of the Ardennes, and chief place of a canton in the diſtrict of Grandpré; three leagues weſt of Varennes.

AUTUMN, the third ſeaſon of the year; being that in which the harveſt and the fruits of the ſummer are gathered. It begins on the day when the ſun's meridian diſtance from the zenith, being on the decreaſe, is a mean between the greateſt and the leaſt; which in theſe countries is ſuppoſed to happen when the ſun enters Libra, or about the twenty-ſecond day of September. Its end coincides with the beginning of winter.

Divers nations have computed the year by autumns; the Engliſh Saxons, by winters.—Tacitus tells us, the ancient Germans were acquainted with all the other ſeaſons of the year, but had no notion of autumn.

Autumn has always been reputed an unhealthy ſeaſon. Tertullian calls it "tentator valetudinum;" and the ſatiriſt ſpeaks of it in the ſame light:

"Autumnus Libitinæ quæſtus acerbæ."

Autumn is commonly repreſented by painters under the figure of a female crowned with vine branches, and bunches of grapes; naked in that part which reſpects ſummer, and clothed in that which correſponds to winter. Its garment is covered with flowers, like that of Bacchus.

AUTUMNAL, ſomething peculiar to autumn. Thus,

AUTUMNAL *Point*, is one of the equinoctial points; being that from which the ſun begins to deſcend towards the ſouth pole.

AUTUMNAL *Equinox*, is the time when the ſun enters the autumnal point. See EQUINOX.

AUTUMNAL *Flowers*. See FLOWER.

AUTUMNAL *Plants*, in *Gardening*, all ſuch as attain perfection in autumn, either in their growth, or in their flowering, &c.

AUTUMNAL *Seaſon*, that period, which, in regard to the numerous operations to be performed in it, is commonly conſidered to be, from about the beginning or middle of Auguſt to the latter end of November; and in which the different works of ſowing, planting, and propagation, &c. are moſt ſucceſsfully accompliſhed; as, for inſtance, the putting in various ſorts of eſculent plants to ſtand the winter for the enſuing ſpring and ſummer, ſuch as cabbages, cauliflowers, carrots, lettuces, ſpinach, onions, &c. in the more early part; and in the latter, beans, peas, coleworts, and early cabbage plants; likewiſe cauliflowers, ſome to remain under hand and bell glaſſes, others in frames, to ſtand till ſpring; alſo lettuces on warm borders, and in frames, to ſtand the winter; and celery in ſhallow trenches, for ſpring uſe; and the making and ſpawning of muſhroom-beds, for winter and ſpring. Different ſorts of fibrous-rooted flower-plants are alſo increaſed at this ſeaſon, by dividing or parting their roots, particularly in the months of September, October, and November, when the flower-ſtems decay; the ſlipped or divided parts moſtly flowering the following year: and from the middle of September to the middle or end of November, is the time for tranſplanting from one place to another different kinds of hardy fibrous-rooted perennials, as directed under their proper genera. Moſt ſorts of bulbous flower-roots, that were taken up in ſummer, are now planted in order to exhibit an early ſpring and ſummer bloom, in the following year. The ſeeds of many ſorts of flowers are likewiſe at this time to be ſown, which do not grow ſo freely when ſown at other ſeaſons, as is ſhown under their proper heads. In the latter part of this ſeaſon it is neceſſary to plant cuttings, and make layers, for the propagation of various trees and ſhrubs of the hardy kind. The ſeeds of many ſorts of hardy trees and ſhrubs may alſo be ſown. Beſides theſe, many other parts of garden culture are particularly neceſſary at this ſeaſon.

AUTUMNAL *Signs*, are thoſe through which the ſun paſſes during the ſeaſon of autumn, Libra, Scorpio, and Sagittarius.

AUTUMNALIS, in *Ornithology*, a ſpecies of PSITTACUS, called by Briſſ. pſittacus americanus; crick à tête bleue by Buff.; leſſer green parrot by Edwards, Av. and autumnal parrot by Latham. It is diſtinguiſhed by being of a green colour, with the front and ſpot on the quill feathers ſcarlet; crown and primary quill feathers blue. Gmelin.

Of this kind there are two diſtinct varieties; one with the front and chin blue, and the other with the head varied with red and white. The firſt is var. (β) pſittacus fronte gulaque cæruleis of Gmel.; crick à tête bleue of Buff.; blue-faced green parrot of Edwards; and blue-headed creature of Baner. Gujan. The latter is called Cocho in Fernand. Hiſt. Nov. Hiſp. Inhabits Guiana.

This ſpecies is about the ſize of a pigeon; region of the eyes blue; primary wing-coverts blue, and red at the baſe; tail feathers green above, and tipped with yellowiſh, outer one blue at the exterior edge: beneath yellowiſh, reddiſh at the baſe, with a green ſpot in the middle.

AUTUMNALIS, a ſpecies of ANAS or duck, that inhabits South America. It is greyiſh; wings, tail, and belly black; ſpot on the wing tawny and white. Jacquin Beytr. This is the red-billed whiſtling duck of Edwards; anas fiſtularis

laris americana of Briſſ.; and fiffleur à bec rouge et narines jaunes of Buffon.

This bird is repreſented to be of a very quarrelſome diſpoſition, but may be tamed; ſits on trees, and meaſures in length twenty-one inches. The bill is red, black at the tip; crown, back, and ſcapulars cheſnut; breaſt yelloviſh aſh; legs yellow.

AUTUMNALIS, a ſpecies of FRINGILLA, called by Latham the autumnal finch. It inhabits Surinam; is of a greeniſh colour, with a ferruginous cap, and vent teſtaceous. Linnæus. The tail is even at the end.

AUTUMNUS, in *Entomology*, the name given by Ammiral to the moth, or phalæna, called by Gmelin *P. fagana*; which ſee.

AUTUN, in *Geography*, an ancient city of France, and chief place of a diſtrict in the department of the Saone and Loire; and, before the revolution, the capital of a diſtrict called *Autunois*, with a biſhop's ſee. It is ſituated near the river Arroux, at the foot of three mountains, in which are three ſprings, that ſupply the city with water. The city itſelf is ſmall, being about ¾ of a mile in length, and about the ſame breadth; it has now few good buildings, but its ruins indicate its former magnificence; and thoſe of its walls in particular, ſeem, by the firm union of the ſtones that compoſe them, as if they had been cut out of the ſolid rock. Here are the remains of three ancient temples, one dedicated to Janus, and another to Diana; and alſo of a theatre, and a pyramid, the laſt probably having been a tomb. It has alſo two beautiful antique gates; the field in which it ſtands is called "the field of urns," becauſe ſeveral urns have been dug in it. Autun was made a Roman colony by Auguſtus, and after him called "Auguſtodunum;" and as early as the reign of Claudius, it ventured of itſelf, and without aſſiſtance, to declare againſt the legions of Gaul. After a ſiege of ſeven months, they ſtormed and plundered this unfortunate city, already waſted by famine; nor was it reſtored till the reign of Dioclefian. The country from Chalons to Autun is very rich in vineyards and cornfields, and preſents, by its lofty hills and ſwelling outline, a picturesque ſcene. The approach to it is by a road which winds over hills, that is covered with an underwood of broom, and crowned with a foreſt of birch and fir-trees. The cathedral is a handſome building. N. lat. 46° 56′ 48″. E. long. 4° 17′ 44″.

AUTURA, in *Ancient Geography*, a river of Gallia Celtica, now the *Eure*, which falls into the Seine on the ſouth ſide.

AUTZ, in *Geography*, a town of the duchy of Courland, thirty-ſix miles S. S. E. of Goldingen.

AUVE, a town of France, in the department of the Marne, and chief place of a canton in the diſtrict of St. Menehould, thirteen miles E. N. E. of Chalons.

AUVERGNE, a province of France, before the revolution, but now forming the two departments of Puy de Dôme, and Cantal, bounded on the eaſt by Forez, on the north by Bourbonnois, on the weſt by Limoſin, Quercy, and La Manche, and on the ſouth by Rouergue, and the Cevennes. Its extent from ſouth to north is about forty French leagues, and from weſt to eaſt thirty. It is divided into Upper and Lower Auvergne. The former is cold and mountainous, and yet has excellent paſtures, and ſupplies many large cattle; the latter, to which belongs the valley of Limagne, and by which appellation it has ſometimes been diſtinguiſhed, is a fertile and pleaſant country, abounding in wine, grain, fruit, and hemp. Auvergne ſupplies Lyons and Paris with fat cattle; a large quantity of cheeſe is made in this province; and it has ſeveral manufactures. It has mines of ſilver, iron, lead, and coals. Its principal rivers are the Allier, the Dordogne, and the Alagnon; which ſee. The capital of the whole province is Clermont. The baſaltic mountains of this ancient province are famous; and have been aſcribed by ſome eminent naturaliſts to volcanoes; but as they conſiſt chiefly of baſaltic columns and elevations, others, among whom may be reckoned the beſt judges, allege that they have no claim to a volcanic origin. Thoſe of Auvergne are too extenſive to have been produced by a ſingle volcano, and it would be too bold a conjecture to attribute them to a chain of volcanoes. "The northern part of the chain is ſtyled the Puy de Dôme, while the ſouthern is called that of Cantal. The Monts d'Or form the centre, and are the higheſt mountains in France. The chief elevation is that of the Puy de Sanſi, which riſes about 6,300 feet above the level of the ſea, while the Puy de Dôme is about 5000, and the Plomb du Cantal, the higheſt of that part, is about 6,200 feet. Near the Puy de Sanſi is l'Ango, that gigantic mountain, and Ecorchade, a ſhattered and wrecked elevation. The Plomb du Cantal is alſo accompanied by bold rivals, as the Puy de Griou, le Col-de-Cabre, le Puy Mari, and the Violent. This enormous aſſemblage of rocks covers an extent of about 120 miles, and according to the French authors, is chiefly baſaltic. The Puy de Sanſi is capped with almoſt perpetual ſnow, followed in the deſcent by naked rocks and ancient pines; from its ſide iſſues, from two ſources, the river Dordogne, and many picturesque caſcades devolve amidſt baſaltic columns. On the 23d of June, 1727, Pradines, a village on the ſlope of one of theſe mountains, was totally overwhelmed by its fall; the whole mountain with its baſaltic columns rolling into the valley. The inhabitants were fortunately engaged in the celebration of Midſummer eve, round a bonfire at ſome diſtance. Theſe mountains are in winter expoſed to dreadful ſnowy hurricanes, called *Acirs*, which in a few hours obliterate the ravines, and even the precipices, and deſcending to the paths and ſtreets, confine the inhabitants to their dwellings, till a communication can be opened with their neighbours, ſometimes in the form of an arch under the vaſt maſs of ſnow. Wretched the traveller who is thus overtaken: his path diſappears, the precipice cannot be diſtinguiſhed from the level; if he ſtand he is chilled, and buried if he proceed: his eye-ſight fails amidſt the ſnowy darkneſs; his reſpiration is impeded; his head becomes giddy; he falls and periſhes. In ſummer, thunder ſtorms are frequent and terrible, and accompanied with torrents of large hail, which deſtroy the fruits and flocks, which for ſix months paſture on the mountains, guarded by ſhepherds, who have temporary cabins of turf and reed, ſtyled *burons*." Pinkerton's Mod. Geog. vol. i. p. 274.

Auvergne, in the revolutions of France, formerly maintained a juſt pre-eminence among the independent ſtates and cities of Gaul. The brave and numerous inhabitants diſplayed a ſingular trophy, which was the ſword of Cæſar himſelf, which he had loſt when he was repulſed before the walls of Gergovia. As the common offſpring of Troy, they maintained a paternal alliance with the Romans; and if each province had imitated the courage and loyalty of Auvergne, the fall of the weſtern empire might have been prevented or delayed. They firmly maintained the fidelity which they had reluctantly ſworn to the Viſigoths; but when their braveſt nobles had fallen in the battle of Poictiers, they accepted, without reſiſtance, a victorious and catholic ſovereign. This eaſy and valuable conqueſt was atchieved, and poſſeſſed by Theodoric, the

eldeſt ſon of Clovis. At length, however, Childebert, the king of Paris was tempted by the neighbourhood and beauty of Auvergne; and on the falſe report that their lawful ſovereign was ſlain in Germany, the city and dioceſe were betrayed by the grandſon of Sidonius Apollinaris. Childebert enjoyed this clandeſtine victory. Theodoric having promiſed to the Franks of Auſtraſia the poſſeſſion of this rich and productive country, forfeited the allegiance of the inhabitants, and devoted them to deſtruction. His troops, reinforced by the fierceſt barbarians of Germany, ſpread deſolation over the fruitful face of Auvergne, and two places only, the ſtrong caſtle of Meroliac, and the holy ſhrine of St. Julian at Brivas or Brioude, were ſaved or redeemed from their licentious fury. Before the Auſtraſian army retreated from Auvergne, Theodoric exacted ſome pledges of the future loyalty of a people, whoſe juſt hatred could only be reſtrained by their fear. A ſelect band of noble youths, the ſons of the principal ſenators, were delivered to the conqueror, as the hoſtages of the faith of Childebert and of their countrymen; and, on the firſt rumour of war, or conſpiracy, theſe guiltleſs youths were reduced to a ſtate of ſervitude; and one of them only, whoſe name was Attalus, eſcaped by a ſingular adventure. See Gibbon's Hiſt. vol. vi. p. 362—369.

AUVERGNIE, a town of Swiſſerland, one league ſouth of Neufchatel.

AUVERNAS, a very deep-coloured heady wine, made of black raiſins ſo called, which comes from Orleans. It is not fit to drink before it is above a year old; but if kept two or three years, it becomes excellent.

AUVIGNY, N. Castres d', in *Biography*, a French hiſtorian, was born at Hainault in 1712, and in his youth reſided with La Fontaine. But engaging in the military profeſſion, he entered into a company of life-guards, and was killed in the battle of Dettingen, in 1743. In the province of literature, he diſtinguiſhed himſelf by ſeveral works, the principal of which was "The Lives of Illuſtrious Men of France, from the commencement of the Monarchy to the preſent time." Of this work, 8 volumes in 12mo appeared in the author's life-time; two poſthumous volumes were publiſhed by his brother; and the publication has been ſince continued by the abbé Pereau and M. Turpin. The biographical ſketches of Auvigny are written with animation and elegance, but they approach ſo much to fiction that they cannot be implicitly relied on as hiſtorical truth. An abridged hiſtory, written by Auvigny, and publiſhed in two volumes 12mo. is intitled "An Abridgment of the Hiſtory of France, and of the Roman Hiſtory, in queſtion and anſwer." In 1735, he publiſhed, in five volumes 12mo. "An Hiſtory of the City of Paris;" but part of the fourth and the whole of the fifth, were written by M. de la Barre. The principal of Auvigny's works of imagination is "Memoirs of Madame de Barneveldt." Nouv. Dict. Hiſt.

AUVILLARD, in *Geography*, a town of France, in the department of the Lot and Garonne, and chief place of a canton, in the diſtrict of Valence; 13 miles ſouth-eaſt of Agen, and two ſouth of Valence. N. lat. 44° 3'. E. long. 0° 48'.

AUVILLERS-LES-FORGES, a town of France, in the department of the Ardennes, and chief place of a canton in the diſtrict of Rocroi, ten miles W. N. W. of Mezieres.

AVUS, in *Ancient Geography*, a river of Spain, in the territory of the Callaici, whoſe courſe lay from eaſt to weſt, and which diſcharged itſelf into the ſea towards the north.

AUW, in *Geography*, a town of Germany, in the archduchy of Auſtria, ſeated on the Danube; ten miles W. S. W. of Grein.

AUWAWA, in *Ichthyology*. See Balistes Kleinii.

AUX, in *Aſtronomy*. See Auges.

Some uſe *aux* to denote the arch of the ecliptic, intercepted between the firſt point of Aries, and the point wherein the ſun, or a planet, is at its greateſt diſtance from the earth. Wolf. Lex. Math. p. 222.

AUXACIA, in *Ancient Geography*, a town of Aſia, in Scythia, beyond mount Imaus, and to the weſt of Iſſedon Scythica.

AUXENTIUS, in *Biography*, an Arian divine, was a native of Cappadocia, and flouriſhed in the fourth century. In the conteſt between the Arians and Catholics, he was advanced by the emperor Conſtantius to the ſee of Milan. By Hilary, biſhop of Poictiers, he was accuſed to the emperor Valentinian, as an enemy of Chriſt, and a blaſphemer; and in order to ſilence his enemies, he made a declaration of his faith, with which the emperor was ſatisfied. But the Catholics proceeded againſt him, and a council, which was held at Rome by pope Damaſus, in 368, excommunicated him. He was alſo condemned by Athanaſius, and the prelates of Gaul at the ſame time. However, he retained the ſee of Milan to the time of his death in 374, and was ſucceeded by Ambroſe. Cave, H. L. tom. i. p. 214.

AUXERRE, in *Geography*, a city of France, and capital of the department of the Yonne, ſeated advantageouſly for trade, on the ſide of a hill, near the Yonne, which waſhes its walls. Before the revolution, it was the ſee of a biſhop, and capital of a country called Auxerrois. The epiſcopal palace was one of the moſt beautiful in France. N. lat. 47° 47' 57". E. long. 3° 34' 6".

AUXERROIS, a name given before the revolution to a country of France, in the northern part of Burgundy; bounded on the eaſt and north by Champagne, north-weſt by Nivernois, and on the ſouth by the reſt of Burgundy, about nine leagues long and five broad. Its capital was Auxerre.

AUXESIS, in *Mythology*, a goddeſs worſhipped by the inhabitants of Egina, and mentioned by Herodotus and Pauſanias.

Auxesis, αυξησις, *increaſe*, in *Rhetoric*, a figure whereby any thing is magnified too much. See Amplification, and Increment.

AUXILIARY, any thing that is helping or aſſiſting to another. For an account of the auxiliary troops of the Romans, ſee Alliance.

Auxiliary *Verbs*, in *Grammar*, are ſuch as help to aſcertain or limit the ſenſe of others; that is, are prefixed to them to form or denote their moods or tenſes.

Such, in Engliſh, are *have*, *am*, or *be*; in French, *être* and *avoir*; in Italian, *ho*, and *ſono*, &c.—The auxiliary *am* ſupplies the want of Passives in our language.

All the modern languages we know of make uſe of auxiliary verbs. The reaſon is, that the verbs thereof do not change their terminations or endings, as thoſe of the Latin and Greek, to denote the different tenſes or times of being, doing, or ſuffering; nor the different moods or manners of their ſuffering, &c.: ſo that, to ſupply this defect, recourſe is had to different auxiliary verbs.

Beſides the perfect auxiliary verbs, we have ſeveral defective ones; *do*, *will*, *ſhall*, *may*, *can*, and *have*; which, by changing the terminations, ſave the neceſſity of changing thoſe of the verbs to which they are added. Thus, inſtead

of *ego uro, tu uris, ille urit, &c.* we ſay, I *do* burn, thou *doſt* burn, he *doth* burn, &c.

The verbs *have, be, will*, and *do*, when they are unconnected with a principal verb, expreſſed or underſtood, are not auxiliaries, but principal verbs; as, we *have* enough; I *am* grateful; he *wills* it to be ſo; they *do* as they pleaſe; and in this view, they alſo have their auxiliaries; as, I *ſhall have* enough; I *will be* grateful, &c. Murray's Eng. Gram. p. 76.

AUXILIUM, in *Law*. See AID.

AUXILIUM *curiæ*, ſignifies an order of court, for the ſummoning of one party at the ſuit of another.

AUXILIUM *ad filium militem faciendum, vel filiam maritandam*, was a writ directed to the ſheriff of every county, where the king or other lord had any tenants, to levy of them reaſonable aid, towards the knighting of his eldeſt ſon, or the marriage of his eldeſt daughter.

AUXIMA, in *Ancient Geography*, a town of Spain, mentioned by Florus.

AUXIMIS, a town of Africa, in Mauritania Cæſarienſis. Ptolemy.

AUXIMUM, or AUXUMUM, OSIMO, a town of Italy, in the Picenum, ſouth of Ancona. It was a Roman colony.

AUXO, in *Mythology*, the name of one of two graces worſhipped by the Athenians. See HEGEMONE.

AUXORS, in *Geography*, a name given before the late diviſion, to a territory of France, of which Semuren-Auxois was the capital.

AUXON, a town of France, in the department of the Aube, and chief of a canton in the diſtrict of Ervy; 4½ leagues ſouth of Troyes, and 1¼ north of Ervy.

AUXONNE, a town of France, in the department of the Coté d'Or, and chief place of a canton, and ſeat of a tribunal, in the diſtrict of St. Jean de Loſne, ſeated in a plain near the eaſt ſide of the Saone. It is ſurrounded by a double wall built in the 17th century, and has a bridge of 23 arches over the Soane, ſerving for the paſſage of the waters when the river overflows; and at the end of the bridge is a cauſeway of 2250 paces in length; 5½ leagues E. S. E. of Dijon. N. lat. 47° 11′ 24″. E. long. 5° 23′ 35″.

AUXY, a town of France, in the department of the ſtraits of Calais, and chief place of a canton, in the diſtrict of Montreuil; three leagues S. S. E. of Heſdin.

AUXY, in the *French Manufactures*, a name given to that ſort of wool which is ſpun in the neighbourhood of Abbeville, by thoſe workmen who are called *houpiers*. It is a very fine and beautiful wool, which is commonly uſed to make the fineſt ſtockings.

AUZAGUREL, or AUSSAGUREL, in *Geography*, a town of Africa, in the kingdom of Adel, reckoned by ſome the capital, and ſituated on an eminence near the Hawaſh. See ADEL.

AUZANCE, a town of France, in the department of the Creuſe, and chief place of a canton, in the diſtrict of Evaux, ſeated on a hill, ſurrounded with ponds; 25 miles E. S. E. of Gueret, and nine ſouth of Evaux..

AUZARA, OSARA, in *Ancient Geography*, a town of Aſia, in Syria; or according to Ptolemy, in Arabia Deſerta, S. S. E. of Circeſium; ſituated on the weſtern bank of the Euphrates.

AUZATA, AUZA, or AUZIA, a town of Libya, built according to Joſephus, in his "Antiquities," by Ithobaal, king of the Tyrians; ſituated, according to Ptolemy, in the interior of Mauritania Cæſarienſis, to the eaſt of a lake from which flowed the river Chinalaph. It was the capital of the Auſes, who were ſituated to the weſt of the river Triton. Tacitus informs us, that it was built in a ſmall plain, ſurrounded on all ſides with barren foreſts of immenſe extent. The ruins of this city were called by the neighbouring Arabs "Sur Guſlan," or "the walls of the Antelopes;" a great part of which, flanked at proper diſtances with little ſquare towers, is ſtill remaining.

AUZILS, in *Geography*, a town of France, in the department of the Aveiron, and chief place of a canton in the diſtrict of Albin; 15 miles north-weſt of Rhodez.

AUZON, a town of France, in the department of the Upper Loire, and chief place of a canton, in the diſtrict of Brioude, on the Allier, ſix miles north of Brioude.

AUZOUT, ADRIAN, in *Biography*, a French mathematician of the 17th century, and one of the firſt members of the Academy of Sciences at Paris, was born at Rouen, and died in 1693. Some have aſcribed to him the honour of having invented the Micrometer; but he is more juſtly entitled to the praiſe of having contributed to the improvement of it, in purſuance of the ideas ſuggeſted by M. Huygens, and the marquis of Malvaſia. (See MICROMETER.) Auzout's treatiſe on this ſubject was publiſhed in 1667, and may be found in the Memoirs of the Academy for 1693, tom. vii. Auzout was alſo concerned with M. Picard in the important diſcovery of the method of applying the teleſcope to the quadrant, which has been highly uſeful to aſtronomers. It has been ſaid, particularly by M. de la Hire, that M. Auzout had a principal part in this diſcovery; but from the deſcription given of it by M. Picard, in his "Figure de la Terre," the reader cannot heſitate in pronouncing M. Picard himſelf to have been the original and ſole author. It appears, however, from ſeveral fragments of letters in a correſpondence between our ingenious but unfortunate countryman Mr. Gaſcoigne, who was killed in the battle of Marſton-Moor, and Meſſrs. Horrox and Crabtree, and which are recorded by Derham, in the Phil. Tranſ. for 1723 (vol. 48. p. 190.), that the method of conſtructing a micrometer, and alſo of applying teleſcopic ſights to quadrants, was known to him before the time of the civil wars. But as theſe two important diſcoveries were not publiſhed even in England, and were not likely to be made known on the continent at this early period; it is not improbable that Auzout and Picard might alſo have a juſt claim to the honour of being original, though not the firſt inventors. The honour of having diſcovered the method of applying the teleſcope to aſtronomical inſtruments in the year 1665, was alſo claimed by Dr. Hooke. M. Auzout publiſhed "An Ephemeris of the Comet of 1665;" "A Letter to the Abbé Charles on the Obſervations of Campani," in 1665; his "Treatiſe on the Micrometer," in 1667; and ſome "Remarks on the Machine of Hooke." Theſe three laſt pieces were contained in the 6th volume of the Memoirs of the Academy. Montucla, Hiſt. Mathem. t. ii. p. 569—572.

AW, in *Geography*, a town of Germany, in the county of Bregentz, 25 miles S. E. of Bregentz.

AWA, a town of Japan, in a province of the ſame name.—Awa, a town of Perſia, in the province of Irak; 28 leagues ſouth of Caſbin.

AWAIT, in our old *Statutes*, is uſed to ſignify what we now call *waylaying*, or lying in *wait*, to execute ſome miſchief. In ſtat. 13 R. II. c. 1. it is ordained, that no charter of pardon ſhall be allowed before any juſtice, for the death of any man ſlain by *await*, or malice prepenſed, &c.

AWARD, in *Law*, the judgment of ſome perſon who is

is neither aſſigned by law, nor appointed by the judge, for ending a matter in controverſy; but is choſen by the parties themſelves that are at variance. See ARBITRATION.

AWATCHA, in *Ornithology*, a ſpecies of MOTACILLA, that inhabits Kamtſchatka. It is of a brown colour; chin and breaſt white, ſpotted with black; middle of the belly and legs white; primary quill-feathers bordered with white; tail-feathers white at the baſe. Arct. Zool.—Gmelin.

AWATSKA, in *Geography*. See AVATSCHA.

AWCHAR, a town of Perſia, in the province of Adirbeitzan, 50 leagues S. W. of Tauris.

AWE, a river of Scotland, in the Highlands. See LOCH-AWE.

A-WEIGH, in *Sea-Language*, the ſame as *A-trip*, when applied to the anchor.

AWENYDHION, in *Britiſh Antiquity*, a name that was given to certain perſons in Wales, and derived from *Awen*, was, of courſe, expreſſive of poetical raptures. Theſe perſons, when conſulted about any thing doubtful, appeared to be inflamed with a high degree of enthuſiaſm, and even to be poſſeſſed by an inviſible ſpirit. They were neither haſty, nor very direct and explicit in their anſwers, or in the ſolution of the difficulties that were propoſed to them; but in the courſe of a long and wild circumlocution, the required anſwer or ſolution would be obtained by means of ſome turn or digreſſion in the ſpeech, which was thought to imply or expreſs it. Theſe perſons were at length roufed from their ſeeming extacy as from a deep ſleep, and they were compelled as it were, by violence, to return to their natural condition. When perſons of this deſcription recovered their reaſon, after an apparent and temporary alienation of mind, they did not recollect any of thoſe circumſtances that had occurred, or of the words which they had uttered during their extacy. If they were, therefore, again conſulted about the ſame ſubject, they would expreſs themſelves in very different words. The gift, which they poſſeſſed, was conferred upon them, as they imagined, in their ſleep, and the mode of communication ſeemed, ſays Giraldus, as if new milk or honey was poured into their mouths; to others, as if a written ſcroll had been put into their mouths; and when they awoke, they knew and declared that they had been endowed with this extraordinary ſpirit of divination. Some gift, reſembling that to which the Awenydhion of Wales pretended, has been long known in Scotland, under the denomination of SECOND *Sight*. Warrington's Hiſt. Wales, p. 102, &c.

AWERRI, in *Geography*, a town of Africa, and capital of a kingdom of the ſame name, about 20 leagues from Benin to the ſouth.

AWIN-EA, a river of Ireland, which riſes in lake Ea, in the province of Donegal, and runs into the ſea, ſeven miles north of Killebegs.

AWK. See AUK.

AWL, or AUL, a ſhoemaker's implement, wherewith holes are bored in leather, to facilitate the ſtitching or ſewing the ſame.—The blade of the awl is uſually a little flat, and bending; and the point ground to an acute angle.

AWME, or AUME, a Dutch meaſure of capacity for liquids; containing eight *ſteckans*, or twenty *verges*, or *verteels*: anſwering to what in England is called a tierce, or one-ſixth of a ton of France, or one-ſeventh of an Engliſh ton. Arbuth. Tab. 33.

AWN, ARISTA, in *Botany*, the needle-like briſtles which form beards of different ſorts of graſs or grain, as wheat, barley, &c. The word is, in ſome diſtricts, pronounced *Ails*. It is ſometimes uſed to ſignify a ſharp point terminating a leaf. See ARISTA.

AWNING, on board a ſhip, is when a ſail, a tarpaulin, or the like, is hung over any part of the ſhip, above the decks, to keep off the ſun, rain, or wind.

Awnings are made of canvas. The length of the main deck awning is from the centre of the fore-maſt to the centre of the main-maſt; the width correſponds to the breadths of the ſhip, taken at the main-maſt, foremaſt, and at the midway between. The length of the quarter deck awning is from the centre of the main-maſt to the centre of the mizen-maſt; and the width anſwers to the breadths of the ſhip, at the main-maſt, mizen-maſt, and at the midway between. The length of the poop, or after-awning, is from the centre of the mizen-maſt to the enſign-ſtaff, about ſeven feet above the deck; and the width is formed agreeably to the breadths of the ſhip, taken at the mizen-maſt, the taffarel, and at the midway between. The canvas is cut to the given breadths of the awning, allowing about nine inches to hang down on each ſide, which is ſometimes ſcolloped and bound with green baize, and is ſewed together with an inch ſeam, and tabled all round with a two or three inch tabling. Half the diameter of the maſts is cut out in the middle at each end, and lacing-holes are made acroſs the ends to connect one awning to another. On the upper part, along the middle and ſides, is ſewed a one inch and half or two inch rope, to which the trucks are ſewed at about three quarters of a yard aſunder. A thimble is ſpliced in each end of the rope. Sometimes curtains are made to hang to the ſides of the awnings, of the ſame length as the awnings. Their depth is taken from the ſides of the awning to the gun-wale, ſuppoſing the awning to be in its place. The ſeams and tablings are the ſame as thoſe of the awnings, and lacing-holes are made along the upper tabling of the curtain, and the ſide tabling of the awning. Clerke's Elem. and Practice of Rigging, vol. i. p. 140. 230.

In the long-boat they make an awning, by bringing the ſail over the yard and ſtay, and booming it out with the boat-hook.

AX, a carpenter's inſtrument, ſerving to hew wood.—The ax differs from the joiner's hatchet, in that it is much larger, and heavier, as ſerving to hew large ſtuff; and its edge tapering into the middle of its blade.—It is furniſhed with a long handle or helve, as being to be uſed with both hands.

AX, in *Geography*, a town of France, in the department of the Arriege, and chief place of a canton in the diſtrict of Taraſcon, on the Arriege; 9 leagues weſt of Prades, and 4½ S. E. of Taraſcon.

AX. See AXBRIDGE, and AXMINSTER.

AX, *Battle*. See CELT.

AXAMENTA, in *Antiquity*, a denomination given to the verſes, or ſongs, of the *ſalii*, which they ſung in honour of all men.

The word is formed according to ſome, from *axare* q. d. *nominare*. Others will have the *carmina ſaliaria* to have been denominated *axamenta*, on account of their being written in *axibus*, or on wooden tables.

The *axamenta* were not compoſed, as ſome have aſſerted, but only ſung by the *ſalii*. The author of them was Numa Pompilius; and, as the ſtyle might not be altered, they grew in time ſo obſcure, that the *ſalii* themſelves did not underſtand them. Varro ſays they were ſeven hundred years old. Quint. Inſt. Or. lib. i. c. 11.

AXAMENTA, or *Aſſamenta*, in *Ancient Muſic*, hymns or ſongs performed wholly with human voices.

AXAS,

AXAS, in *Geography*, a town of America, in the interior part of New Albion. N. lat. 39° 5′. W. long. 114° 30′.

AXAT, or AZAT, a town of France, in the department of the Aude, and chief place of a canton, in the diſtrict of Quillan, on the Aude: twenty-five miles ſouth of Carcaſſonne, and five S. S. E. of Quillan.

AXBERG, a town of Sweden, in the province of Nericia.

AXBRIDGE, a town of England, in the county of Somerſet, about eight miles north of Wells, and 131 weſt of London. The river Ax divides the bridge from Over-Weare, and gives the place its appellation. This town is pleaſantly ſituated at the ſouth-weſtern roots of the dark Mendip hills. It has a corporation conſiſting of a mayor, bailiff, eight capital burgeſſes, and twenty-two common councilmen; and ſent members to parliament, till excuſed at the requeſt of the inhabitants, in the reign of Edward the third. Its market for corn, ſheep, pigs, &c. is on Saturday, and two fairs are held here annually for the ſale of cattle and cheeſe. Its only manufacture is knit-hoſe, in which a great number of families is employed. The church is particularly noted for its beautiful and uniform architecture, and for the ſtately monuments which it contains. Moſt of them are erected to the memory of the Prowſe family, many of whom were interred within the walls. This town contains 190 houſes, and 1000 inhabitants. About two miles eaſt of Axbridge is the village of *Chedder* which is celebrated for its fine cheeſe; and extraordinary rocks or cliffs. The village is ſituated under Mendip hills, having the flat moors which extend to Glaſtonbury on the ſouth ſide, and a high ridge of hills on the north. The Chedder cliffs ſeem to have been the effect of ſome great convulſion of nature, which rent the hill aſunder and formed an opening or chaſm completely through it. This chaſm is now appropriated to a road, which leads from the bottom to the top of the hill, having its ſides formed by the high craggy rocks. The length of this gap is nearly two miles, in a winding direction. In many parts the cliffs riſe to the height of full 300 feet, quite perpendicularly, ſome terminating in bold pinnacles, others in irregular fragments like ſhattered battlements, and others impending over head in an awful manner. Yews project out of ſeveral of the fiſſures, forming lofty canopies, and many of the rocks wear long mantles of ivy, which produce a picturesque appearance, and form a pleaſing contraſt to the craggy nakedneſs of others. The romantic and grand appearance of theſe rocks attracts the notice of many travellers. Mendip hills, which are often called the alps of Somerſetſhire, abound with lead and calamine, and like the ſimilar hills of Derbyſhire, contain many vaſt caverns and ſubterraneous vaults. Various coralloid relics are found in this limeſtone. Several curious plants are alſo obtained here, among which the following are the moſt rare; *dianthus cæſius* (Chedder Pink) *d. arenarius*, and *thalictrum minus*. Maton's Obſervations on the Weſtern Counties, and Collinſon's Hiſtory of Somerſetſhire.

AXEL, a ſtrongly fortified town of Flanders; it was taken from the Spaniards by Maurice, prince of Naſſau, in 1586; nine leagues W. of Antwerp. N. lat. 51° 15′. E. long. 3° 45′.

AXENS, a town of Germany, in the county of Tyrol; nine miles S. W. of Inſprack.

AXHOLM, an iſland of England, in the N. W. part of Lincolnſhire, formed by the rivers Trent, Idel and Dan, about ten miles long and five broad; the lower part is marſhy; the middle part fertile, and produces flax in abundance. The chief town, or rather village, thinly inhabited, is called *Airey*.

AXIA, in *Ancient Geography*, a town of Greece, in the country of the Locrian Ozolians.—Alſo, a town of Italy, in Etruria; and the inhabitants were called *Axiates*.

AXIACA, a town of Sarmatia, to the left of the river Sagurus, and north of Cheſſus (Orzakew).

AXIACES, a river of European Sarmatia, a little above Dacia: and the people who inhabited the diſtrict to the right of this river were called *Axiaci*.

AXICA, or AZICA, an ancient town of India, on this ſide of the Ganges. Ptolemy.

AXILLA, in *Anatomy*, or ALA, the cavity under the upper part of the arm; commonly call'd the arm-pit.

The word is a diminutive of *axis*, q. d. *axicula*.

Abceſſes in the axillæ are uſually very ſevere on account of the many blood-veſſels, lymphatics, nerves &c. thereabout, which form ſeveral large plexus.—By the ancient laws, criminals were to be hanged by the axillæ if they were under the age of puberty.

AXILLA, in *Botany*, is the ſpace comprehended between the ſtems of plants and their leaves.

Hence we ſay, thoſe flowers grow in the axillæ of the leaves; i. e. at the baſe of the leaves or juſt within the angles of their pedicles.

AXILLARY, in *Anatomy*, ſomething that belongs to the *axillæ*, or lies near them.

AXILLARY *Artery*, a certain portion of the great artery which ſupplies the upper part of the the trunk, and upper extremity. See ARTERY, *Diſtribution of theſe Veſſels*.

AXILLARY *Vein*, a certain extent of the vein correſponding to the above-mentioned artery. See the account of the *Diſtribution of the* VEINS.

AXILLARY *Nerves*, are branches of the four lower cervical and firſt dorſal, which form a plexus in the axillæ. See NERVE, *Diſtribution of*.

AXILLARY *Glands*, the glands belonging to the abſorbing veſſels which are ſituated in the axillæ. See ABSORBING VESSELS, *Diſtribution of*.

AXILLARY *Leaves*, in *Botany*. See LEAF.

AXIM, in *Geography*, a ſmall diſtrict or canton of Africa, on the Gold Coaſt, between cape Apollonia, and Tree Puntas. The climate is unhealthy, being ſo moiſt, that, according to the proverb of the country, it rains eleven months and twenty-nine days in the year. The maize, on account of the humidity of the ſoil, is neither plentiful nor excellent; but it produces a great quantity of rice, which is exported to all the kingdoms of the Coaſt, in exchange for millet, yams, potatoes, and palm-oil; and it yields alſo water-melons, ananas, bananas, cocoas, oranges, two kinds of lemons, and all ſorts of fruits and vegetables. Axim alſo produces great numbers of black cattle, ſheep, goats, and tame pigeons, as well as other fowls. The whole country is filled with populous villages; ſome on the ſea-ſide, others farther up the country; and all of them rich and beautiful. The intermediate lands are well cultivated, and the ſoil is ſo fertile as richly to compenſate the labour of the huſbandman: beſides which the natives are wealthy, from a conſtant traffic they maintain in gold with the Europeans. The capital of this district is Axim, or ACHOMBENE, ſtanding under a Dutch fort, and ſcreened behind by a thick wood, that covers the whole declivity of a neighbouring hill. The river Axim runs through the town, and the coaſt is defended by a number of ſmall-pointed rocks, which project from the ſhore, and render all acceſs to it dangerous. The European ſettlements are, 1. The Dutch fort of St. Anthony, ſtanding

ſtanding on a high rock, which projects into the ſea in the form of a peninſula, and ſo environed by dangerous ſhoals and unperceived rocks, as to be inacceſſible to an enemy except by land, on which ſide it is fortified by a parapet, draw-bridge, and battery of heavy cannon. The Portugueſe were the firſt founders of this ſettlement; but they were driven from it by the Dutch, in 1642. Its form is triangular; and it has three batteries; one towards the ſea, and two towards the land. The ſituation of the fort is eaſt of the river Axim, called by the Portugueſe Rio Manco, which is navigable only by canoes; but it is rich in gold duſt, waſhed down by the ſtream from the inland countries. 2. Mount Manſore, three leagues diſtant from fort St. Anthony; near which is the large and populous town of Pockeso. Mount Manſore is well ſituated for a fort, being the firſt point of cape Tres Puntas. Here the Brandenburghers or Pruſſians had one principal factory, called Fredericsburgh: but it was taken by the Dutch, and remained in their poſſeſſion. 3. Cape Tres Puntas, ſo called from its being compoſed of three points or eminences, projecting into the ſea; on which are the three villages, Akora, Akron, and De Juſiamma or Dickscove. See the ſeveral articles.

The government of Axim is compoſed of two bodies of the natives: the caboceroes, or chief men; and the manceroes, or young men. To the former belongs the cognizance of civil affairs; but whatever is of general concern, and may properly be called national, appertains equally to both members of the ſtate. The caboceroes are leſs wealthy in gold and ſlaves, and of courſe leſs regarded by the people, and they are often impeached before the bar of the manceroes: whereas no manceroe can be tried for crimes of a public nature, but by his own aſſembly. In the diſtribution of juſtice, there is a great degree of partiality and corruption: preſents of gold or brandy, conveyed to the caboceroes, enſure a favourable verdict; and juſtice is frequently delayed as well as perverted by the influence of bribes. The defendant, in defect of ſufficient teſtimony on either ſide, by witneſſes or probable circumſtances, clears himſelf by oath: and the oath of purgation is always preferred to that of accuſation. As to penalties in criminal caſes, murder is puniſhed either by death or a pecuniary mulct. However, the fine for murdering a ſlave is very trifling in compariſon to that exacted for the life of a free man; and execution ſeldom takes place, unleſs the criminal be poor, and unable to anſwer the demands of his judge. The only puniſhment for thefts is reſtitution, or a fine proportioned to the quality of the offender: and the creditor may ſeize on the property of the debtor to the amount of twice the value of what is due to him: but the uſual method is to ſettle the account by arbitration, or reſtitution of the goods and chattels bought. Mod. Un. Hiſt. vol. xiii. p. 391—401.

AXIMA, in *Ancient Geography*, a town of Aſia, in Perſia Proper, or Perſis.—Alſo, a town of Italy, in the Alps, belonging to the Centrones. Ptolemy.

AXINAE'E, Axinæ, in *Natural Hiſtory*, a genus of the Mollusca tribe (*Teſtacea*), eſtabliſhed by Poli, in his hiſtory of the ſhells of the two Sicilies. The character is taken from the form of the animal; the ſhell it inhabits belongs in the Linnæan arrangement to the Arca genus.

AXINCES, in *Ancient Geography*, the *Bog* or *Akſiu*, a large river which traverſed Sarmatia, ſeparated the Callipides Axiaci, to whom it gave name, and diſcharged itſelf into the Boryſthenes.

AXINIA, the ancient name of a mountain of Peloponneſus, in Arcadia.

AXINIUM, the name given by Appian to an ancient city of Spain.

AXINOMANCY, Axinomantia, from ἀξινη, *ſecuris*, and μαντικα, *divinatio*, an ancient ſpecies of divination, or a method of foretelling future events by means of an ax or hatchet.

This art was in conſiderable repute among the ancients; and was performed, according to ſome, by laying an agate-ſtone on a red-hot hatchet; and alſo by fixing a hatchet on a round ſtake, ſo as to be exactly poiſed; then certain formulæ of devotion were pronounced, and the names of ſuſpected perſons were repeated, and he at whoſe name the hatchet moved was pronounced guilty.

AXIOM, Axioma, from ἀξιοω, *I am worthy*, a ſelf-evident truth, or a propoſition whoſe truth every perſon receives at firſt ſight; and to which the term *dignity* is applied, on account of its importance in a proceſs of reaſoning. Theſe axioms are ſelf-evident truths that are neceſſary, and not limited to time and place, but muſt be true at all times and in all places.

Thus, that the whole is greater than a part; that a thing cannot be and not be at the ſame time; and that from nothing, nothing can ariſe, are axioms.

By axioms, called alſo *maxims*, are underſtood all common notions of the mind, whoſe evidence is ſo clear and forcible, that a man cannot deny them without renouncing common ſenſe, and natural reaſon.

Self-evident propoſitions furniſh the firſt principles of reaſoning; and it is certain, that if in our reſearches we merely employ ſuch principles as theſe, and apply them properly, we ſhall be in no danger in advancing from one diſcovery to another. For this we may appeal to the writings of mathematicians, which being conducted agreeably to this ſtandard, inconteſtibly prove the ſtability of human knowledge, when it is made to reſt on ſo ſure a foundation. The propoſitions of this kind of ſcience have not only ſtood the teſt of ages; but they are found to be attended with that invincible evidence, which conſtrains the aſſent of all who conſider the proofs by means of which they are eſtabliſhed.

Lord Bacon propoſes a new ſcience, to conſiſt of general axioms, under the denomination of *philoſophia prima*. For an account of the origin and evidence of thoſe truths called axioms, as well as of their importance and utility in the purſuit of knowledge and truth, ſee Intuition, Principles, and Common Sense.

Axiom is alſo an eſtabliſhed principle in ſome art or ſcience. Thus, it is an axiom in *Phyſics*, that nature does nothing in vain; that effects are proportional to their cauſes, &c. So it is an axiom in *Geometry*, that things equal to the ſame third are alſo equal to one another; that if to equal things you add equals, the ſums will be equal, &c. It is an axiom in *Optics*, that the angle of incidence is equal to the angle of reflection, &c. In this ſenſe the general laws of motion are called axioms; as that all motion is rectilinear, that action and reaction are equal, &c. See Laws *of Motion*.

Theſe particular axioms, it may be obſerved, do not immediately ariſe from any firſt notions or ideas, but are deduced from certain hypotheſes; this is particularly obſervable in phyſical matters, wherein, as ſeveral experiments contribute to make one hypotheſis, ſo ſeveral hypotheſes contribute to one axiom.

The axioms of Euclid are very general propoſitions, and ſo are the axioms of the Newtonian philoſophy; but theſe two kinds of axioms have very different origins. The former appear true upon a bare contemplation of our ideas; whereas the latter are the reſult of the moſt laborious induction.

Lord

Lord Bacon, therefore, ſtrenuouſly contends, that they ſhould never be admitted upon conjecture, or even upon the authority of the learned; but, as they are the general principles and grounds of all learning, they ſhould be canvaſſed and examined with the moſt ſcrupulous attention, "ut axiomatum corrigatur iniquitas, quæ plerumque in exemplis vulgatis fundamentum habent." De Augm. Sc. l. ii. c. 2. "Atque illa ipſa putativa principia ad rationes reddendas compellare decrevimus, quouſque planè conſtant. Diſtrib. Operis.

A late writer (ſee Tatham's Chart, and Scale of Truth) diſtinguiſhes between axioms *intuitive*, and *ſelf-evident*. The former, he ſays, paſs through the firſt inlets of knowledge, and flaſh direct conviction on the minds, as external objects do on the ſenſes, of all men; in the formation of the latter, reaſon judges by ſingle compariſons, without the aid of a third idea or middle term; ſo that they have their evidence in themſelves, and though inductively framed, they cannot be ſyllogiſtically proved. If we admit this diſtinction, and its reaſonableneſs muſt be allowed, the character of intuitive axioms will be reſtricted to particular truths. See Induction, Reasoning, and Syllogism.

Axiom, in *Rhetoric*, is uſed by Hermogenes to denote grandeur, dignity, and ſublimity of ſtyle.

AXIOPOLIS, in *Ancient Geography*, a town of Lower Mœſia, according to Ptolemy, ſituated near the ſpot where the Danube aſſumed the name of Iſter; north-eaſt of Duroſtorus. It is now a town of European Turkey, in Bulgaria, called *Axiopoli*, on the right bank of the Danube. N. lat. 45° 40'. E. long. 34°.

AXIOS, a form of acclamation, anciently uſed by the people in the election of biſhops. When they were all unanimous, they cried out αξιος, *he is worthy*, or αναξιος, *unworthy*.

AXIOSIS, in *Rhetoric*, denotes a third part of an exordium; ſometimes alſo called αποδοσις, and containing ſome new propoſition more nearly relating to the matter in hand, than the προλαψις.

Thus, in Cicero's oration pro Milone, the protaſis is, "Non poſſum non timere, judices, viſa hâc nova judicii forma;" the καλασκουη, "Nec enim ea corona confeſſus veſter cinctus eſt qua ſolebat;" the αξιωσις, "Sed me recreat Pompei conſilium, cujus ſapientæ non fuerit, quem ſententiis judicum tradidit, telis militum dedere;" the baſis, βασις, "Quamobrem adeſte animis, judices, & timorem, ſi quem habetis, deponite."

AXIOTHEA, in *Biography*, a female philoſopher of Greece, who lived in the time of Plato. Such was her thirſt for knowledge, that ſhe diſguiſed herſelf in man's clothes, in order to attend the lectures of that philoſopher. Menag. in Diog. Laert. l. iii. c. 48.

AXIS properly ſignifies a line, or long piece of iron or wood paſſing through the centre of a ſphere, which is moveable upon the ſame. In this ſenſe we ſay, the axis of a ſphere or globe; the axis, or axle-tree of a wheel, &c.

Axis, in *Anatomy*, is the ſecond vertebra of the neck, reckoning from the ſkull.

It is thus called, becauſe the firſt vertebra, with the head, move thereon, as an axis. See Skeleton.

Axis, *Spiral*, in *Architecture*, is the axis of a twiſted cocolumn drawn ſpirally, in order to trace the circumvolutions without. See Column, *Twiſted*.

Axis of the Ionic capital is a line paſſing perpendicularly through the middle of the eye of the volute.

Axis *of the world*, in *Aſtronomy*, is an imaginary right line, which is conceived to paſs through the centre of the earth, and to terminate at each end in the ſurface of the mundane ſphere.

About this line as an axis, the ſphere in the Ptolemaic ſyſtem, is ſuppoſed daily to revolve.

This axis is repreſented by the line PQ, *Plate* II. *Aſtron. fig.* 18.—The two extreme points in the ſurface of the ſphere, viz. P and Q, are called its poles.

Axis *of the earth*, is a right line upon which the earth performs its diurnal rotation from weſt to eaſt.

Such is the line PQ, *fig.* 19.—The two extreme points are alſo called poles.

The axis of the earth is a part of the axis of the world.—It always remains parallel to itſelf, and at right angles with the equator. See Angle, Inclination, and Parallelism.

Axis *of a planet*, is a line drawn through its centre, about which the planet revolves.

The Sun, Earth, Moon, Jupiter, Mars, and Venus, are known, by obſervation, to move about their ſeveral axes; and the like motion is eaſily inferred of Mercury, Saturn, and the Georgian planet.

Axis *of the horizon*, *equator*, *ecliptic*, *zodiac*, &c. are right lines drawn through the centres of thoſe circles, perpendicular to their planes.

Axis, in *Botany*, a taper column placed in the centre of ſome flowers or katkins, about which the other parts are diſpoſed. It is ſynonymous with *columella*.

Axis, in *Geometry*.—*Axis* of rotation or circumvolution, is an imaginary right line, about which any plane figure is conceived to revolve, in order to generate a ſolid.

Thus a ſphere is conceived to be formed by the rotation of a ſemicircle about its diameter or axis, and a right cone by that of a right angled triangle about its perpendicular leg, which is here its axis.

Axis is yet more generally uſed for a right line proceeding from the vertex of a figure to the middle of its baſe.

Axis *of a circle* or *ſphere*, is a line paſſing through the centre of the circle or ſphere, and terminating at each end in its circumference.

The axis of a circle, &c. is otherwiſe called its diameter.

Axis *of a right* or *rectangular cylinder*, is properly that quieſcent right line, about which the rectangular parallelogram turns, by whoſe revolution the cylinder is formed.

In general, the right line which joins the centres of the oppoſite baſes of cylinders, whether they be right or oblique, is denominated their axis.

Axis *of a right cone*, is the right line or ſide upon which the right-angled triangle forming the cone makes its motion. Hence it follows, that only a right cone can properly have an axis; becauſe an oblique one cannot be generated by any motion of a plane figure about a right line at reſt. But becauſe the axis of a right cone is a right line drawn from the centre of its baſe to the vertex; the writers of conics, by way of analogy, likewiſe call the like line, drawn from the centre of the baſe of an oblique cone to the vertex, its axis.

Axis *of a conic ſection*, is a right line paſſing through the middle of the figure, and biſecting all the ordinates at right angles.

Thus if AP (*Plate, Conics, fig.* 31.) be drawn perpendicularly to PF, ſo as to divide the ſection into two equal parts, it is called *the axis of the ſection*.

Or, the axis of a conic ſection is a line drawn from the principal vertex, or vertices, perpendicular to the tangent at that point.

Axis, *tranſverſe*, called alſo the *firſt* or *principal axis* of an ellipſe,

ellipſe, is the axis AP, laſt defined; being thus called in contradiſtinction to the *conjugate* or *ſecondary axis*.

Or, in the ellipſe and hyperbola, it is the diameter that paſſes through the two foci, and the two principal vertices of the figure.

The tranſverſe axis in the ellipſe is the longeſt; and in the hyperbola it cuts the curve in the points A and P (*fig.* 32.) and is the ſhorteſt diameter.

Axis, *conjugate*, or *ſecond axis*, of the ellipſe and hyperbola, is the diameter paſſing through the centre and perpendicular to the tranſverſe axis. Such is the line FF (*fig.* 31.) drawn through the centre of the ellipſe C, parallel to the ordinate MN, and perpendicular to the tranſverſe axis AP; being terminated at each extreme by the curve. And ſuch, in the hyperbola, is the right line FF (*fig.* 32.) drawn through the centre parallel to the ordinates MN, MN, perpendicularly to the tranſverſe axis AP. In the ellipſe and hyperbola, the conjugate axis is the ſhorteſt of all the conjugate diameters. The axis of a parabola is of an indeterminate length; that is, is infinite. The axis of the ellipſe is determinate. The parabola has only one axis; the ellipſe and hyperbola have two.

Axis *of a Curve Line*, in general, denotes that diameter which has its ordinates at right angles to it, when that is poſſible. For, as in the conic ſections, any diameter biſects all its parallel ordinates, making the two parts of them on both ſides of it equal, and the diameter which is perpendicular to ſuch ordinates is an axis; ſo in curves of the ſecond order, if any two parallel lines meet with the curve in three points, the right line which cuts theſe two parallels ſo that the ſum of the two parts on one ſide of the interſecting line, between it and the curve, is equal to the third part terminated by the curve on the other ſide, then the ſaid line will in like manner cut all other parallels to the former two lines, ſo that with reſpect to every one of them, the ſum of the two parts, or ordinates, on one ſide, will be equal to the third part, or ordinate, on the other ſide. Such interſecting line is then a diameter; and that diameter, whoſe parallel ordinates are at right angles to it, when that is poſſible, is an axis. The caſe is the ſame with regard to other curves of ſtill higher orders. Newton, Enumeratio Linearum Tertii Ordinis, § 2. art. 1.

Axis *of a Magnet*, or *Magnetical Axis*, is a line paſſing through the middle of a magnet lengthwiſe; in ſuch manner, as that however the magnet be divided, provided the diviſion be made according to a plane, in which ſuch line is found, the magnet will be cut or ſeparated into two loadſtones; and the extremes of ſuch lines are called the poles of the ſtone. See Magnet.

Axis, in *Mechanics*. The axis of a balance is the line upon which it moves or turns. See Balance.

Axis *of Oſcillation*, is a right line parallel to the horizon, paſſing through the centre, about which a pendulum vibrates; and perpendicular to the plane in which it oſcillates. See Oscillation, and Pendulum.

Axis *in Peritrochio*, or *Wheel* and *Axle*, is one of the five mechanical powers, or ſimple machines, contrived chiefly for the raiſing of weights to a conſiderable height. It conſiſts of a circle, repreſented AB (*Plate* I. *Mechanics*, *fig.* 5.) concentric with the baſe of a cylinder, and moveable together with it, about its axis EF. This cylinder is called the *axis*; and the circle, the *peritrochium*; and the radii, or ſpokes, which are ſometimes fitted immediately into the cylinder, without any circle, the *ſcytalæ*. Round the axis winds a rope, or chain, by means of which the weights, &c. are to be raiſed, upon turning the wheel.

The axis in peritrochio takes place in the motion of every machine, where a circle may be conceived as deſcribed about a fixed axis, concentric to the plane of a cylinder, about which it is placed; as in crane-wheels, mill-wheels, capſtans, &c.; a gimblet and an augre to bore with may alſo be referred to the wheel and axis.

Axis *in Peritrochio, properties of the*. 1. If the power applied to the axis in peritrochio, in the direction AL (*fig.* 6.), being a tangent to the periphery of the wheel, or perpendicular to the ſcytala or ſpoke, be to a weight W, as the radius of the axis CE is to the radius of the wheel CA, or the length of the ſpoke; the power will juſt ſuſtain the weight, i. e. the weight and the power will be in equilibrio.

Dem. The ſame power is required to ſupport W, whatever be the point of the axis to which it is applied, becauſe the diſtance from the correſponding centre of motion is the ſame, and the wheel and axis may be reduced to a bent lever; and conſequently there will be an equilibrium, when P : W :: W's diſtance from the centre of motion, or radius of the axis, : radius of the wheel. Or, ſince the directions of P and W are perpendicular to their reſpective diſtances from their centres of motion, they are wholly efficient; and P's velocity is to W's velocity, as the periphery of the wheel to the periphery of the axis; and conſequently, when there is an equilibrium, P : W :: periphery of the axis : periphery of the wheel :: radius of the axis : radius of the wheel.

If the thickneſs of the rope, to which W is appended, be not inconſiderable, it ought not to be neglected; for when one or more coils or ſpires of the rope are folded about the axis, the diſtance of W's direction from the centre of motion is increaſed, and becomes equal to the ſum of the ſemidiameters of the axis and ropes; and there is an equilibrium when P : W :: the whole diſtance of W's direction from the centre of motion : ſemidiameter of the wheel.

2. If a power applied in F, pull down the wheel according to the line of direction FD, which is oblique to the radius of the wheel, though parallel to the perpendicular direction; it will have the ſame proportion to a power which acts according to the perpendicular direction AL, which the whole line has to the line of the angle of direction DFC. For, ſince FD is perpendicular to AC, DC will be the diſtance of the power applied at F from the centre of motion; conſequently the power at F : W :: EC : CD; and the power at A : W :: EC : CA; conſequently the power at F : power at A :: CA : CD. But if CA or FC be taken for the whole line or radius, CD will be the line of the angle DFC; and the power at F will be to the power at A :: the whole line is to the line of the angle of direction DFC, in caſe of an equilibrium between the power and weight.

Hence, ſince the diſtance of the power in A is the radius CA, the angle of direction DFC being given, the diſtance DC is eaſily found.

3. Powers applied to the wheel in ſeveral points, F and K, according to the directions FD and KI, parallel to the perpendicular one AL, are to each other as the diſtances from the centre of motion CD and CI, reciprocally. For the power at F : W :: EC : CD; and the power at K : W :: EC : IC; conſequently the power at F : power at K :: IC : CD.

Hence, as the diſtance from the centre of motion increaſes, the power decreaſes, and *vice verſa*, the weight being the ſame. Hence alſo, ſince the radius AC is the greateſt diſtance, and correſponds to the power acting according to the line of direction; the perpendicular power will

A X I

will be the ſmalleſt of all thoſe able to ſuſtain the weight W, according to the ſeveral parallel lines of direction.

4. If a power acting according to the perpendicular AL, raiſe the weight W, the ſpace paſſed through by the power will be to the ſpace paſſed through by the weight, as the weight to the power which is able to ſuſtain it.

For, in each revolution of the wheel, the power paſſes through its whole periphery; and in the ſame time the weight is raiſed through an interval equal to the periphery of the axis; the ſpace of the power therefore is to the ſpace of the weight, as the periphery of the wheel to that of the axis; but the power is to the weight, as the radius of the axis to that of the wheel. Therefore, &c.

5. A power and a weight being given, to conſtruct an axis in peritrochio, by which the weight ſhall be ſuſtained and raiſed by the given power. Let the axis be large enough to ſupport the weight without breaking. Then, as the weight is to the power, ſo make the radius of the wheel, or the length of the ſpoke, to the radius of the axis.

Hence, if the power be but a ſmall part of the weight, the radius of the wheel muſt be vaſtly great.—E. gr. Suppoſe the weight 4050 and the power 50, the radius of the wheel will be to that of the axis as 81 to 1. But ſuch a machine would be of an inconvenient ſize; and it may therefore be provided againſt by increaſing the number of the wheels and axes; and making one to turn round another by means of teeth or pinions.

To find the effect of a number of wheels and axes, thus turning one another, multiply together all the radii of the axes, and all the radii of the wheels, and then it will be, as the product of the former is to the product of the latter, ſo is the power to the weight. Thus, if there be four wheels and axes, the radius of each axis being one foot, and the radius of each wheel being three feet; then the continual product of all the radii of the wheels is $3\times3\times3\times3$, or 81 feet, and that of the radii of the axes only 1; conſequently the effect is as 81 to 1, or the weight may be 81 times the power. On the contrary, if it be required to find the diameter of each of four equal wheels, by which a weight of 4050 lb. ſhall be balanced by a power of 50 lb. the diameter of each axis being one foot; divide 4050 by 50, and the quotient is 81; extract the fourth root of 81, or twice the ſquare root, and it will be 3, for the diameter of each of the four wheels ſought. See Wheels. See alſo Mechanical *Powers*.

6. If P and W act in the ſame plane, and in the directions PD and WD (*fig.* 7. and 8.), meeting in D, and be in equilibrio, they are equivalent to a third force, or preſſure upon the axis at A, whoſe direction meets PD and WD in D (ſee Motion); and producing PD, WD, theſe three forces are to each other, as the ſides DF, DE, and diagonal DG, of the parallelogram EF; conſequently P : W :: DF : DE, or drawing AN, AM, perpendicular to WD and FDP reſpectively, P : W :: AN : AM. See Lever.

7. The preſſure upon the axis at A (i. e. Pr) : P :: DG : DF :: ſin. ∠DFG or PDW : ſin. ∠FGD or ADW; Pr : W :: DG : DE :: ſin. ∠DEG or PDW : ſin. ∠DGE or ADP; and P : W :: ſin. ∠ADW : ſin. ∠ADP. When the angle PDW is infinitely ſmall, or PD and WD are parallel, the perpendiculars AN, AM are to each other as AW : PA. Parkinſon's Syſtem of Mechanics, &c. p. 137.

Axis *of a Veſſel*, is that quieſcent right line paſſing through the middle thereof, perpendicularly to its baſe, and equally diſtant from its ſides.

Axis, in *Optics*. *Optic axis*, or *viſual axis*, is a ray paſſing through the centre of the eye; or it is that ray, which, proceeding through the middle of the luminous cone, falls perpendicularly on the cryſtalline humour, and conſequently paſſes through the centre of the eye.

Axis, *Common*, or *Mean*, is a right line drawn from the point of concourſe of the two optic nerves, through the middle of the right line which joins the extremities of the ſame optic nerves.

Axis *of a Lens*, or *Glaſs*, is a right line paſſing along the axis of that ſolid, of which the lens is a ſegment.

Thus, a ſpherical convex lens being a ſegment of ſome ſphere, the axis of the lens is the ſame with the axis of the ſphere; or it is a right line paſſing through the centre thereof. Or, the axis of a glaſs is a right line joining the middle points of the two oppoſite ſurfaces of the glaſs. See Lens.

Axis *of Incidence*, in *Dioptrics*, is a right line drawn through the point of incidence, perpendicularly to the refracting ſurface. See Incidence.

Axis *of Refraction*, is a right line continued from the point of incidence or refraction perpendicularly to the refracting ſurface, along the farther medium. Or, it is that made by the incident ray, perpendicularly prolonged on the ſide of the ſecond medium. See Refraction.

Axis, in *Zoology*, a ſpecies of the Cervus, or Stag genus, with branched, round, erect horns, that are bifid at the ſummit; and the body ſpotted with white. Erxleb. Mamm. p. 312. Schreber, &c.

The axis, according to Sonnini and others, is an animal almoſt peculiar to the colder parts of Aſia; it inhabits the wooded mountains of the Celebes, Java, and Ceylon, in great numbers, but it is ſtill more abundant on the banks of the river Ganges, and for that reaſon is not unfrequently called the *Ganges ſtag*. The axis multiplies faſt in the parks and menageries of England, France, and other parts of Europe; and being a moſt graceful animal, is no ſmall ornament to the grounds of the nobility and gentry. It is ſaid to propagate with the female of the common ſtag; and it is equally probable, that the female axis would produce with the male of the other kind.

This animal was known to the aneients by the name of axis. Pliny ſpeaks of it as a native of India, and informs us likewiſe that it was conſecrated to Bacchus. Its ſize is nearly that of the fallow deer; colour above pale rufous brown, elegantly ſpotted with white, beneath white; tail like that of the fallow deer, and rufous above, and white beneath. The axis is eaſily tamed; its ſmell is exquiſite; and fleſh very good when ſalted.

Gmelin, on the authority of Pennant, ſpeaks of two varieties of this creature; the firſt, with a body uniformly of one colour, with the extremity of the horns trifurcated; and the other with horns that are alſo trifurcated, but larger, and whitiſh. Theſe are the *middle axis* and *ſpotted axis* of Dr. Shaw; and are thus noticed in the Gen. Zool. of that author. "*Middle axis*. Whether this be a variety of the former (*ſpotted axis*), or ſpecifically diſtinct, does not appear perfectly clear. It is, according to Mr. Pennant, of a middle ſize between the *ſpotted axis* and the *great axis* or following kind. In the colour of its hair, it reſembles the firſt ſort; but is never ſpotted. It, however, is ſaid to vary into white, in which ſtate it is conſidered as a great rarity. It inhabits dry hilly foreſts in Ceylon, Borneo, Celebes, and Java, where it is found in very numerous herds. Its fleſh is much eſteemed by the natives, and is dried and ſalted for uſe."—"*Great Axis*. The exiſtence of this ſpecies, or variety, is aſcertained from a pair of horns in the Britiſh Muſeum, reſembling the former kinds in ſhape, but of a larger ſize; they

they meaſure two feet nine inches in length, are of a whitiſh colour, and are very ſtrong, thick, and rugged. Mr. Pennant conjectures that they were brought from Ceylon or Borneo, having been informed by Mr. Loten, who had long reſided in the former of theſe iſlands, that a very large kind of ſtag, as tall as a horſe, of a reddiſh colour, and with trifurcated horns, exiſted there as well as at Borneo. In Borneo, they are ſaid to frequent low marſhy tracts, and to be called by the name of water ſtags."

AXIUS, now VARDARI, in *Ancient Geography*, the largeſt river in Macedonia, ſprung from two fountains in the Scardian mountains, and after a courſe of eighty miles, ſpread itſelf into an extenſive lake below the city of Edeſſa. There receiving the Erigon, it fell into the bay of Theſſalonica, almoſt oppoſite to that city.—Alſo, a river of Syria, which paſſed Apamea.

AXLE-TREE. See AXIS.

AXMINSTER, ſpelt in old writings AXMYSTER, in *Geography*, is the name of a market town in Devonſhire, ſituated on the great leading road from London to the Weſt of England. It is ſaid to derive its name from the river Axe, on which it is ſeated, and a minſter, founded here by king Athelſtan, for ſeven prieſts, who were appointed to pray for the ſouls of ſome of his army that were ſlain in a dreadful conflict with the Danes. A place in the neighbourhood is ſtill called *Kings-field*, and another place bears the name of Kilmington, from *Kil-maen-ton*. A caſtle was formerly ſtanding in the town; and the market, held on Saturday, is kept in a place ſtill bearing that name. Whatever ſize or character the minſter might originally poſſeſs, it has been nearly deſtroyed; and the pariſh church, though large, has ſcarcely any appearance of antiquity. A ſmall Saxon arch, with zigzag mouldings and appropriate capitals, is preſerved in the eaſt end of the ſouth aiſle. Axminſter is a healthy, clean town, pleaſantly ſituated on riſing ground, which ſlopes on the weſtern ſide to the river. A conſiderable manufactory of carpets is carried on here, the peculiar make and character of which have obtained them the name of Axminſter carpets. They are woven in one entire piece, and ſeveral perſons are employed at the ſame time in working the coloured patterns. The manufactory was firſt eſtabliſhed here in 1755, by the grandfather of the preſent proprietor. Since that time the trade has much increaſed, and now above one hundred hands are conſtantly employed in the different proceſſes of making a carpet. (See CARPET.) Beſide the perſons engaged in this manufactory, Axminſter is inhabited by ſeveral others, who carry on the making of broad and narrow cloths, cotton tapes, druggets, leather breeches, and gloves. Here are two meeting-houſes, one for Independents, and the other for Methodiſts; alſo a Roman Catholic chapel. Axminſter has the advantage of a Sunday ſchool, and alſo a free ſchool. The neighbourhood is adorned with ſeveral reſpectable and handſome manſions, of which *Shute Houſe* and *Ford Abbey* are the moſt conſiderable. The firſt belongs to the De La Pole family, and the ſecond to Francis Gwynn, eſq. This is a large reſpectable ſtructure, many parts of which are the ſame as originally belonged to the ancient abbey. Polwhele's Hiſtory of Devon, vol. ii. p. 288.; and Beauties of England and Wales, vol. iv.

AXOLOTI, in *Ichthyology*, a ſingular fiſh found in the lake of Mexico. It has four feet like the lizard, no ſcales, a matrix like a woman, and the menſtrual flux. It has the taſte of an eel.

AXON, in *Ancient Geography*, a river of Aſia Minor, in Caria, formed by the re-union of two ſmall ſtreams, and running ſouth from the town of Calydna, diſcharged itſelf into the north-weſt part of the gulf of Glaucus, to the north-weſt of the promontory of Pedalium.

AXONA, a river of Belgic Gaul, now the AISNE.

AXUM, in *Geography*, once the large and populous capital of Abyſſinia, in the province of Tigré, exiſted in a flouriſhing ſtate ſo lately as about the beginning of the 16th century, but was ruined in that century by the Turkiſh invaſion. It is now a village, or at leaſt an inconſiderable town, exhibiting in its ruins traces of its ancient magnificence and importance. The ancient city of Axum was built, according to Mr. Bruce, by a colony of Cuſhites, and he cites an Abyſſinian tradition, which ſays, that it was built by them early in the days of Abraham. See ABYSSINIA. As the Abyſſinians never built any city, and no ruins of any exiſt at this day in the whole country, this traveller conceives, that Axum was the magnificent metropolis of the trading people, or Troglodyte Ethiopians, called Cuſhites, who conſtructed, in many places, buildings of great ſtrength, magnitude, and expence, eſpecially at Azab, ſuitable to the magnificence and riches of a ſtate, which was from the firſt ages the emporium of the Indian and African trade. As Axum is ſituated about midway between Azab and Meroe, it points out the road taken by the caravans that carried on the intercourſe between the Ganges and the Mediterranean. The ruins of Axum are very extenſive; but like thoſe of the cities of ancient times, they conſiſt altogether of public buildings. In one ſquare, ſuppoſed by Mr. Bruce to have been the centre of the town, there are forty obeliſks, none of which have any hieroglyphics upon them. One of theſe, which is ſtill ſtanding, is larger than the reſt; and there are two of a larger ſize that are fallen. They conſiſt of one piece of granite; and on the top of that which is ſtanding, there is a patera exceedingly well carved in the Greek taſte. The ſtructure of this obeliſk, and of the two larger that are fallen, is aſcribed by Mr. Bruce to Ptolemy Euergetes. Upon the face of the obeliſk, there is a great deal of carving in the Gothic taſte, ſomewhat like metopes, triglyphs, and guttæ, diſpoſed rudely and without order; but there are no characters or figures. The face of this pyramid, of which Mr. Bruce has given a geometrical elevation, looks due ſouth; it has been placed with great exactneſs, and has preſerved its perpendicular poſition to the preſent time. On the face, fronting the ſouth, is the repreſentation of a door, with a lock and bolt, ſuch as are uſed at this day in Egypt and Paleſtine. This obeliſk is ſuppoſed to have been erected by Ptolemy Euergetes, who conquered this city and the neighbouring kingdom, and who was the patron of Eratoſthenes, for the uſe of this aſtronomer in aſcertaining the latitude. Its top was firſt cut into a narrow neck, then ſpread out like a fan in a ſemicircular form, with a pavement curiouſly levelled to receive the ſhade, and to mark the ſeparation of the true ſhadow from the penumbra as diſtinctly as poſſible. The edifice, thus conſtructed, was probably intended for verifying the experiments of Eratoſthenes with a larger radius, and not for obſerving the obliquity of the ecliptic at Axum. For though Axum, by its ſituation, was a very proper place, the ſun paſſing over that city and obeliſk twice a year; yet he could not make uſe of the ſun's being twice vertical to this city, becauſe it is vertical about the 25th of April and about the 20th of Auguſt; and at both theſe ſeaſons, the heavens are ſo overcaſt with clouds, and the rain ſo continual, eſpecially at noon, that it muſt have been very extraordinary if Ptolemy had once ſeen the ſun during the months of his reſidence in this place. Beyond the convent of Abba Pantaleon, and a ſmall obeliſk ſituated on a rock above,

above, there is to the ſouth a road cut in a mountain of red marble, having on the left a parapet wall about five feet high, ſolid, and of the ſame materials. In this wall, at equal diſtances, are hewn ſolid pedeſtals, bearing on their tops the marks where ſtood the colloſſal ſtatues of Sirius, the latrator anubis, or dog-ſtar. Of theſe pedeſtals, with the marks of the ſtatues juſt mentioned, there are 133 ſtill in their places; but there remained only two figures of the dog, which were much mutilated, and evidently in the Egyptian taſte. Theſe are compoſed of granite; but ſome of them appeared to Mr. Bruce to have been metal. There are alſo pedeſtals, on which the figures of the ſphinx have been placed. Two magnificent flights of ſteps ſeveral hundred feet long, all of granite, exceedingly well faſhioned, and ſtill in their places, are the only remains of a magnificent temple. In the angle of this platform, where the temple ſtood, is the preſent ſmall church of Axum, ſubſtituted for one deſtroyed by Mahomet Gragné in the reign of king David III., and which was probably the remains of a temple built by Ptolemy Euergetes, if not the work of more remote times. The church is a mean, ſmall building, and very negligently kept. Mr. Bruce apprehends, that ſome ancient copy of the O. T. was depoſited here, probably that from which the firſt verſion was made; but whatever it might be, it was deſtroyed, together with the church itſelf, by Mahomet Gragné; though the ſuperſtitious people have a tradition that it ſtill ſubſiſts there. Another relic, preſerved in this place, is a picture of Chriſt's head crowned with thorns, ſaid to have been painted by St. Luke, which, upon occaſions of ſingular importance, is brought out and carried with the army, eſpecially in a war with Mahometans and Pagans. Within the outer gate of the church are three ſmall ſquare incloſures, all of granite, with ſmall octagon pillars in the angles, apparently Egyptian; on the top of which were formerly ſmall images of the dog-ſtar, probably of metal. Upon a ſtone, in the middle of one of theſe, the king ſits and is crowned, and this ceremony has always ſubſiſted ſince the days of Paganiſm; and below it, where he places his feet, is a large oblong ſlab of free-ſtone; bearing the following inſcription, much defaced,

"ΠΤΟΛΕΜΑΙΟΥ ΕΥΕΡΓΕΤΟΥ ΒΑΣΙΛΕΟΥ."

Adjoining to Axum is a road, formed by large ſtones ſtanding edgeways, or heaped upon one another, which is apparently the remains of an old cauſeway, part of the magnificent works about this city.

The preſent town of Axum ſtands at the foot of a hill, and contains about 600 houſes. It is watered by a ſmall ſtream, which flows conſtantly from a fountain in the narrow valley, where the rows of obeliſks ſtand. The ſpring is received into a magnificent baſon, 150 feet ſquare, and thence it is carried, at pleaſure, to water the neighbouring gardens, where there is little fruit, except pomegranates, which are not very excellent. In the town are ſeveral manufactures of coarſe cotton cloth; and here alſo the beſt parchment is made of goats' ſkins, which is the ordinary employment of the monks. Every kind of vegetation ſeemed later at Axum, and its vicinity, than at Adowa. N. lat. 14° 6′ 36″. E. long. 38° 39′. Bruce's Travels, vol. iii. p. 128, &c.

AXUNGIA, a kind of fat, the hardeſt and drieſt of any in the bodies of animals.

The word is ſuppoſed to be formed *ab axe rotarum quæ unguntur*, from its being uſed as the greaſe of wheels.

The Latins diſtinguiſh fat into *pinguedo*, and *adeps*, or *ſevum*; which laſt, when old, is particularly called *axungia*: but many of our modern writers confound them. *Phyſicians* make uſe of the *axungia* of the goose, the dog, the viper, and ſome others, which is held by ſome to be of extraordinary ſervice in the drawing and ripening of tumours, &c.

Axungia of glaſs, called alſo the *gall*, and *ſalt of glaſs*, is a ſcum taken from the top of the matter of glaſs before it be thoroughly vitrified. It is uſed in cleanſing the teeth, and by farriers for clearing the eyes of horſes.

AXYLON, in *Ancient Geography*, a country of Aſia, towards Bithynia and Cappadocia. Livy.

AXYRIS, in *Botany*. Lin. g. 1047. Schreb. 1409. Juſſ. 86. Gærtn. t. 121. Claſs, *monœcia triandria*. Nat. Order, *holoraceæ*.—*Atriplices*, Juſſ. Gen. Char. * Male flowers in an ament. *Cal.* perianth three-parted, ſpreading, obtuſe. *Cor.* none. *Stam.* filaments three, capillary, ſpreading. Anthers roundiſh. * Female flowers ſcattered. *Cal.* perianth five-leaved (two-leaved, *Syſt.*), concave, obtuſe, converging, permanent; the two outer leaflets ſhorter. *Cor.* none. *Piſt.* germ roundiſh; ſtyles two, capillary; ſtigmas acuminate. *Per.* none. *Calyx*, cloſely involving the ſeed with its three leaflets. *Seed* one, ovate, compreſſed, obtuſe.

Eſſ. Gen. Char. *Male. Calyx* three parted. *Cor.* none. *Fem. Cal.* two-leaved. *Cor.* none. *Styles* two. *Seed* one.

Species, 1. A. *amaranthoides*, ſimple ſpiked axyris. Gmel. lib. 3. 21. t. 2. f. 2. and t. 3. "Leaves ovate, ſtem erect, ſpikes ſimple." Leaves rough, with ſtellate hairs; furit-bearing branches, naked at the baſe; ſpike very ſmall, ſubſeſſile, quite ſimple, terminal. It is obſerved by Gmelin, that the calyx of the female flower is two or three-leaved. Cultivated by Miller in 1758. 2. A. *hybrida*. Gmel. l. c. "Leaves ovate; ſtem erect; ſpikes conglomerate." This differs from the firſt, in the ſpike of flowers being on long peduncles, conglomerate, or directed the ſame way, twiſted, with the fruit bearing-branches crowded cloſe to the ſtem, and the leaves more rough. Pallas ſuppoſes this to be only a variety of the former plant. According to Gmelin, the calyx is three-leaved, and there is but one ſtyle in the female flower. 3. A. *proſtrata*. Gmel. l. c. "Leaves obovate; ſtem ſubdivided; flowers headed." Stem much branched, ſix or ſeven inches high; leaves on ſtalks; flowers at the ends of the branches, conglomerate, with numerous leaflets among them. The female calyx has alſo three leaflets according to Gmelin. All theſe are annual plants, and natives of Siberia.

AXYRIS *Ceratoides* now conſtitutes a new genus, under the name DIOTIS; which ſee.

AY, in *Geography*, a town of France, in the department of the Marne, and chief place of a canton in the diſtrict of Epernay, ſeated on the Marne; famous for its good wines; four leagues ſouth of Rheims, and one N. E. of Epernay. N. lat. 49° 4′. E. long. 2° 15′.

AY, PULO, one of the Banda iſlands, in the Indian ſea, about three leagues in circumference, where the Dutch have erected a fort.

AYAG, or KAYACHU, one of the Andreanofskie iſlands, in the Eaſtern or Pacific Ocean, about 150 verſts in circumference, and conſiſting of ſeveral high and rocky mountains, the intervals of which are bare heath and moor ground; but in the whole iſland, there is not one foreſt tree. The vegetables reſemble thoſe of Kamtſchatka. It furniſhes ſmall quantities of crow or crake-berries, and the larger ſort of bilberries; but of the roots of burnet and all kinds of ſnake-weed, ſuch abundance as to afford, in caſe of neceſſity, a plentiful proviſion for the inhabitants. There is one ſmall rivulet; and there are many good bays and anchoring places. The population cannot be preciſely aſcertained, as the natives are continually emigrating from iſland to iſland in their baidars.

AYAMONTE,

AYAMONTE, a ſea-port town of Spain, ſituate at the mouth of the Guadiana, on the frontiers of Portugal, with a good haven in the gulf of Cadiz; ſmall, but well fortified, and defended by a caſtle on a rock; 35 miles W. S. W. of Seville. The adjacent vineyards are fruitful, and the wine excellent. N. lat. 37° 13′. W. long. 8° 5′. See AIMONTE.

AYAMS, derived from an Arabic word which ſignifies *eye*, a name given to a claſs of officers in the provinces of the Ottoman empire, whoſe buſineſs it is to watch over the ſafety and the fortune of individuals, and alſo over the good order and defence of a town; to reſtrain the unjuſt enterpriſes of the pachas, and the exactions of the military, and to concur in the juſt aſſeſſment of the taxes.—Appointed by the people, thoſe who undertake this honourable function, are generally men reputed the moſt virtuous; there are ſeveral of them in the great towns, and a ſingle perſon ſuperintends ſeveral villages in the plains. They receive no other reward for their trouble and zeal, than the reſpect with which they are treated, and the ſatisfaction of being uſeful. The Ayams call to their divan the notables of the town and the lawyers, in order to diſcuſs the more important ſubjects, to digeſt the remonſtrances that are proper to be made to the pacha, and to eſtabliſh the grounds of thoſe complaints which they judge neceſſary to be preſented againſt him to the Porte. Olivier's Trav. in the Ottom. Emp. p. 200.

AYBAR, in *Geography*, a town of Spain, in Navarre, on the river Arragon; one league from Sangueſa.

AYBED, a place of Egypt, on the gulf of the Red Sea, where the merchandiſes of Aſia were landed.

AYBLENG, a town of Germany, in Upper Bavaria, twenty-ſix miles S. E. of Munich.

AYCHA, a town of Bohemia, in the circle of Boleſlaw; ſixteen miles north of Jung-Bantzel.

AYDHAB, a place of Africa, in Egypt, on the coaſt of the Red Sea. N. lat. 21° 53′. E. long. 36° 26′. See AIDHAB.

AYE, a town of Norway, in the iſland of Shierney.

AYE-AYE, in *Zoology*, a ſingular quadruped diſcovered by Sonnerat, in the iſland of Madagaſcar; and deſcribed in his voyage to the Eaſt Indies (tom. ii. p. 137). The name appears to have no preciſe meaning; it is an exclamation of the people in Madagaſcar, and which M. Sonnerat applied to this animal. It is found chiefly, if not excluſively, on the weſtern ſide of the iſland.

In ſize the creature is equal to a rabbit, meaſuring in a right line from the muzzle to the origin of the tail, fourteen or fifteen inches, and the tail being rather longer than the body. The head is formed like that of a ſquirrel; the inciſive teeth are very contiguous, and ſo placed as to reſemble in ſome manner, the beak of a parroquet; but the two in the lower jaw are much ſtronger than thoſe in the upper one. The ears are naked, large, and rounded at the tip, as in ſeveral of the bat tribe. The toes on each foot are five in number; and the firſt or innermoſt one, which ſerves as a thumb to the hind feet, has a large and flat nail as in the *makis* tribe (*macauco*, or *lemur*). A very diſtinguiſhed character of this animal is the length of the toes on the fore-feet; the two laſt joints of the middle toe above all are very long, ſlender, and deſtitute of hair, and the nails are hooked. The fur is as coarſe as horſe-hair; and is of a purpliſh, or muſky-brown colour, intermixed with black and griſeous aſh; upon the head, and back, about the eyes, legs, and thighs, is a deep muſk-colour; on the eyelids, and ſeveral parts of the body and limbs, black however predominates, and the tail is of this latter colour; that of the face, throat, and belly is greyiſh white, or ſlightly tinged with ruſous in ſome places; it does not carry the tail elevated like a ſquirrel. The female has two teats on the lower part of the belly.

M. Sonnerat, who ſaw both the male and female, ſpeaks of them as being very ſlothful and gentle animals; and which, like the owls, are ſcarcely able to diſcern objects in the day time. They live chiefly under ground, feeding on worms and inſects which they find in the earth, or in crevices in the trunks of trees, from whence they extract them with the greateſt facility, by means of their long ſlender toe before mentioned. Thoſe which Sonnerat kept alive, were ſerved with rice, and he obſerved that they fed themſelves with the two long toes of their forefeet, in the ſame manner as the Chineſe do with their chop-ſticks when eating rice at their meals.

Sonnini forms a new genus of this animal, under the name of CHIEROMYS (or *rat à main*), obſerving that it is the only ſpecies of its genus known. The generic character, according to this author, conſiſts in the toes being very long, and the thumb of the hinder pair being bent aſide, or turning rather backwards. He centures Gmelin for calling it *ſciurus Madagaſcarienſis* or Madagaſcar ſquirrel, becauſe a quadruped of that genus really exiſts in Madagaſcar.—Gmelin thus ſpecifically deſcribes his *S. Madagaſcarienſis*; middle toe of the fore-feet naked, and very long; thumb nail of the hind-pair rounded.

AYEL, Fr. or AYLE, in *Law*, a writ which lies where the grandfather was ſeized in his demeſne on the day he died, a ſtranger enters the ſame day and diſpoſſeſſes the heir. See ASSISE *de Mort, &c.*

AYEN, in *Geography*, a town of France, in the department of the Correze, and chief place of a canton in the diſtrict of Brive; fourteen miles S. S. W. of Uzerches.

AYENIA, in *Botany*, (named in honour of the duke D'Ayen, duke and marechalle de Noailles). Lin. g. 1020. Schreb. 367. Gærtn. 79. Juſſ. 278. Claſs, *gynandria pentandria*; or according to Schreber, *pentandria monogynia*. Nat. Order of *columniferæ*.—*Malvaceæ*, Juſſ. Gen. Char. *Cal.* perianth one-leafed, five parted; parts ovate, oblong, acute, coloured in the middle, reflex, withering. *Cor.* five-leaved, united at the top to the nectary into a flat ſtar; claws of the petals capillary, very long, bowed outwardly; borders obcordate, reſupinate, with clubbed tips turned upward; nectary bell-ſhaped, ſitting on a cylindric, erect column, ſhorter than the calyx; border five-lobed, lobes elevated, above flattiſh, with a longitudinal furrow, excavated underneath, ſharp. *Stam.* filaments five, very ſhort, inſerted into the margin of the nectary, on the top of the ribs, between the diviſions of the border, each bent downwards through a notch at the end of each petal; anthers roundiſh, under the borders of the petals. *Piſt.* germ roundiſh, five-cornered, at the bottom of the nectary; ſtyle cylindric; ſtigma obtuſe, five-lobed. *Per.* capſule five-grained, roundiſh, muricate, five-celled, ten-valved, elaſtic. *Seeds* ſolitary, rather oblong, gibbous on one ſide, angular on the other.

Eſſ. Gen. Char. Monogynous. *Cal.* five-leaved. *Pet.* united into a ſtar, with long claws; anthers five, under the ſtar; capſ. five-celled.

Species, 1. A. *puſilla*; ſmooth ayenia. Mill. Dict. fig. t. 18. "Leaves cordate, ſmooth." Stem weak, woody, from nine inches to a foot high; leaves alternate, indented, pointed, ſtalked; flowers at the baſe of the petioles, two, three, or four, from the ſame point, on ſeparate peduncles; corolla purple, tubulous, ſpreading at the top into five ſegments, each terminated by a ſlender tail. A native of Peru. Cultivated by Miller, in 1756. Its flowers appear in ſucceſſion from July till winter. 2. A. *tomentoſa*. "Leaves ovate,

ovate, roundiſh, tomentoſe." Leaflets of the calyx lanceolate, acute, permanent; corolla without petals, but compoſed of a one-leafed bell-ſhaped nectary, with a five-cleft margin; ſtamens on the outſide of the nectary, longer than the calyx, bowed, bent in, and fixed by a broad membranous tip, to the edge of the nectary; anthers three. A native of South America. 3. A. *magna*. Jacqu. Amer. Pict. p. 112. "Leaves cordate pubeſcent; germ of the flowers ſeſſile." An upright ſhrub, five feet high; leaves acuminate, ſerrate, alternate, on tomentoſe footſtalks; peduncles ſhort, axillary, moſtly in fours; three-flowered; flowers ſmall, herbaceous, not gynandrious. A native of Carthagena and other places of South America. 4. A. *lævigata*. Swartz. Prod. 97. "Leaves ovate, entire, very ſmooth, germ pedicelled, nectary ten-cleft, radiated." A native of Jamaica.

Propagation and Culture. Theſe plants are to be propagated by ſeeds ſown on a temperate hot-bed, early in the ſpring, and when they have four leaves, they ſhould be tranſplanted in another hot-bed to bring them forward, or in pots, and plunged into a hot-bed of tanner's bark. They muſt be ſhaded till they have taken new root, and afterwards have free air admitted to them every day in proportion to the warmth of the ſeaſon; they alſo require frequent watering. In winter they may be preſerved in a moderate ſtove, but as they perfect their ſeeds the firſt year, it is not neceſſary to continue the old plants. See Martyn's Miller's Dict.

AYENNIS, in *Geography*, the name of an Indian tribe of America, in Florida.

AYERBA, a town of Spain, in Arragon, on the Gallego, between Saragoſa and Jaca.

AYERBENGAI, a town of the iſland of Sumatra.

AYERSTOWN. See Ayrstown.

AYESHA, in *Biography*, the favourite wife of Mahomet, was the daughter of Abubeker, and the only one of Mahomet's numerous wives who was a virgin when ſhe came to his bed. With this view, he married her at ſeven years of age, and cohabited with her at nine. He had no children by her; but ſo affectionate and conſtant was his attachment to her, that in his laſt illneſs he was conveyed to her houſe, and expired in her arms. Her enemies charged her with adultery on a particular occaſion; and though the prophet had ſuſpicions of her infidelity, he thought it moſt prudent, for preſerving the dignity of his own character, to produce a ſeaſonable revelation from heaven, atteſting her innocence; and he puniſhed her accuſers as calumniators. After the death of Mahomet, Ayeſha was held in great veneration by the Muſſulmans, denominated "the mother of the faithful," and conſulted on important occaſions. Againſt the caliph Othman ſhe conceived, for ſome reaſon that is not known, an invincible prejudice, and formed a plot for dethroning him. When Othman was aſſaſſinated by another enemy, ſhe vigorouſly oppoſed the ſucceſſion of Ali, becauſe he had concurred in the accuſation of her infidelity. Uniting with her favourites Telha and Zobeir at Mecca, and under a pretence of avenging the murder of Othman, ſhe marched in a litter borne by a very ſtrong camel, at the head of an army, towards Baſſora, and on approaching the town, after ſome ineffectual reſiſtance on the part of the inhabitants, ſhe was met by a deputation ſent to know her intentions, whom ſhe harangued with great paſſion, and in a loud ſhrill voice, in a long ſpeech. To her ſpeech, one of the Arabs replied, "O mother of the faithful, the murder of Othman was a circumſtance of leſs moment than thy leaving home upon this curſed camel. God has beſtowed on thee a veil and a protection; but thou haſt rent the veil, and ſet at nought the protection." After ſome conteſt, the troops of Ayeſha gained poſſeſſion of Baſſora. But Ali advanced, and as Ayeſha obſtinately rejected all pacific counſels, a fierce battle enſued at a place called Horaiba, in which both Telha and Zobeir were ſlain. The combat cloſed with hamſtringing the camel on which Ayeſha was carried, and taking her priſoner. After ſome mutual reproaches between her and Ali, ſhe was civilly diſmiſſed, and ſent to Medina with an injunction to live peaceably at home, and to concern herſelf no more in affairs of ſtate. This reſtriction ſhe afterwards reſented by refuſing to ſuffer Haſan, the ſon of Ali, to be buried near the tomb of the prophet, which was her property. Having regained ſome degree of influence in the reign of the caliph Moawiyah, ſhe was conſulted by him concerning the ſucceſſion of his ſon Yezid. Soon after, ſhe died, in the 58th year of the Hegira, A. D. 677, at the age of 67 years. Mod. Un. Hiſt. vol. i. Herbelot Bib. Or. p. 75.

AYGUILA, in *Zoology*, a ſpecies of Simia, characteriſed by Linnæus as the long-tailed, beardleſs, grey monkey, with a riſing longitudinal tuft on the crown; the ſimia nigra magnitudinis mediocæ of Edwards; aigrette of Buffon; and egret monkey of Pennant. Linnæus mentions an animal, apprehended to be a variety, with a roundiſh head, the face leſs black, and the colour of the body leſs ferruginous. Mr. Pennant deſcribes the egret as having a long face, and an upright pointed tuft of hair on the top of the head, hair on the forehead black; colour of the upper part of the body olivaceous; of the lower, cinereous; eyebrows large; beard very ſmall; ſize of a ſmall cat. It is ſaid to inhabit India, and particularly the iſland of Java, and to be a very ſportive and lively ſpecies; gamboling on the trees, and making a continual noiſe during the night. M. Cepede ſurmiſes, that the bonneted monkey may perhaps be a variety of this ſpecies. Shaw.

AYGULUS, in *Entomology*, a ſpecies of Scarabæus, that inhabits India. Thorax with four dots; head tuberculated; wing-caſes teſtaceous; and no fore-tarſi. Fabricius.

AYLAH. See Ailah.

AYLESBURY, in *Geography*, is a large market and borough town in Buckinghamſhire, in England; and may be conſidered the moſt conſiderable town in the county. It conſiſts of ſeveral ſtreets and lanes, which are irregularly diſpoſed over an extenſive ſurface of ground that riſes in the midſt of the rich vale of Aylesbury. Leland deſcribes the town as being principally built with timber when he viſited it, but ſince that time it has been conſiderably enlarged and improved, and moſt of the houſes conſtructed with brick. The improvements originated with Sir John Baldwin, who erected ſome conſiderable buildings, and raiſed a cauſeway three miles in length to facilitate the approach to the town through a road that was often miry and dangerous. This gentleman, in the time of Henry the eighth, alſo procured the aſſizes to be held here which had before been kept at Buckingham. In conſequence of this, a county gaol, and alſo a handſome county hall, were erected. About the year 600, Aylesbury became famous as the burial place of St. Oſyth, who was born at Quarendon in this neighbourhood, and beheaded in Eſſex by the Pagans. The burial place of a ſaint, in the dark ages of ſuperſtition, cauſed it to be much more frequented by ſanctified enthuſiaſts, and Aylesbury became highly celebrated from this circumſtance. Beſides, the ſiſters Editha and Eadburga became poſſeſſed of the manor, which after the conqueſt was given by the king to ſome of his favourites. The ſingular tenure, by which it was now held, ſerves to explain the cuſtoms of the times. This enjoined the lord of the manor to provide ſtraw for the king's

king's bed and chamber, three eels for his use in winter; and in summer, straw, rushes, and two green geese, thrice every year, if he visited Aylesbury so many times. The church is a spacious and ancient structure, built in the shape of a cross, with a low tower rising at the intersection of the nave and transepts. It contains a few ancient monuments and on the south side is a room appropriated for a free-school. The church-yard is large, and disposed into several walks, which are planted with double rows of trees. This town was made a borough by charter, and empowered to send members to parliament on the 14th of January, 1553-4. The right of voting is vested in all the housholders who do not receive alms, and these commonly amount to about 350. Here are six annual fairs, and a market held on Saturday: at the latter, great numbers of calves and ducks are sold to dealers from London. Many people in this town and its neighbourhood derive support from their peculiar skill in breeding and rearing of ducks. To gratify fashionable luxury they contrive to prevent the ducks laying till the months of October and November; when by heating and stimulating food, they are induced to drop their eggs; these are collected and put under different hens, which are also impelled to sit at an unseasonable time, and often made to continue in the nest for two or three broods. By this treatment the poor bird is often exhausted, and dies under her compulsive duty. When the young ducks are hatched, they are placed near the fire and nursed with particular care. By these methods, many ducklings are sent to the metropolis at Christmas, and have been known to sell at fifteen shillings and a guinea per couple. The parish of Aylesbury, including the hamlet of Walton, occupies a large space of ground, and comprehends 697 houses and about 3082 inhabitants, the lower class of whom are usually employed in making of lace.

The *vale of Aylesbury* is particularly celebrated among agriculturists, for its richness and fertility of soil. It extends for many miles east and west, nearly from Tame in Oxfordshire to Leighton-Buzzard in Bedfordshire, and is mostly appropriated to the grazing and fattening of cattle and sheep. About five miles from Aylesbury, is Eythorpe, a seat of the Earl of Chesterfield; and at ten miles distance is Wotton-under-Bernwood, an ancient seat of the Grenville family, and now occupied by the earl of Temple. Britton and Brayley's Beauties of England and Wales, vol. i. p. 343, &c.

AYLESFORD, a considerable village of England, in the county of Kent, seated on the northern bank of the river Medway, over which there is a handsome stone bridge of six arches. It is four miles from Maidstone, and thirty from London. The ancient name of this place is found to have been Saissenaig-habail; but in consequence of a bloody battle which was fought here between the Britons and Saxons in 455, the name was changed to Angles-ford, and that afterwards contracted to Aylesford. This battle is rendered memorable in the annals of English history, as being the first great conflict between the invading Saxons under Hengist, and the harassed Britons under Gwrtheyrn. Concerning the issue of this battle our historians are very contradictory: some have described the Britons as completely victorious; but the learned Mr. Turner observes, that as Hengist and his son Esca possessed Kent after this event, we may presume that the engagement was unfavourable to the natives. In this sharp battle, Horsa, brother to Hengist, and Catigern, brother to Vortimer, are said to have fought hand to hand, and were both killed on the spot. The former was interred on the eastern side of the Medway, at a place which still retains the name of Horsted; and Catigern was buried at a place nearer the scene of battle, where it is stated a large Cromlech was erected to his memory. This monument is still existing at the place, and consists of three large upright stones, about eight feet high, with another lying on the top, measuring eleven feet by eight, and two feet in thickness. It is called Kitscoty-house. (See CROMLECH.) At the distance of about two fields are other stones erect and some lying down in a circular arrangement. In the reign of Henry the Third, a monastery of Carmelites was founded at Aylesford, by lord Grey of Codnor. It was granted by Henry the eighth to sir Thomas Wyat, and has at length devolved to the earl of Aylesford. Here is an hospital for six poor people, each of whom is allowed ten pounds a year. Hasted's History of Kent, 8vo. edition. Turner's History of the Anglo-Saxons.

AYLETS, or SEA-SWALLOWS. In *Heraldry*, they are often called *Cornish Choughs*, and are painted sable beaked, and legged gules.

AYLMER, or ÆLMER, *John*, in *Biography*, an English divine and bishop, was descended from an ancient family at Aylmer-hall, in the county of Norfolk, and born in the year 1521. Being a younger son, he was educated at Cambridge under the patronage and at the charge of Henry Grey, marquis of Dorset, and afterwards duke of Suffolk; who, when his studies were finished, took him into his house, as preceptor to his children, one of whom was lady Jane Grey. Under his tuition, this lady became an excellent proficient in the Latin and Greek languages, so that she could not only read them with ease, but write them with elegance. Aylmer, as a preacher, zealously inculcated the principles of the reformers; and having, in consequence of his preferment to the archdeaconry of Stow, in the diocese of Lincoln, a seat in the convocation, held in the first year of queen Mary, he resolutely opposed that return to popery to which the clergy in general seemed to be inclined; and he was one of six persons who offered to debate all the controverted points of religion with the most learned champions of the Papists. His zeal for the reformation rendered him obnoxious to the government, so that he found it necessary to withdraw from the country; and as he was of a diminutive size, he made his escape by being concealed in a pipe of wine which had a false bottom, the wine being drawn from the lower half, whilst Aylmer lay hid in the upper. During the time of his exile, he resided first at Strasburgh, and afterwards at Zurich in Switzerland, pursuing his studies, and improving himself by travelling, in the course of which he visited most of the universities in Italy and Germany. Towards the close of his exile, he wrote an answer to John Knox's book against the government of women, intitled, "The first Blast against the monstrous Regiment and Empire of Women." His piece was intitled, "An Harborowe for faithful and trewe Subjects against the late blowne Blaste, &c." printed at Strasburgh, in 1559. This book was written with vivacity and learning; but it contained some passages which seemed to indicate a tendency towards puritanism, and particularly one in which he exhorted the bishops to content themselves with moderate incomes, and with a portion "priest-like, and not prince-like." However, when this passage was afterwards objected to him by his enemies, he vindicated himself by saying, "When I was a child, I spoke as a child, and thought like a child, &c." After the accession of queen Elizabeth, Aylmer returned home, and was one of the eight divines appointed to dispute with as many popish bishops at Westminster, in the presence of a great assembly. In 1562, he obtained the archdeaconry of Lincoln; and in right of this dignity, he sat in the famous synod held this year for examining and settling the doctrine and discipline of the reformed

reformed church. In this ſituation he continued for ſeveral years, attending to his duties as a juſtice of the peace, and one of the eccleſiaſtical commiſſioners, and entering very little into thoſe diſputes that would have ſubjected him to the notice of either of the two parties by whom he was ſuſpected. In 1573, he accumulated the degrees of bachelor and doctor in divinity, in the univerſity of Oxford; and in 1576, he ſucceeded his intimate friend and fellow exile in the ſee of London; but he incurred cenſure by commencing, and proſecuting for ſome years, a ſuit againſt him for dilapidations. Indeed, a prudent attention to his own intereſt was a diſcriminating feature in the biſhop's character. In his clerical and epiſcopal capacity, he was aſſiduous in public preaching, occaſionally rouſing, as it is ſaid, the languid attention of his audience by reciting Hebrew verſes from a pocket bible; and in his efforts for guarding the church againſt the attacks both of papiſts and puritans. Perſons of both theſe deſcriptions, and particularly the latter, were treated by him with a degree of ſeverity, which was not only unwarrantable in itſelf, but which incurred occaſional admonition from the ruling powers. His virulent abuſe of ſome puritan miniſters expoſed him to the no leſs acrimonious aſſault of their ſarcaſtic writers, ſo that he became the hero of the celebrated Martin Mar-prelate. See Fuller's Church Hiſtory, b. ix. p. 223, 224. He was involved in a variety of diſputes with reſpect both to the temporalities of his ſee, and his exerciſe of its ſpiritual juriſdiction; ſo that his life was far from being tranquil, though his ſpirit was bold and reſolute, and enabled him to ſurmount the difficulties with which he had to encounter. Of his reſolution and perſonal courage the two following inſtances are recorded: one was his ſubmitting to the extraction of a tooth, in order to encourage queen Elizabeth to undergo the ſame operation; and the other was his cudgelling his ſon-in-law for miſconduct towards his wife, who was a favourite daughter. Biſhop Aylmer died at Fulham, in 1594, at the age of 73 years, and was buried in St. Paul's cathedral. He left ſeven ſons and two or three daughters, to all of whom he left large legacies, which he was enabled to do by his economy and avarice. The character of Aylmer deſervedly ranks high with reſpect to talents and learning, but his temper was irritable and violent; he was immoderately fond both of power and money; and he undoubtedly poſſeſſed an arbitrary and perſecuting ſpirit. Biog. Brit. Andrews's Hiſt. of Gr. Brit. vol. i. p. 524.

AYLSHAM, or Alesham, in *Geography*, is a reſpectable market town in Norfolk, in England, ſituated in a flat and fertile country on the banks of the river Bure. In 1773, an act of parliament was obtained for making this river navigable hence to Coltiſhall in its courſe to Yarmouth, a diſtance of about ten miles, in which ſpace there are five locks: the undertaking was completed in 1779. This town is the capital of the manor of the duchy of Lancaſter, in conſequence of which the duchy court is always held here. The manor was granted by Edward III. to the famous John of Gaunt, duke of Lancaſter, who built a handſome church in the town, and dedicated it to St. Michael. A free-ſchool was founded here in 1577, by Robert Jannys, who was then mayor of Norwich. Aylſham is about eleven miles from Norwich, and 120 from London. It has two annual fairs, and a weekly market on Tueſday: this was formerly held on Saturdays, but has been altered to the former day. Hiſtory and Antiquities of Norfolk, 10 vols. 8vo.

AYMARAES, a juriſdiction of South America, in the dioceſe of Cuſco, about 40 leagues ſouth-weſt from Cuſco. This territory abounds in ſugar, cattle, and grain, and alſo in mines of gold and ſilver, which formerly produced large quantities of theſe valuable metals; but at preſent few of them are wrought, the country being too thinly inhabited.

AYMARGUES. See Aimargues.

AYMOUTH, See Eymouth.

AYNAC, a town of France, in the department of the Lot, and chief place of a canton in the diſtrict of Figeac, twelve miles N. N. W. of Figeac.

AYOQUANTOTOTL, or Avis Ayoquantototl, in *Ornithology*, the name under which the *Oriolus Xanthornus* of Gmelin is deſcribed by ſome old writers. Vide Hern. Mex. Seba, &c.

AYORA, in *Geography*, a ſmall place of Spain, in the province of Valencia, upon the river Xucar, at the foot of a mountain, one league from the frontiers of New Caſtile; the inhabitants of which are ſaid to ſpeak Caſtilian in its purity.

AYOTECOS, high mountains of America, in Mexico, in the province of Tlaſcala, towards the coaſt of the South ſea.

AYRSHIRE, a county in the ſouth-weſtern part of Scotland, bounded on the north by the county of Renfrew, on the eaſt by the ſhires of Lanark and Dumfries, on the ſouth by Galloway, and on the weſt by the frith of Clyde. Its extent is about ſixty-five miles in length by thirty-ſix in breadth, and it is divided into three great bailliages or ſtewartries, which bear the names of Kyle, Cunningham, and Carrick. Theſe diſtricts are extremely different from each other in appearance, as Carrick and the interior parts of Kyle are mountainous, and only fitted for paſture; while the coaſt of Kyle, and the greater part of Cunningham, preſent a fine, level, cultivated country, interſperſed with numerous towns and villages. Its rivers are the Tweed, the Ayr, the Eſk, the Annan, the Urr, the Gurvan, the Doon, and the Lugar. This county includes two royal burghs, Ayr and Irvine, and ſeveral towns, among which are Beith, Ballantræ, Girvan, Kilmarnock, Kilwilling, Largs, and Salcoats. Ayrſhire poſſeſſes many valuable ſeams of coal, alſo ſome quarries of freeſtone, limeſtone, ironſtone, and ſeveral rich lodes of lead and copper ore. A few curious ſpecimens of agates, porphyries, and calcareous petrifactions are often found in the hills of Carrick; and a ſpecies of whetſtone, known by the name of *Ayr-ſtone*, is obtained from this county. The population of it, as returned to the houſe of commons in 1800, was 84,306, of which 39,666 were males, and 44,640 females.

AYR, the principal town in the above county, is a royal borough of conſiderable antiquity, and the ſeat of a juſticiary court. It was nominated a royal borough by William the Lion, in 1180, and the privileges by charter then granted are ſtill enjoyed by the town. It is pleaſantly ſeated on a point of land which projects into the ſea, between the influx of the rivers Doon and Ayr, and the principal ſtreet is broad and ornamented with a row of good houſes on each ſide. Ayr has been a town of conſiderable trade, but the riſing opulence of Glaſgow has attracted the merchants from this place. The inconvenient entrance to the harbour proved detrimental to the commerce of the town, but the inhabitants are carrying on extenſive works to remove all obſtructions at the mouth of the river, and render it more commodious for trading veſſels; and two new reflecting light-houſes are now erecting near the entrance to the harbour. The ſalmon fiſhery of the two rivers furniſhes employ for many of the inhabitants, and the ſand banks of the coaſt abound with all kinds of white fiſh. Its population is 5,[illegible]2, and it has 775 houſes.

Ayr, *New Town of*, is the name of another town, ſeated on the north ſide of the river Ayr. It has baronial juriſdiction, and a diſtinct magiſtracy from the other town. This place ſeems to have ariſen under the influence of Robert Bruce, who

retired here upon being attacked with a leproſy, eſtabliſhed a lazar-houſe, and conferred conſiderable favours on the town, and the neighbouring village of Prieſtwich. Its population is 1724.

Ayr, a river of Scotland, riſes in the pariſh of Muirkirk, in the above county, and after a courſe of about eighteen miles due weſt, falls into the frith of Clyde, at the town juſt deſcribed. Its banks are ſteep and romantic in ſome places, but in others it often overflows its ſhores, and does conſiderable damage.—Alſo, a river of France, which runs into the Aiſne near Grandprè.

AYRAINES, a town of France, in the department of the Somme, and chief place of a canton in the diſtrict of Amiens, nine miles S. S. E. of Abbeville.

AYRSTOWN, or Ayerstown, a town of America, in Burlington county, New Jerſey, ſituate on the middle branch of Ancocus creek, ſixteen miles from the mouth of the creek in the Delaware, and thirteen ſouth-eaſt from Burlington.

AYRY. See Aery.

AYSCUE, Ayscough, or Askew, *Sir George*, in *Biography*, an eminent Engliſh admiral of the ſeventeenth century, was deſcended from a good family in Lincolnſhire; and entering into the ſea-ſervice in his youth, acquired the reputation of an able and experienced officer, and obtained the honour of knighthood from king Charles I. Adhering, however, to the parliament in the civil war, he was conſtituted admiral of the Iriſh ſeas, where he is ſaid to have rendered great ſervice to the proteſtant intereſt, and to have contributed much to the reduction of the whole iſland. In 1651, he reduced the iſlands of Scilly, and alſo Barbadoes and Virginia, to the obedience of the parliament; and he afterwards behaved with great honour in the war with the Dutch. In 1666, whilſt he was engaged with the Dutch fleet, his ſhip was driven upon the Galloper-ſand; and being ſurrounded with enemies, and deſpairing of help from friends, he was obliged to ſurrender. After this diſaſter, he went no more to ſea; but ſpent the remainder of his days in retirement. Biog. Brit.

AYSIAMENTA, or Ayziamenta. See Easement.

AYSLINGEN, in *Geography*, a market town of Germany, in a prefecturate of the ſame name, in the dioceſe of Augſburg, ſituate on the Danube.

AYST, a river of Auſtria, in the Blach quarter, on which is ſeated the market town of Waldhauſen.

AYTON, or Aiton, a ſmall town of Greece, in Livadia, five leagues north of the Dardanelles of Lepanto. This is thought to be the ancient town of Ætolia, called *Calydon Aquilæ*.

AYUD, Audin, or Hawd, a province of Hindoſtan, containing the moſt northern countries belonging to the Moguls, ſuch as Kakares, Bankiſh, Nagarkat, Siba, and others. It is ſituated to the northweſt of the Ganges, and watered by rivers which fall into it; ſo that, notwithſtanding its mountains, it is exceedingly fertile; and its trade with the countries to the north-eaſt renders it very rich. In this province there are many independent rajahs, and two remarkable pagodas, one at Nagarkat, dedicated to the idol Matta, and the other at Kalamak, which is venerated, becauſe the Indians regard it as miraculous, that the water of the town ſhould be very cold, and yet ſpring from a rock that continually throws out flames.

AZA, in *Ancient Geography*, a town of Aſia, in Syria, ſeated on an eminence to the weſt of one of the branches of the river Chalus, ſouth-weſt of Chaonia.—Alſo, an ancient town of the Leſſer Armenia, placed by the Antonine Itinerary in the route from Cæſarea to Sangala, 26 miles from the latter place.—Alſo, a name given in the time of Steph. Byz. to the town of Gaza.—Alſo, a town of Paleſtine, in the tribe of Ephraim.

AZAB, Ussab, or Saba, in *Geography*, a territory on the Abyſſinian coaſt of the Arabian gulf, near the ſtraits of Babelmandeb, which has been, from time immemorial, the mart of frankincenſe, myrrh, and balſam. Behind Saba, upon the Indian ocean, is the "Regio Cinnamonifera," where a conſiderable quantity of that wild cinnamon grows, which the Italian druggiſts call "canella." Azab, or Saba, was formerly a principal ſtation of the caravans, which traded to Arabia. It lies in N. lat. 13° 5′. E. long. 43° 5′. and though it is not a port, it affords a very tolerable road, where is very ſafe riding, under the ſhelter of a low deſert iſland, called "Crab Iſland," with a few rocks at the end of it. The people, however, ſays Mr. Bruce, are Galla, the moſt treacherous and villainous wretches upon the earth. They are "Shepherds," who ſometimes reſort to the coaſts in great numbers, and ſometimes traverſe the hinder part of the hills that run cloſe along the ſhore, and occupy miſerable villages compoſed of huts, that run nearly in an eaſt and weſt direction from Azab to Raheeta, the largeſt of all their villages. At Azab may be had plenty of water, ſheep, and goats, and alſo ſome myrrh and incenſe at the proper ſeaſon. But no confidence is to be had in the people. Thoſe of Mocha, who are abſolutely neceſſary to them in their commercial tranſactions, cannot truſt them without ſurety or hoſtages. Near Azab there are large ruins, which ſeem to indicate its former magnitude and importance. There is eſpecially an aqueduct, which, in remote times, furniſhed a very conſiderable ſupply of water from a fountain in the mountains, which muſt have greatly contributed to the beauty, health, and pleaſure of the place. This is conſtructed with large maſſy blocks of marble, brought from the neighbouring mountains, placed upon one another without lime or cement, but joined with thick cramps, or bars of braſs. There is likewiſe a number of wells, not ſix feet wide, compoſed of pieces of marble hewn to parts of a circle, and joined with ſimilar bars of braſs. This circumſtance is ſomewhat ſurpriſing, as we are informed by Agatharcides (p. 60.), that the Alileans and Caſſandrins, in the ſouthern parts of Arabia, juſt oppoſite to Azab, had among them gold in ſuch plenty, that they would give double the weight of gold for iron, triple its weight for braſs, and ten times its weight for ſilver; and that in digging the earth, pieces of gold were found as big as olive-ſtones, and ſome much larger. However this be, the inhabitants of the continent, and of the peninſula of Arabia oppoſite to it, agree, that this was the royal ſeat of the queen of Saba, famous in eccleſiaſtical hiſtory for her journey to Jeruſalem; that theſe works belonged to her, and were erected at the place of her reſidence; and that all the gold, ſilver, and perfumes came from her kingdom of Sofala, which was Ophir, and which reached from thence to Azab, upon the borders of the Red Sea, along the coaſt of the Indian ocean. See Abyssinia.

The ruins at Azab, as well as thoſe at Axum (See Axum), appear to be thoſe of public buildings, and not of private dwellings; and from this circumſtance it has been inferred, that theſe were not cities of conſtant reſidence, but rather places of reſort, where the adventurous traders and their attendants lived, as uſual, in their tents, but where their religious rites were celebrated with the greateſt ſolemnity, and in a manner becoming the diſpoſitions of men, who ventured in expeditions acroſs the deſerts, far more difficult and dangerous than acroſs the Atlantic; whence, we may alſo imagine, was derived the great influence, or rather power, of the order of prieſts, who perhaps were the only conſtant inhabitants of theſe ſpots, which they wiſhed

wiſhed to be conſidered as the favourite abodes of their divinities. It appears, however, from the beſt authorities, that Meröe, Axum, and Azab, were places that had a common origin, and were moſt probably, as we have already obſerved, the principal ſtations of the caravans that traded to Arabia, while Thebes and Ammonium continued the communication toward Carthage. Whether from Azab there was an intercourſe with the Ethiopians of the more ſouthern parts of Africa, toward cape Gardefan, and the preſent Zanquebar, is a queſtion that deſerves particular inveſtigation. On this ſubject, ſee profeſſor Heeren's "Idéen iiber die Politik, &c." or "Ideas on the Policy, Intercourſe, and Commerce, of the principal Nations of Antiquity." Gottingen, 1793.

Azab, in the *Military Order of the Turks*, ſignifies a particular body of the ſoldiery taken in, or added firſt to the janizaries, but now become a ſeparate body from them.

The word, in the Oriental languages, ſignifies an unmarried perſon, and the original order of theſe was, that they ſhould be ſingle men.

The azabs in Egypt have been great rivals to the janizaries, and ſometimes they have got the better. Their inſtitution and officers are the ſame with thoſe of the janizaries; but with this difference, that from odo-baſhees they are made ſerbajees, and from that office cajas, and come into the divan. On the contrary, among the janizaries, when any one is made a ſerbajee, it is laying him aſide, and he is no farther advanced. Pococke's Egypt.

AZABE-Kaberi, from *kaber*, *ſepulchre*, and *azab*, *torment*, denotes a temporary puniſhment, which, as the Mahometans ſay, the wicked muſt ſuffer after death. Their crimes are hereby expiated, and Mahomet opens the gate of paradiſe to all who believe in him.

AZADARICHTA, in *Botany*. See Melia.

AZADKAR, in *Geography*, a large town of Perſia, called alſo *Yeuin*, and placed by Tavernier in an extenſive plain, watered by 400 ſubterranean canals.

AZAGARIUM, in *Ancient Geography*, a town of the European Sarmatia, in the vicinity of the Boryſthenes. Ptolemy.

AZAGRA, in *Geography*, a town of Spain, in Navarre, on the Ebro; two leagues from Calahorra.

AZAIZY, a poor and inconſiderable tribe of Arabs, inhabiting a village of Egypt, called Bir Ambar, between the Nile and the Red Sea, about N. lat. 26°, and E. long. 33°; who ſubſiſt by letting out their cattle for hire to the caravans that go to Coſſeir. The village probably derived its name Bir Ambar, or the well of ſpices, from its having been formerly a ſtation of the caravans from the Red Sea, loaded with this kind of merchandiſe from India. The habitations of the Azaizy are conſtructed of potter's clay, in one piece, in ſhape of a bee-hive: the largeſt not above ten feet high, and the greateſt diameter ſix. Bruce's Trav. vol. i. p. 170.

AZALEA, in *Botany*, (ἀζαλεος, *dry*; from its growing in a dry ſoil.) Lin. g. 212. Schreb. 277. Gaertn. 63. Juſſ. 158. Claſs, *pentandria monogynia*. Nat. Order, *Dumosæ — Rhododendra*, Juſſ. Gen. Char. *Cal.* perianth five-parted, acute, erect, ſmall, coloured, permanent. *Cor.* monopetalous, bell-ſhaped, ſemiquinquefid; the ſides of the diviſions bent in. *Stam.* filaments five, filiform, inſerted into the receptacle, free; anthers ſimple. *Piſt.* germ roundiſh; ſtyle filiform, the length of the corolla, permanent; ſtigma obtuſe. *Per.* capſule roundiſh, five-celled, five-valved. *Seeds* many, roundiſh. *Obſ.* In ſome ſpecies the corolla is funnel-ſhaped.

Eſſ. Gen. Char. *Cor.* bell-ſhaped; ſtamina inſerted into the receptacle; capſule five-celled.

Species, 1. A. *pontica*, Pontic azalea. "Leaves ſhining, lanceolate, ſmooth on both ſides, racemes terminal." This ſpecies much reſembles rhododendron ponticum; but its flowers are yellow, its leaves ſmaller, ovate and ciliate. A native of Pontus. 2. A. *indica*, Indian Azalea. Thunb. Jap. 84. "Flowers ſub-ſolitary; calyxes hairy." A ſhrub, three feet high, with a rough cinereous-brown bark. Branches ſhort, twiſted, irregular. Leaves ſtiff, villoſe, cloſe, ever-green. Flowers cover the whole upper part of the ſhrub, and are of a beautiful bright red colour. A native of the Eaſt Indies. It is much cultivated in Japan for the elegance of its flowers, and variety in their ſize and colours. 3. A. *nudiflora*, naked-flowered azalea. The varieties are as follow: A. coccinea, deep ſcarlet azalea, Curt. Mag. 180. A. rutilans, deep red azalea. "Calyxes minute." A. carnea, pale red azalea. "Tube red at the baſe, calyxes leafy." A. alba, early white azalea. "Calyxes of a middling length." A. bicolor, red and white azalea. "Limb of the corolla pale; tube red; calyx ſmall; branchlets hairy." A. papilionacea, variegated azalea. "Corolla red, the loweſt ſegment white; calyxes leafy." A. partita, downy azalea. "Corolla pale red, divided to the baſe into five parts." Sp. Char. "Leaves ovate, corollas hairy, ſtamens very long." In its native country this frequently exceeds fourteen feet in height, but in England, we never ſee it half this height. Several ſtems ariſe from the root. Leaves oblong, ſmooth, alternate, ſtalked. Peduncles axillary, long, naked, ſupporting a cluſter of red flowers, which are tubulous, and ſwelling at the baſe, like thoſe of the hyacinth, and contracted at the neck; they are divided at the top into five unequal ſegments, which ſpread open. The filaments and ſtyles are much longer than the petals, and ſtand erect. A native of North America; and introduced here by Peter Collinſon, eſquire, in 1734. 4. A. *viſcoſa*, viſcid azalea. "Leaves ſcabrous at the edge; corollas with glutinous hairs." Its varieties are, A. odorata, common white azalea. "Branches diffuſed; leaves deep green, ſhining." A. vittata, white-ſtriped flowered azalea. "Corolla white, with pale red keels; ſtyles elongated; red at the end; leaves pale, ovate, oblong." A. fiſſa, narrow-petalled white azalea. "Corolla divided to the very baſe; leaves deep green, ſhining." A. floribunda, cluſter-flowered white azalea. "Styles longer than the corolla; leaves glaucous underneath." A. glauca, glaucous azalea. "Corolla white; leaves glaucous on both ſides, the younger with ſcattered hairs on the upper ſurface." This ſhrub riſes with ſeveral ſtems near four feet high. Leaves ſpear-ſhaped, narrow at the baſe, beſet at the edges with ſhort rough teeth, and ſtand in cluſters at the ends of the ſhoots. Flowers in cluſters at the extremities of the branches, white, with a mixture of dirty yellow on the outſide; tube an inch long; the two upper ſegments at the top reflex; the two ſide ones bent inwards; and the lower one turned downwards. Theſe flowers have the appearance of thoſe of honey-ſuckle, and are as agreeably ſcented; they appear in July. This is nearly allied to the foregoing; but does not flower till after the leaves are expanded. It is a native of North America, and was introduced here by P. Collinſon, eſquire. 5. A. *lapponica*, Lapland azalea. "Leaves with excavated dots ſprinkled over them." A ſhrub ſix or ſeven inches high. It is to be diſtinguiſhed from rhododendron dauricum only by its having five ſtamens, whereas that has ten. 6. A. *procumbens*, trailing azalea. Flor. Lapp. ed. 2. 60. t. 6. Eng. Bot. vol. 13. Hudſ. 88. With. 239. Lightf. 139. Flor. Pan. t. 9. "Branches procumbent, diffuſe; leaves oppoſite, revolute, very ſmooth." Stem woody, much branched; branches leafy, round, ſmooth; leaves oppoſite, ſtalked, ſpread much, elliptic, obtuſe, revolute, entire, ſmooth; petioles

tioles channelled, ciliate; peduncles in pairs, commonly one-flowered, reddiſh, with bractes at the baſe; flowers erect, of a deep roſe colour, bell-ſhaped, regular; capſule ſubrotund-ovate, acute, five-celled, margins of the valves inflex. It grows on moſt of the high mountains of Scotland. 7. A. *punctata*, dotted azalea. Lour. Cochinch. 113. "Leaves rugged about the edge; flowers dotted, heaped." Five feet high, erect, branched; leaves lanceolate, entire, ſmooth, alternate; corolla white; calyx whitiſh, dotted with red, as are alſo the corollas, anthers, and germ. A native of the woods of Cochinchina.

Propagation and Culture. 1, 2. the Pontic and Indian ſpecies have not yet been cultivated in Europe. 3, 4. grow naturally in ſhade, and in moiſt ground; many of the plants have been ſent of late years from North America to England, and produced beautiful flowers in this country. They muſt have a moiſt ſoil and ſhady ſituation; and can only be propagated by ſhoots from their roots, or by laying down their branches, for they do not produce ſeeds here. When any of them are laid down, it ſhould be only the young ſhoots of the ſame year, for the old branches will not put out roots. The beſt time for this is at Michaelmas, and if they are covered with ſome old tan, to keep out the froſt, it will be of uſe to them. The autumn is the beſt time to remove the plants, but the ground about the roots ſhould be covered in winter; a practice neceſſary for the old plants to preſerve them in vigour, and cauſe them to flower well. 5, 6. are low plants, of little beauty, and will only thrive on boggy ground upon mountains. See Martyn's Miller's Dict.

AZAMA, in *Ancient Geography*, a town of Africa, placed by Ptolemy fifteen days journey diſtant from Carthage bay; ſouth-eaſt of Cirta. It is ſuppoſed to be the preſent *Zamora*.

AZAMBUJA, in *Geography*, a ſmall town of Portugal, containing from ſeven to eight hundred houſes, ſeated in a well-cultivated plain, on the banks of the Tagus, not far from Liſbon.

AZAMOGLANS. See AGEMOGLANS.

AZAMOR, in *Geography*, a ſmall ſea-port town of Africa, in the kingdom of Morocco, and province of Duquella. It is ſeated on the river Morbeya, at ſome diſtance from its mouth. This town is not adapted to maritime commerce, becauſe the entrance of the river is dangerous. It was unſucceſsfully beſieged by the Portugueſe in 1508; but taken in 1513 by the duke of Braganza, and abandoned about the end of the ſixteenth century. At a little diſtance from Azamor, facing a ſpacious bay, are the ruins of the ancient city of Titus, ſuppoſed by Chenier (Preſent State, &c. of Morocco, vol. i. p. 37.) to have been one of the cities founded by order of the ſenate of Carthage. Near the ſame place are the ruins of Almedina, a town built by the Moors. The cape of Azamor ſtretches out to the weſt. See MAZAGAN. N. lat. 33° 20'. W. long. 8° 20'.

AZAMORA, in *Ancient Geography*, a ſtrong place of the Leſſer Armenia, in Cataonia. Strabo.

AZANAGHIS, in *Geography*, a people on the coaſt of Africa, near cape Blanco. They inhabit the adjacent deſerts, and are not far from the Arabs of Hoden. Their food is dates, barley, and the milk of their camels. They acknowledge no maſter, but the more wealthy among them are treated with ſome tokens of reſpect. Their general character is that of being perfidious and fraudulent; they are poor and wretched, and live in hordes diſperſed in ſeveral places along the coaſt.

AZANI, in *Ancient Geography*, a people of Aſia, in Phrygia, to which they were annexed. Strabo.

AZANIA, one of the three grand diviſions of Arcadia, according to Strabo. Steph. Byz. ſays, that it contained ſeventeen towns.—Alſo, a part of the maritime coaſt of Ethiopia. Pliny.

AZANITIS, a country of Aſia Minor, in Phrygia, in which was the ſource of the river Rhyndacus. Strabo.

AZAOTON, or AZOAL, a ſandy deſert of Africa, in Libya, almoſt deſtitute of water, and which is traverſed by the compaſs, like the ſea.

AZAPES. See ASAPPES.

AZAR, in *Ancient Geography*, a mountain in Egypt. Ptolemy.

AZAR, in *Geography*, a town of Arabia, ſeventy-ſix miles ſouth-eaſt of Amanziniſdin.

AZARA, in *Ancient Geography*, a town of Aſia, in Armenia Major, ſeated on the river Araxes. Strabo.—Alſo, an ancient town of Aſiatic Sarmatia. Ptolemy.—Alſo, a temple of Diana, in Aſſyria. Strabo.

AZARABA, a town of Aſia, in Sarmatia. Ptolemy.

AZARECAH, or AZARAKITES, in *Hiſtory*, the denomination of a ſect of heretical Muſſulmans, ſo called from Nafe Ebn al Azarak their founder, who acknowledged no power or government, temporal or ſpiritual. They conſiſted of a combination or aſſemblage of all who rejected and oppoſed the Mahometan faith; they were ſworn enemies of the houſe of Ommiyah; and committed dreadful ravages in all the Moſlem territories through which they paſſed. In the ſixty-eighth year of the Hegira, they made an irruption into Irak, and carried their barbarous exceſſes to ſuch a height, that they murdered all perſons whom they met with, ripped open women with child, and committed every ſpecies of cruelty that could be invented on people of every deſcription, without diſcrimination. During this period their founder died, and was ſucceeded by Katri Ebn al Fojat, under whoſe conduct they continued their depredations. Muſab, the governor of Mouſul and Meſopotamia, ſent a body of troops againſt them, commanded by Omar Ebn Abdallah Temimi, who completely routed them at Naiſabur, in Choraſan, ſlew many of them, and purſued the reſt as far as Iſpahan and the province of Kerman. See MAHOMETANS.

AZAREDO, in *Geography*, a ſea-port town of South America, in the bay of Spirito Santo, on the coaſt of Braſil. This is a famous port for ſugar. S. lat. 20° 18' W. long. 40° 10'.

AZARIAH, or UZZIAH, in *Biography*, one of the kings of Judah, ſucceeded his father Amaziah in the year 809 before Chriſt. The early part of his reign, in which he was pious and virtuous, was proſperous and happy; and he obtained great advantages over the Philiſtines, Ammonites, and Arabians. He was devoted to agriculture, though he had a ſtanding army of 307,500 men, with large magazines, well furniſhed with arms both offenſive and defenſive; he employed many huſbandmen in the plains, vine-dreſſers in the mountains, and ſhepherds in the vallies. Towards the cloſe of his life, and of his reign, which laſted fifty-two years, he became an idolater, died of a leproſy, and was buried, not in the royal ſepulchre, but in an adjacent field. 2 Kings, xv. 2 Chron. xxvi. There are many high-prieſts and others, mentioned in ſcripture, and in the Jewiſh hiſtory, who bore the name of Azariah.

AZARIAS, a learned Italian rabbi, lived in the ſixteenth century, and publiſhed at Mantua, in 1574, a Hebrew treatiſe, intitled, "Meor en Ajim," or "The light of the eyes;" in which are diſcuſſed, with conſiderable learning and knowledge of the Chriſtian ſcriptures, ſeveral points of chronology and criticiſm. The work contains a Hebrew tranſlation of the book of Ariſteas on the LXX. Nouv. Dict. Hiſtor.

AZAROLUS, or AZAROLE, in *Botany*. See CRATÆGUS.

AZARUM,

AZARUM, a ſmall, dry, blackiſh, ſtringy, medicinal root, much uſed in France as a ſpecific for the tooth-ach in horſes. The azarum, called alſo *nardus ſylveſtris*, grows in the Levant, Canada, and about Lyons in France. The firſt is reputed the beſt. It is given in powder, from the quantity of an ounce to two.

AZATA, in *Ancient Geography*, a town of Aſia, in Media. Ptolemy.

AZATHA, a town of Aſia, in Armenia Major. Ptol.

AZAY LE FERRON, in *Geography*, a town of France, in the department of the Indre, and chief place of a canton in the diſtrict of Chatillon ſur Indre; nine miles S.S.E. of Chatillon.

Azay le Rideau, a town of France, in the department of the Indre and Loire, and chief place of a canton in the diſtrict of Chinon, four leagues ſouth-weſt of Tours, and four north-eaſt of Chinon.

AZAZEL, in *Jewiſh Antiquity*. See SCAPE-GOAT.

AZED, in the *Materia Medica*, a name given by the Arabian writers to a kind of camphor, which they make the third in value, placing it after the *alcanſuri* and *abriagi*. The firſt of theſe was the fineſt of all the kinds of camphor, and was collected tolerably pure from the tree, as it grew in Canſur, the place whence it was named. The abriagi was the ſame camphor, rendered yet more pure by ſublimation; this was a diſcovery of one of the kings of that country, and the camphor was named from him. The third kind, or azed, was the ſame with what we now receive from the Indies, under the name of crude or rough camphor. The word *azed* ſignifies only *large*, and was uſed to expreſs the camphor formed into ſuch large cakes, as it is alſo at this time. Avicenna ſays, this camphor was groſs, of a duſky colour, and much leſs bright and pellucid than the other kinds. See CAMPHOR.

AZEDARACH, in *Botany*. See MELIA.

AZEKAH, or AZECHA, in *Ancient Geography*, a city of Judæa, ſtrong both by ſituation and its walls; in the tribe of Judah, and ſeated in the ſame north-weſt corner with Lebna and Makkedah, in the valley of Terebinth, where David ſlew Goliath. Joſh. xv. 35. 1 Sam. xvii. 1. Euſebius and St. Jerom inform us, that, in their time, there was a city of this name between Jeruſalem and Eleutheropolis.

AZELFOGE, in *Aſtronomy*, a fixed ſtar of the ſecond magnitude, in the tail of Cygnus.

AZEM, in *Geography*. See ASAM, and ASSEM.

AZARAILLES, a town of France, in the department of the Meurte, and chief place of a canton in the diſtrict of Luneville, three leagues ſouth-eaſt of Luneville.

AZETENE, ſometimes called *Anzitené*, in *Ancient Geography*, a country of Aſia, in Armenia Major, between the ſources of the Tigris and Euphrates, to the ſouth of Saphena. Ptolemy.

AZEVEDO, IGNATIUS, in *Biography*, a Portugueſe Jeſuit, was born at Oporto, in 1527, and reſigning an ample fortune of which he was heir to a younger brother, he devoted himſelf to religion in the ſociety of the Jeſuits at Coimbra. In proceſs of time he became a miſſionary, and was deputed as ſuch to the Indies and Braſil, under the title of procurator-general for thoſe countries. Having given an account of his firſt voyage to the general at Rome, he ſet out on a ſecond miſſion with a great number of attendants; but whilſt the ſhip was ſailing, in 1570, towards the iſland of Palma, it was taken by corſairs, and all the miſſionaries were put to death. On this account, Azevedo and his thirty-nine companions have been honoured as martyrs in the church of Rome; and the hiſtory of their miſſion and martyrdom was publiſhed by Beauvais, a Jeſuit, in 1744. Moreri.

AZEYTAO, in *Geography*, a ſmall town of Portugal, in Eſtremadura, conſiſting of 552 houſes and 2242 inhabitants. It has a manufactory of cotton, and is ſituated on the river Zezere, between the two bridges of Barca and Dona, [illegible].

AZIALO, [illegible], in the country of [illegible].

AZIBINTA, in *Ancient Geography*, an iſland of the Mediterranean. Pliny.

AZILAR, in [illegible], a town of Africa Tunetana, in the [illegible].

AZILLE, a town of France, in the department of the Aude, and chief place of a canton in the diſtrict of Carcaſſonne; ſituated [illegible] N.E. of Carcaſſonne. N. lat. 43° 15′. E. long. 2° 33′.

AZIMGUR, a town of Hindoſtan, in the country of Allahabad; 108 miles W.N.W. of Patna, and 50 north of Benares.

AZIMUS, or AZIMUNTIUM, in *Ancient Geography*, a ſmall city of Thrace, on the Illyrian borders. This city, ſcarcely mentioned by geographers, has been diſtinguiſhed in the annals of hiſtory by the martial ſpirit of its youth, the [illegible] and repeated [illegible] and their daring exploits againſt the innumerable hoſt of the northern barbarians. Inſtead of tamely expecting their approach, the Azimuntines attacked, in frequent and ſucceſsful ſallies, the troops of the Huns, reſcued from their hands the ſpoil of the captives, and recruited their domeſtic force by the voluntary aſſociation of fugitives and deſerters. After the treaty of peace between Attila and the eaſtern empire, A.D. 446, the Barbarian conqueror ſtill menaced the empire with implacable war, unleſs the Azimuntines were perſuaded, or compelled, to comply with the humiliating conditions which their ſovereign had accepted. Theodoſius, diſdaining authority over a ſociety of men who ſo bravely aſſerted their natural independence, the king of the Huns condeſcended to negotiate an exchange with the citizens of Azimus. They demanded the reſtitution of ſome ſhepherds, who, with their cattle, had been accidentally ſurpriſed. After diligent, but fruitleſs inquiry, the Huns were obliged to ſwear, that they did not detain any priſoner belonging to the city, before they could recover two ſurviving countrymen, whom the Azimuntines had detained as pledges for the ſafety of their loſt companions. Attila was ſatisfied, and deceived by their ſolemn aſſeveration, that the reſt of the captives had been put to the ſword; and that it was their conſtant practice immediately to diſmiſs the Romans and the deſerters, who had obtained the ſecurity of the public faith. If the race of the Azimuntines, whether this diſſimulation on their part be excuſed or condemned by political caſuiſts, had been encouraged and multiplied, the Barbarians would have ceaſed to trample on the majeſty of the empire. At a ſubſequent period, in the war of the emperor Maurice againſt the Avars, A.D. 595—602, the Azimuntines manifeſted a conſiderable degree of the invincible ſpirit of their anceſtors. See Gibbon's Hiſt. vol. vi. p. 63, &c. vol. viii. p. 201, &c.

AZIMUTH, in *Aſtronomy*. The azimuth of the ſun, or of a ſtar, is an arc of the horizon, comprehended between the meridian of the place, and any vertical circle paſſing through the ſun or ſtar: and it is equal to the angle at the zenith formed by the ſaid meridian and vertical circle, which is meaſured by the fore-mentioned arc.

The word is pure Arabic, which ſignifies the ſame thing. The azimuth is reckoned eaſtward in the morning, and weſtward in the afternoon; and it is uſually eſtimated from the ſouth, or from the north, as it is nearer to the one or to the other of thoſe points. Thus if it be found by obſervation, that the vertical circle which paſſes through the zenith and a ſtar interſects the horizon juſt in the midway between the

the eaſt and the ſouth, then the ſtar's azimuth is ſaid to be 45° eaſtward of the ſouth. It is the complement of the eaſtern or weſtern amplitude to a quadrant.

The azimuth is found trigonometrically, by this proportion; as radius is to the tangent of the latitude, ſo is the tangent of the ſun's altitude to the coſine of the azimuth from the ſouth at the time of the equinox. Otherwiſe,—ſuppoſe the latitude of the place, and the ſun's declination to be given, and let it be required to find the ſun's altitude and azimuth at 6 o'clock. E. G. Let London be the place in N. lat. 51° 32′, and let his declination be 23° 28′, as it is on the longeſt day; then to find his altitude and azimuth at 6 o'clock in the morning and evening, conſtruct a figure in the following manner. Deſcribe the meridian (*Plate* II. *Aſtronomy*, *fig.* 20.), draw the horizon HR, and prime vertical ZN; make RP = latitude 51° 32′ N.; draw the 6 o'clock ſemicircle PS, the equator EQ, the 23° 28′ N. parallel of declination *nm*, interſecting the 6 o'clock ſemicircle PS in ⊙; and through Z, ⊙, N, deſcribe the azimuth circle Z⊙N, interſecting the horizon in A; then the triangles Z⊙P and ♈⊙A are ſupplemental triangles to one another. In the ſpherical triangle Z⊙P, right-angled at P, we have

Given the co-lat. ZP = 38° 28′
the co-declin. ⊙P = 66° 32′
Required the co-altitude Z⊙
the azimuth ∠⊙ZP.

Or, in the ſpherical triangle ♈A⊙, right-angled at A,

Given the lat. A♈⊙ = 51° 32′
the declin. ♈⊙ = 23° 28′
Required the altitude A⊙
the co-azimuth ♈A

To find the altitude A⊙.

As Radius - - - -	10.00000
To ſin. declin. = 23° 28′ - -	9.60012
So ſin. lat. = 51° 32′ - -	9.89375
To ſin. alt. = 18° 10′ - -	9.49387

To find the azimuth AR.

As Radius - - - -	10.00000
To Cof. lat. = 51° 32′ - -	9.79383
So tang. declin. = 23° 28′ - -	9.63761
To co. tang. azimuth = 74° 53′	9.43144

For the arc AR meaſures the ∠RZA, the azimuth.

On the ſhorteſt day at London the parallel of ſouth declination cuts the 6 o'clock hour-circle below the horizon; and as the triangles ♈A⊙ and ♈*a*⊙ are congruous, the depreſſion below the horizon, on the ſhorteſt day at 6 o'clock, will be equal to the altitude at the ſame hour on the longeſt day; and the azimuth will alſo be equal, if eſtimated from the ſouth. Thus, on the 21ſt of June, the ſun will bear N. 74° 53′ E. at 6 o'clock in the morning, and N. 74° 53′ W. at 6 in the evening; but on the 21ſt of December, at the ſame hours, it will bear S. 74° 53′ E., and S. 74° 53′ W. From this problem, it appears, that as the declination increaſes, the altitude increaſes and the azimuth leſſens, and the contrary happens while the declination is decreaſing; ſo that on the days of the equinoxes, when the ſun has no declination, the altitude at 6 o'clock will be nothing, or the ſun will be in the horizon; and the azimuth being then 90°, the ſun will be due eaſt in the morning, and weſt in the evening; that is, on the days of the equinoxes, the ſun riſes and ſets at ſix, in the eaſt and weſt points of the horizon.

Again. Given the latitude of a place, the ſun's declination and altitude; required the hour from noon, and the ſun's azimuth. E.G. In the latitude of 51° 32′ N. the ſun's altitude was obſerved to be 46° 20′, when his declination was 23° 28′ N.; what was the ſun's azimuth, and the hour when the obſervation was made?

Let the primitive circle ZRNH (*fig.* 21.) repreſent the meridian of London, HR the horizon, and ZN the prime vertical; make RP = 51° 32′ the height of the pole at London; draw the axis PS, and the equator EQ; lay off the declination En, Qm, 23° 28′ N. the altitude Hr, Rs, 46° 20′; and deſcribe the parallel of declination *nm*, and the parallel of altitude *rs*, interſecting one another in ⊙, the place of the ſun at that time; through Z, ⊙, N, deſcribe an azimuth circle Z⊙N, and through P, ⊙, S, deſcribe an hour circle P⊙S; then the angles ⊙ZP, ⊙PZ, being meaſured, will give the azimuth and hour from noon required; or, they may be computed in the following manner.

In the oblique-angled ſpherical triangle P⊙Z,

Given the co-lat. ZP = 38° 28′
the co-alt. or zenith diſtance Z⊙ = 43° 40′
the co-declin. or polar diſtance ⊙P = 66° 32′
Required the azimuth, ∠⊙ZP.
and the hour from noon ∠⊙PZ.

To find the azimuth, or angle ⊙ZP.

Here Z⊙ = 43° 40′
ZP = 38° 28′

⊙Z—ZP = 5° 12′ = D.
P⊙ = 66° 32′

2) 71° 44′ | 35° 52′
61° 20′ | 30° 40′

Then co-arith. ſin. co-lat.	= 38° 28′ -	0.20617
co-arith. ſin. co-alt.	= 43° 40′ -	0.16086
ſin. ½ ſum. co-declin. and D	= 35° 52′	9.76782
ſin. ½ diff. co-declin. and D	= 30° 40′	9.70761
The ſum of the four logs.	- -	19.84246
The ½ ſum gives 56° 31½′	- -	9.92123

And 56° 31½′ doubled gives 113° 3′ for the azimuth ſought, reckoning from the north.

To find the hour from noon, or ∠⊙PZ.

Here P⊙ = 66° 32′
PZ = 38° 28′

P⊙ — PZ = 28° 4′ = D
⊙Z = 43° 40′

2) 71° 44′ | 35° 52′
15° 36′ | 7° 48′

Then co-arith. ſin. co-declin.	= 66° 32′ -	0.03749
co-arith. ſin. co-lat.	= 38° 28′ -	0.20617
ſin. ½ ſum. co-alt. and D	= 35° 52′ -	1.76782
ſin. ½ diff. co-alt. and D	= 7° 48′ -	9.13263
The ſum of the four logs.	- -	19.14411
The ½ ſum gives 21° 55′	- -	9.57206

This 21° 55′ doubled gives 43° 50′ for the meaſure of the hour from noon, which is $2^h\ 55^m\ 20^s$.

Hence it appears that the obſervation was made either at $9^h\ 4^m$

9^h 4^m 40^s in the morning, or at 2^h 55^m 20^s in the afternoon.

The azimuth being firſt found, the hour from noon might have been found by the proportion between oppoſite ſides and angles. If the declination and latitude had been of contrary names, the ſame kind of proceſs would have ſerved for finding the things required, except that the ſide ⊙P would have been obtuſe; by adding the declination to 90°, inſtead of ſubtracting it, as in the caſe of the latitude and declination having like names.

To find the azimuth by the Globe, ſee GLOBE.

AZIMUTH, *Magnetical*, is an arc of the horizon contained between the azimuth circle of the celeſtial object, and the magnetical meridian; or it is the apparent diſtance of the object from the north or ſouth point of the compaſs. This is found by obſerving the object with an azimuth compaſs, when it is about ten or fifteen degrees high, either in the forenoon or afternoon. See COMPASS.

AZIMUTH *Compaſs*, is an inſtrument uſed at ſea for finding the ſun's magnetical azimuth.

The deſcription and uſe of the azimuth compaſs, ſee under *Azimuth* COMPASS.

AZIMUTH *Dial*, is a dial whoſe ſtyle or gnomon is at right angles to the plane of the horizon.

AZIMUTHS, called alſo *Vertical Circles*, are great circles of the ſphere interſecting each other in the zenith and nadir, and cutting the horizon at right angles. The horizon being divided into 360°, there are uſually reckoned 360 azimuths. The azimuths are repreſented by the rhombs on common ſea-charts; and on the globe theſe circles are repreſented by the quadrant of altitude, when ſcrewed in the zenith.

On theſe azimuths is reckoned the height of the ſtars, and of the ſun, when he is not in the meridian; that is, the azimuths ſhew what diſtance theſe are from the horizon.

AZINCOURT, in *Geography*. See AGINCOURT.

AZIO, a town of European Turkey, in the province of Livadia, ſixty-four miles north-eaſt of Lepanto.

AZIRIS, in *Ancient Geography*, an ancient town of Armenia Minor. Ptol.—Alſo, a place of Africa, in Libya, where, as Herodotus ſays, the Cyrenæans eſtabliſhed themſelves.

AZIRISTUM, an agreeable place in Armenia Minor, over againſt Thera, ſurrounded by hills, and watered by a river. Herodotus.

AZIZUS, in *Mythology*, derived from the Syrian *aziz*, *force*, an epithet given to Mars, adored at Edeſſa. Bryant ſays (Anal. Anc. Myth. vol. i. p. 27.), that *Az* or *As* was one of the titles of the ſun, and that Azizus, formed by a reduplication of the ſame term, denoted the deity of Edeſſa and Syria, and was the ſame as Aſis and Iſis, made feminine in Egypt, who was ſuppoſed to be the ſiſter of Oſiris, the ſun.

AZMAVETH, AZMOTH, or BETHESMOTH, in *Ancient Geography*, a city probably in the tribe of Juda, adjacent to Jeruſalem and Anathoth. Nehem. vii. 28. xii. 29.

AZMERE, in *Geography*. See AGIMERE.

AZMON, in *Ancient Geography*. See ASSEMON.

AZNALCAÇAR, in *Geography*, a town of Spain, in the province of Andaluſia; ſeven leagues from Seville.

AZNOTH TABOR, or AZNOTH, in *Ancient Geography*, is placed by Euſebius in the plain, not far from Damaſcus. Joſh. xix. 34.

AZOCHIS, a town of Paleſtine, in Galilee. It was ſituated near Sephoris, and taken by Ptolemy.—Alſo, an ancient town of Aſia, in Meſopotamia. Pliny.

AZOF, in *Geography*, a town and fortreſs on the Don, containing about 3800 inhabitants; diſtant from St. Peterſburg 1998, and from Moſco 1268 verſts. It is well known that the Don is the Tanais of antiquity. Now, in this region, many ages ago, ſtood a town of the ſame name with the river, which had been built by the Greeks. Chardin pretends that Azof is ſituate fifteen Italian miles inland from the river; whereas the old town of Tanais is only three miles diſtant from the river. What reaſon Chardin had for giving this ſituation, or removing one of the other, it is difficult to diſcover. Though we cannot abſolutely prove that the town Tanais ſtood juſt where the town of the preſent Azof, yet it is manifeſt that it was in this diſtrict. The more ancient a town is, the more likely it is to have undergone conſiderable and frequent alterations; and the leſs reaſon there is for imagining that it ſtands exactly on the old primitive ſpot. [illegible] Concerning Tanais, however, Chardin, Ptolemæus affirms it to have been ſituate near the preſent Azof. For admitting, as he does, the Don to be the boundary between Europe and Aſia, he gives the town Tanais to the Aſiatic diviſion. Strabo likewiſe (p. 215. 340. ed. Caſaub.), placing the town on the ſame ſide, at the ſame time informs us that it was built by the Boſporanian Greeks. Greece, in its earlier periods, was extremely populous; and ſome parts of it, from the nature of their ſoil, were not productive enough for the nouriſhment and ſupport of their prolific inhabitants. Hence they were neceſſitated to conſtruct numerous towns on the ſea-coaſt and on ſeveral iſlands, in order to deviſe means for remedying ſo great a defect. The commerce, to which the ſea gave them all neceſſary accommodations, furniſhed this people at the ſame time with other means of freeing themſelves from poverty. For, at one time, particular towns, at another whole tribes, united to ſend colonies to different places out of Greece. Theſe new ſettlers gradually formed colonies on the ſhores of Natolia, Sicily, the inferior parts of Italy, in France, and ſeveral other countries; ſo that the commerce of almoſt the whole world then known was imperceptibly drawn into their hands. In like manner they planted their colonies round the whole coaſt of the Euxine, where, on the coaſts of the peninſula of the Crimea, Theodoſia, Cherſon, Panticapæum, and other towns, became particularly famous.—At what time the town Tana, or the preſent Azof, fell into the poſſeſſion of the Genoeſe, is not now to be aſcertained. It may however be ſurmiſed, that they obtained it from the Polovtzes before the incurſion of the Tartars, and therefore prior to the year 1237, as they would not have been able to cope with the Tartarian forces. The Genoeſe were ſtill in poſſeſſion of the Crimea, and at the ſame time of Tana or Azof, in 1474, though the Turks had conquered Conſtantinople in the year 1453. In 1637, Azof was captured from the Turks by the Kozaks; and in 1642, after being reduced to aſhes, it was reconquered by the Turks. On the twenty-eighth of July 1696, it ſurrendered to the arms of tzar Peter the Great; who in 1711, in conſequence of the unfortunate affair at the Pruth, reſtored it to the Turks at the treaty of Bender; from the Turks it was again captured by the Ruſſians, in 1739; but by the treaty of Belgrade they were obliged to raze it to the foundations. It remained in an abandoned ſtate during thirty years. But in the laſt war againſt the Turks, Catharine II. cauſed it to be re-edified, and it is now in the beſt ſtate of defence. Coins of Azof have been found, bearing on them the name of khan Taktamyſh.

Azof is ſituate in the government of Ekatarinoſlaf; which, belonging partly to Little Ruſſia and partly to the Zaporogian Kozaks, till the year 1752, when it began to be occupied by colonifts from all nations, was one continued waſte ſteppe, entirely void of inhabitants, but has ſince proved a great acquiſition to the induſtry and trade of the country, under the name of New Servia. The eccleſiaſtical affairs of

the Ruſſians are under the archbiſhop of Ekaterinoſlaf and Cherſonoſotaurida; and in his abſence under his vicar the biſhop of Feodoſia and Mariupol. The other religious communions are governed by their own ſpiritual prefects.

AZOF, *Sea of*, called by the ancients Palus Mæotis, formerly by the Ruſſians the Putrid ſea, and in ſome maps Zabache ſea, is a gulf in the Euxine, to which it is joined by a ſtrait. It is ſituate in the dominions of Ruſſia. Long. 52° to 57° eaſt Ferro; lat. 45° 20' to 47° 20' N. It is about 210 miles in length, and from 40 to 60 in breadth. It has ſix harbours: Taganrok, Mariupole, and the little fort of Petroſlik cloſe to the ſhore, Azof, Naſchitchevan, and fort St. Dmitri near the mouth of the Don. Of all theſe, Taganrok has the greateſt trade in exports; being next to that of Cherſon in the Euxine. Azof at preſent is not by far of ſo much conſequence as it formerly was, Ruſſia having now ſo many harbours on the Turkiſh waters, and as that arm of the Don, on which Azof lies, is gradually filling with ſand from year to year. The other harbours are for the moſt part of little ſignificance as to foreign commerce. From Taganrok, in 1793, were exported bar-iron, tallow and tallow-candles, butter, wheat, and wheat-meal, linen, peltry, tow and cordage, wax and wax-candles, fiſh, caviar, leather, morſh bones and teeth, honey, ſoap, ſailcloth, ſheeps wool, &c. to the amount of 428,087 rubles. It is moſtly inhabited by Armenians, who fled hither from the Crimea, in 1780; and at preſent contains ſeveral excellent manufactories of ſilk, cotton, &c. The amount of the exports from the other ports is not known; probably it is but ſmall. The importation conſiſts in raw and wrought ſilk and cotton, muſlins, Turkiſh ſtuffs and carpets, wool and angora goats hair, Greek wines, oil, various kinds of fruit, tobacco and ſnuff, ſpiceries, ſaffron, opium, medicinal drugs, pearls, precious ſtones, gold and ſilver, &c. The whole northern coaſt of the ſea of Azof, from the Don to Perekop, is laid out in fiſheries, to which occupation theſe diſtricts are extremely favourable. They fiſh with nets that have in the middle a conical bag, in which the fiſh aſſemble; and one ſingle draught, which generally laſts only ſix hours, yields 60,000 fiſh; among which, however, are found but few ſturgeons, ſhads, and other large kinds of fiſh. The ſalted and ſmoaked mackarel, called by the Turks ſkumri, are an important article of trade in the Crimea, and are frequently ſent from Feodoſia and Balaklava to Conſtantinople, and to all the maritime towns of Natolia and Romelia. Theſe fiſh are tranſported in barrels, and a thouſand of them are ſold on the ſpot for three and a half or four piaſtres. Tooke's View of the Ruſſian Empire, iii. 72.

AZOGA SHIPS, in *Commerce*, are thoſe Spaniſh ſhips commonly called the *quickſilver ſhips*, from their carrying quickſilver to the Spaniſh Weſt Indies, in order to extract the ſilver out of the mines in Peru and Mexico. But it is a great miſtake to imagine that theſe ſhips are abſolutely laded with quickſilver only; for though ſtrictly ſpeaking, they are to carry no goods unleſs on the king of Spain's account, they are uſually full laden, notwithſtanding this regulation, by reaſon that the merchants procure ſpecial licences of the king to load, upon paying a conſideration for ſuch licences.

AZONI, derived from the privative α, and ζωνη, *zone*, or *country*, in *Mythology*, a term anciently applied to ſuch of the gods as were not the peculiar divinities of any particular country or people, but were acknowledged as gods in every country, and worſhipped by every nation. See GOD.

Theſe azoni were a degree above the viſible and ſenſible gods, which were called *zonæi*, who inhabited ſome particular part of the world, and never ſtirred out of the diſtrict or zone that was aſſigned them. Such in Egypt were Serapis, Oſiris, and Bacchus; and in Greece, the Sun, Mars, the Moon, and Pluto. They were called by the Romans *Circenſes*.

AZOOPHAGUS, from α, ζωον, *animal*, and φαγω, *I eat*, in *Natural Hiſtory*, a term uſed by authors to expreſs ſuch inſects or animals as feed on herbs, never eating the fleſh of any living creature.

AZOR, or AZON, in *Ancient Geography*, a town of the northern part of Paleſtine, to the ſouth of Dan.

AZORES, in *Geography*, called alſo *Weſtern Iſlands*, from their ſituation, and *Terceras* from the name of the principal iſland, are a group of iſlands lying in the Atlantic ocean, between 36° and 40° N. lat. and 25° and 33° W. long. Geographers have frequently claſſed them among the African iſlands; but they more properly belong to Europe, as they are about 13° diſtant from Cape St. Vincent, in Portugal, and about one degree more remote from the African ſhore. Beſides, their latitude connects them more naturally with Europe than with Africa, and they were firſt peopled by Europeans. They are ſeven in number, viz. St. Michael, Sta. Maria, Tercera, Gratioſa, St. George, Pico, and Fayal, beſides the ſmaller ones of Flores and Corvo, which lie at a conſiderable diſtance to the weſt, but as they all belong to the government of Portugal, they are all now included under the ſame general appellation. Theſe iſles were all diſcovered by the Portugueſe, but the preciſe period is a ſubject of diſpute. According to the account inſcribed on his globe by the celebrated geographer Behaim, or Behem, they were diſcovered in 1431; but Murr ſays, that they were explored ſucceſſively from 1432 to 1449. It is certain, however, that they were firſt diſcovered by the Portugueſe, before the year 1449; and they are ſaid to have given them the name of Azores, from *açor*, *a falcon*, on account of the number of goſhawks, which were here remarkably tame, there being neither man nor quadruped to diſturb them. In 1466, they were given by the king of Portugal to his ſiſter the ducheſs of Burgundy. They were colonized by Flemings and Germans, among whom was Job de Huerter, the father-in-law of the geographer Behaim, and lord of Moikirchen, being driven from Flanders by war and famine. Huerter afterwards reſided at Fayal, and appears to have had a grant of the arms from the ducheſs of Burgundy. Although the ſubſequent hiſtory of theſe iſlands is rather obſcure, the Flemiſh inhabitants ſeem always to have acknowledged the king of Portugal. The Azores are diſcovered at a great diſtance from the ſea, on account of a high mountain called the Pico, or Peak (ſee PICO), of a conical form, reſembling the peak of Teneriffe. They are generally mountainous, and expoſed to earthquakes and eruptions of volcanos, one of which occurred July 9th, 1757, when St. George's, Pico, and Fayal, which form a cloſer group than the others, being ſcarcely five leagues aſunder, and Tercera, though at twice that diſtance from St. George's, were ſuddenly diſturbed at the ſame inſtant, and ſhaken to their foundation by terrible convulſions of the earth. The firſt ſhock laſted two minutes. On this occaſion the ocean overflowed, many perſons loſt their lives, and theſe iſlands were covered with ruins. The conſequence of this dreadful convulſion of nature was the production of eighteen little iſlands, that roſe inſenſibly from beneath the ſea, at the diſtance of about ten yards from the north coaſt of St. George's. They diſappeared in a few months, as thoſe produced by the volcano of St. Michael had done before. It was obſerved, that Flores, Corvo, St. Michael, and St. Mary's, were not at all affected by this eruption of St. George's, and that Gratioſa ſuffered very little. They are ſubject alſo to violent winds, and the fury of the waves, which are frequently very injurious, by overflowing the low grounds, ſweeping off whole

fields of grain and folds of cattle, breaking down their fences, and overwhelming their houſes. Nevertheleſs they produce wheat, wine, fruits, and abundance of wood; and they have many quadrupeds both wild and tame. One of the lateſt accounts we have of theſe iſlands is that of Mr. Adanſon, who viſited them in 1753, on his return from Senegal; but it is to be regretted, that theſe intereſting iſlands, like all the other Portugueſe ſettlements, are almoſt unknown.

AZORIUM, or AZORUS, in *Ancient Geography*, a town of Greece, in Pelagonia Tripolitidis, according to Strabo and Livy. It was ſituated among the Perrhæberians, at the confluence of two rivers which formed the river Curatius.

AZOT, in *Agriculture*, a ſubſtance which is only diſtinguiſhable in its different ſtates of combination with other matters. Its effects on vegetation, when in the ſtate of gas, are probably not yet fully aſcertained. According to the obſervations of Humboldt and Scopoli, ſome ſorts of plants when expoſed in it ſoon droop and die, while others, as lichens, continue to increaſe and grow in a perfect manner.

AZOT, in *Chemiſtry*, is one of the moſt important of the ſubſtances hitherto conſidered as elementary, exiſting very abundantly in nature, forming the greater part of the atmoſphere, the peculiar and almoſt characteriſtic ingredient of animal matter, the baſis of the nitric acid, and one of the conſtituents of the volatile alkali.

Pure or uncombined azot is only known in the form of a gas; it is then ſynonymous with the *phlogiſticated air* of Scheele and Prieſtley, the *atmoſpherical mephitis* of Lavoiſier, and the *nitrogen gas* of Chaptal and ſome other French chemiſts.

It was by experiments on the various ſubſtances which alter, corrupt, and deteriorate common air, that the properties of azotic gas became firſt familiar to chemiſts. In all theſe, and in the direct *eudiometrical* experiments, or ſuch as decompoſe the air in order to aſcertain its purity, it is the oxygen, together with the carbonic acid and other caſual ingredients, which is ſubtracted by the chemical re-agents; whilſt the azotic gas alone remains unaltered and unabſorbed. Hence, chemiſts had as firſt no other knowledge of azot than as a reſidue untouched in chemical operations, and its properties could only be deſcribed by negatives, till the important diſcoveries of the compoſition of nitric acid, of ammonia, and of animal matter, gave a new intereſt to azot as a chemical element.

Azotic gas may be obtained in various methods. In every eudiometric proceſs, as we have juſt mentioned, the reſidue is azotic gas of greater or leſs purity. Thus, if phoſphorus be burned in a confined quantity of common air, after the combuſtion has ceaſed, the reſidue is azotic gas in conſiderable purity, generally however holding ſome of the phoſphorus in ſolution.

Another method of obtaining this gas, firſt employed by Scheele, is to moiſten a quantity of iron filings and ſulphur, incloſe them in a glaſs veſſel full of common air inverted over water, and in a few days by the abſorption of all the oxygen of the air, the azotic gas will be left pure.

Another, and a very ſpeedy method of procuring this gas in great purity, is by agitating common air in contact with a ſolution of ſulphat of iron ſaturated with nitrous gas.

Theſe methods, with the precautions to be obſerved, will be further noticed under the article EUDIOMETRY, in which it will be ſeen that the proportion of azotic gas in the atmoſphere is, with little variation, about 73 per cent.

Azotic gas may alſo be readily procured in large quantities by the decompoſition of animal matter by means of nitric acid.

If very dilute nitric acid be [illegible] proceeds from the animal matter, and not from the acid.

In the decomposition of [illegible] kali, azotic gas is alſo given out in great purity.

In a ſingle inſtance, [illegible] for a very conſiderable quantity of this air riſes up in bubbles through the ſpring of [illegible] ſuch as thoſe of Bath and Buxton. The nature of the air thus obtained was firſt obſerved by Dr. Prieſtley.

Azotic gas is abſolutely incapable of ſupporting combuſtion. When a lighted taper is dipped in a jar of this air, it becomes inſtantly extinguiſhed without any noiſe or exploſion. It is equally destructive to animal life (its derivation, from α, and $\zeta\omega\eta$, *depriving of life*); and the fatal effects, to an animal immersed [illegible], that it has been thought by ſome to poſſeſs a poſitively noxious power independent of the mere abſence of oxygen.

Azotic gas is ſomewhat lighter than common air. Its ſpecific gravity, when obtained from common air by iron filings and ſulphur, is ſtated by Kirwan to be 0.0012, or in the proportion of 985 : 1000 compared with atmoſpheric air. Lavoiſier makes it only 0.00115, or to common air, as 912.6 : 1000.

With oxygen, azot forms a variety of combinations. That of atmoſpheric air has already been mentioned. A ſimple admixture of oxygen with a ſmall proportion of azotic gas produces no particular effect, but when the combination is aſſiſted by the electric ſpark, a true combuſtion of azot takes place, and the product is the NITRIC ACID. This beautiful diſcovery we owe to Mr. Cavendiſh.

When azot and hydrogen are mixed together, both in the gaſeous form, no union appears to take place; but under different circumſtances AMMONIA is produced.

Azotic gas, when heated with CHARCOAL, with SULPHUR, or with PHOSPHORUS, diſſolves a ſmall portion of theſe ſimple ſubſtances, and holds them in ſuſpenſion for a conſiderable time.

Very little is known concerning the action of azot in its ſimple form upon metallic or ſaline ſubſtances; and in the ſtate of gas, it appears to be more inactive and unwilling to enter into combination than any other ſubſtance in nature.

Azot has not hitherto been decompoſed, ſo that it muſt be conſidered as a chemical element. Several attempts, however, have been made for this purpoſe, but none of them have proved ſatisfactory. The lateſt of theſe, which excited much attention in Germany, was that of Weigleb, a juſtly eminent chemiſt, an account of which he publiſhed in Crell's Annals for 1796. The chief experiment on which this philoſopher grounds his theory of the compoſition of azot is the following: if an earthen tube of ſmall diameter (the ſtem of a tobacco-pipe for inſtance), be heated quite red-hot, and the ſteam of water be ſent through the tube in this ſtate without any obvious connection with the external air, a conſiderable quantity of a gas is generated, which conſiſts almoſt entirely of azotic gas, mixed with a ſmall quantity of carbonic acid. Hence, this chemiſt would infer, that as nothing but water and heat are preſent, the azotic gas here produced is formed by the union of the vapour of water with caloric at a very high temperature. A ſecond experiment is to paſs the vapour of water over the oxyd of manganeſe,

manganeſe, encloſed in an earthen tube, and already heated for a conſiderable time, ſo as to expel all the oxygen which it will yield: in this caſe alſo, there will be a very conſiderable production of azotic gas. A third experiment is to paſs the vapour of water through heated glaſs tubes, of no more than two lines in diameter, when azotic gas will be equally produced. The inference of the compoſition of azotic gas derived from theſe experiments, would be very legitimate, if no cauſe of error could be detected; but the ſociety of Dutch chemiſts, who have enriched the ſcience with ſo many valuable obſervations, on repeating the experiments, fully explained the reaſon of this ſingular phenomenon, in demonſtrating the permeability of every kind of earthen-ware not glazed, when expoſed to a conſiderable heat. Therefore in theſe experiments, the vapour of water in paſſing through the tube, is found partly to make its way through its pores into the ſurrounding coals; and at the ſame time the air circulating through the furnace, partly enters the tube, and is collected at the further extremity; and this air being vitiated by the burning fuel, is principally azotic gas, mixed with a certain portion of carbonic acid. This permeability of heated earthen-ware (which had been before obſerved by Dr. Prieſtley), ſhould always be kept in mind by chemiſts; as many of the moſt important experiments of reſearch are performed by the ingenious apparatus of a heated tube. With regard to the production of azotic gas, when the vapour of water was ſent through a red-hot glaſs tube, it was fully aſcertained by the above-mentioned chemiſts, that no gas of whatever kind appears whilſt the tube remains perfect, but that the leaſt crack or fiſſure is ſufficient to give admittance to the air of the furnace with as much eaſe as the pores of the earthen tube. As an additional proof that the gas in theſe inſtances came from without, we may add, that on removing the fire from the earthen tube, and continuing the tranſmiſſion of the aqueous vapour, ſome gas ſtill continued to be given out whilſt it remained red-hot, and this latter portion was atmoſpheric air, or that which now ſurrounded the heated tube.

Several other circumſtances relating to azotic gas, are connected with the theory of PHLOGISTON, to which we ſhall further refer the reader. Ann. de Chem. tom. 26 and 29.

AZOT, *Gaſeous Oxyd of.* See NITROUS OXYD.

AZOTH, among the *Ancient Chemiſts*, ſignified the firſt matter of metals; or the mercury of the metal, more particularly that which they call the *mercury of the philoſophers*, which they pretend to draw from all ſorts of metallic bodies.

Paracelſus's azoth, which he boaſted of as an univerſal remedy, is pretended to have been a preparation of gold, ſilver, and mercury: a quantity of this he is ſaid to have always carried with him in the pommel of his ſword.

AZOTUS, AZOTH, or ASHDOD, in *Ancient Geography*, one of the five Philiſtine ſatrapies, was a celebrated ſea-port of Phœnicia, on the Mediterranean, ſituate about fourteen or fifteen miles ſouth of Ekron or Accaron, between that and Aſcalon, and about thirty miles diſtant from Gaza, towards Joppa. It fell at firſt to the lot of Judah, but continued for a conſiderable time in the hands of its ancient owners. It was in this city that the ark of God triumphed over th idol Dagon, which fell down and was cruſhed before it (1 Sam. v. 2.); and it was to this place that Philip was conveyed, after he had baptized the Ethiopian eunuch. Acts, viii. 40. This place was fortified by the Egyptians as a barrier againſt the Aſſyrians; and it was ſo ſtrong, if we may believe Herodotus, that it ſuſtained a blockade and ſiege of twenty-nine years, under Pſammetichus, king of Egypt, about 631 years before the Chriſtian æra. It was again re-eſtabliſhed, but taken, and its fortreſſes and towers burned, by the Maccabees, in the year 137 B.C. Afterwards Gabinius, the Roman preſident of Syria, ordered it to be rebuilt. In was again captured by Veſpaſian, in the Jewiſh war, under the reign of Nero, A.D. 67. The ruins of that once famous city are now called "Ezdoud;" it is diſtinguiſhed, ſays Volney (Travels in Egypt and Syria, vol. ii. p. 338.), at preſent by its ſcorpions, but exhibits no proofs of its ancient importance. Three leagues from Ezdoud, is the village of El-Majdal, where they ſpin the fineſt cottons in Paleſtine, which, however, are very coarſe. This traveller reports, that the whole coaſt is daily accumulating ſands, inſomuch, that many places which were known to be anciently ſea-ports, are now 4 or 500 paces within land. Imperial Greek medals were ſtruck at Azotus, in honour of Septimius Severus, and of Domitian.

AZPILCUETA, MARTIN, ſurnamed NAVARRE, in *Biography*, a Spaniſh lawyer, eſteemed one of the moſt learned lawyers of his time, was born in 1494, at Veraſoa near Pampeluna. He was ſucceſſively profeſſor of juriſprudence at Toulouſe, Salamanca, and Coimbra, and conſulted by perſons from all parts as an oracle of law. When his friend Bartholomew Caranza, archbiſhop of Toledo, was ſummoned to Rome by the inquiſition, on a charge of hereſy, Aſpilcueta, though eighty years of age, went thither to plead for him; and at this advanced age he retained his faculties in their full vigour. Such was his charity to the poor, that he ſeldom paſſed a beggar without giving him alms; and it is ſaid, that the mule on which he uſually rode would ſtop of its own accord when he ſaw a beggar. He died at Rome, in 1586, at the great age of ninety-two years. A collection of his works was printed at Lyons, in 6 volumes fol. in 1597; and at Venice, in 1602. Nouv. Dict. Hiſtor.

AZRAIL, in the *Mahometan Theology*, the angel of death, whoſe office it is, according to the Mahometans (who relate many ridiculous ſtories concerning this angel), to ſeparate the ſouls of men from their bodies.

AZTATL, in *Ornithology*, a name by which a kind of *white heron* is known in Mexico.

AZUA DE COMPOSTELLA, or AZUCA, in *Geography*, a ſea-port town on the ſea-coaſt of St. Domingo; twelve leagues S. S. E. of cape Salinas.

AZUAGA, a town of Spain, in the province of Eſtremadura; three leagues ſouth-eaſt of Llerana.

AZUIS, in *Ancient Geography*, an ancient town of Africa Propria. Ptolemy.

AZUMAR, in *Geography*, a town of Portugal, in the province of Alentejo.

AZUN, a valley in that part of the department of the Upper Pyrenées, formerly called Bigore, in France, diſtinguiſhed by the number of its valuable mines, of ſilver, copper, iron, lead, and tin. Thoſe that are already known amount to no fewer than twenty; but lead chiefly abounds throughout the whole of this mountainous country.

AZURE, the blue colour of the ſky. See BLUE, CLOUD, and SKY.

AZURE, in *Heraldry*, ſignifies blue; in heraldic engravings it is expreſſed by horizontal lines.

AZURE. See ULTRAMARINE.

AZURE, or SMALT. See COBALT.

AZUREA, in *Entomology*, a ſpecies of PHRYGANEA, with black wings, violet behind. Linn. The lower wings are obliquely violet. It inhabits the north of Europe.

AZUREA, in *Zoology*, a ſpecies of LACERTA that inhabits Africa, and is diſtinguiſhed by having the tail verticillated, ſhort, with mucronated ſcales. Linn. Gmelin ſpeaks of

two

two varieties of this creature; one, a native of Africa, is rather larger than the preceding, and is deſcribed under the name of *cordylus braſiliienſis*; Laur. Amp.: the other has a deep chefnut coloured ſtripe on the ſhoulders.

The colour of this ſpecies in its natural ſtate, Dr. Shaw imagines to be an elegant pale blue, faſciated on the body and tail with ſeveral tranſverſe and ſomewhat alternate bands either of black, or very deep blue. The kind figured in the Gen. Zool. of that writer to illuſtrate the ſpecies, appears to be the ſecond variety mentioned by Gmelin, having a dark band on the ſhoulders. Dr. Shaw obſerves that the head is rather obtuſe; the body moderately thick, and covered as well as the limbs with very ſmall ſmooth ſcales; and the tail on the contrary, which is of a moderate length, is very diſtinctly and ſtrongly verticillated by rows of large carinated ſcales, the extremities of which project conſiderably ſo as to form ſo many ſhining points.

AZURENSIS, or AJURENSIS, in *Ancient Geography*, an epiſcopal ſee of Africa, in Numidia.

AZUREUS, in *Entomology*, a ſpecies of CARABUS, of an azure colour, with red legs and antennæ. Inhabits Leipſic. Fabricius.

AZUREUS, a ſpecies of CIMEX, of a middle ſize; dull green colour; and yellowiſh mouth and legs. This kind inhabits Guinea. *Obſ.* The abdomen is yellowiſh, with black dots in the middle.

AZURIN, in *Ornithology*, a name aſſigned by Buffon Hiſt. Oiſ. to the ſpecies of TURDUS, ſince called ſpecifically *cyanurus* by Gmelin, which ſee.

AZUROUX, a name given by Buffon to the *emberiza cærulea* of Gmelin. See EMBERIZA CÆRULEA.

AZYGOS, in *Anatomy*, a vein ariſing out of the cava, otherwiſe called vena ſine pari, becauſe ſingle, whence its name. See VEINS, *Deſcription of the*.

AZYMITES, in *Eccleſiaſtical Hiſtory*, Chriſtians who communicate in bread not leavened or fermented. See AZYMUS. This appellation is given by Cerularius to thoſe of the Latin church, upon his excommunicating them in the eleventh century. Du-Cange. The Armenians and Maronites alſo uſe azymus, or unleavened bread, in their office; on which account ſome Greeks call them azymites.

AZYMUS, compoſed of the privative α and ζυμη, *ferment*, ſomething not fermented, or that is made without leaven.

The term azymus is much uſed in the diſputes betwixt thoſe of the Greek and Romiſh church; the latter of whom contend that the bread in the maſs ought to be *azymus*, *unleavened*, in imitation of the paſchal bread of the Jews, and of our Saviour, who inſtituted the ſacrament on the day of the paſſover; and the former ſtrenuouſly maintaining the contrary, from tradition and the conſtant uſage of the church. This diſpute was not the occaſion of the rupture between the Greek and Latin churches; Photius having broken with the popes 200 years before; though it is urged that before the time of Photius, A. D. 866, azymus was uſed in the Romiſh church; and that it was more generally uſed through the Weſt, for which the authority of Alcuin, who died in 794, is alleged. St. Thomas, in 4 Sent. diſt. 2. q. 11. art. 2. quæſtiunc. 3. relates, that during the firſt ages of the church, none but unleavened bread was uſed in the euchariſt, till ſuch time as the Ebionites aroſe, who held that all the obſervances preſcribed by Moſes were ſtill in force; upon which both the eaſtern and weſtern churches took to the uſe of leavened bread; and, after the extinction of that hereſy, the weſtern church returned to the *azymus*; the eaſtern pertinaciouſly adhering to the former uſage.

This account is controverted by father Sirmond, in a diſſertation on the ſubject; wherein he ſhews, that the Latins had conſtantly communicated in leavened bread, till the tenth century, and cardinal Bona, Rerum Liturgic. c. 23. p. 185. greatly diſtruſts what St. Thomas alleges.—In the council of Florence it was decreed, that the point lay at the diſcretion of the church; and that either leavened or unleavened bread might be uſed; the weſtern church has preferred the latter.

AZZALUM, in the *Ancient Phyſiology*, a ſpecies of iron, reputed the moſt excellent of all, ſuppoſed to have been brought from India, whence it was called *Indicum*, but in reality, according to ſome, brought from China. Plin. Hiſt. Nat. lib. xxxiv. c. 14.

AZZO, PORTIUS, in *Biography*, an eminent Italian lawyer, who held the profeſſorſhip of juriſprudence at Bologna, from the year 1190, till his death, which probably happened not long after 1220, and at this time the univerſity was attended by 10,000 ſtudents. Such was his aſſiduity as a lecturer, that he ſaid he never was ill but in the vacations. He was the author of a "Summary of the Code and the Inſtitutes," which has paſſed through ſeveral editions. Of this work, Gravina ſays, (De Orig. Jur. v. i. p. 93.) that it is ſo ingenious and profound, that although written in a barbarous age, we cannot, with all our preſent erudition, be ſafely without it. One of his ſcholars collected the "Introduction to the Code" of this author, which has been printed; and ſeveral of his writings remain in manuſcript. Nouv. Dict. Hiſtor.

AZZOGLIO, in *Geography*, a town of Italy, in the principality of Maſſerano; ſix miles N. N. E. of Maſſerano.

B.

B, The ſecond letter of our alphabet, and of moſt others.

This obſervation fails in the ancient Iriſh alphabet; where B is the firſt, and A the ſeventeenth; and in the Abyſſinian, where A is the thirteenth.

B is the firſt conſonant, and firſt mute, and in its pronunciation is ſuppoſed to reſemble the bleating of a ſheep; upon which account Pierius tells us, in his Hieroglyphics, that the Egyptians repreſented the ſound of this letter by the figure of that animal.

B is alſo one of thoſe letters which the eaſtern grammarians call *labial*, becauſe the principal organs employed in its pronunciation are the lips. It has a near affinity with the other *labials* P and V, and is often uſed for P, both by the Armenians, and other orientals; as in *Betrus* for *Petrus*, *abſens* for *abſens*, &c.; and by the Romans for V, as in *amabit* for *amavit*, *berna* for *verna*, &c. whence aroſe that jeſt of Aurelian on the emperor Bonoſus, *Non ut vivat natus eſt, ſed ut bibat*. See V.

The final B was alſo ſometimes changed into L in the ancient languages, as *Beelzebul* for *Beelzebub*. Bochart (Hieroz. p. ii. l. iv. c. 9. p. 501.) and Grotius (in Matth. x. 25.), have given inſtances of ſuch changes.

B and C, or the K of the Greeks, are often ſubſtituted for one another. Thus, the Greeks ſay, Βορβορυγην for Κορκορυγην; and the Latins *Bufo* for *Cufo*. B and D are alſo uſed interchangeably, as in *Bellum* and *Duellum*. See Quinct. de Orat. c. 45.

Plutarch obſerves that the Macedonians changed Φ into Β, and pronounced *Bilip*, *Berenice*, &c. for *Philip*, *Pherenice*, &c.; and that thoſe of Delphos uſed B, inſtead of Π; as βαϑεων for παϑων, βικρος for πικρος, &c. See P.—

The Æolians change the B into Γ, as Γλεφαρον for Βλεφαρον.

The modern Greeks call the *beta*, *vita*.

The Latins ſaid *ſuppono*, *oppono*, for *ſubpono*, *obpono*, and pronounced *obtinuit*, though they wrote *obtinuit*, as Quinctilian has obſerved. They alſo uſed B for F or Ph; thus in an ancient inſcription mentioned by Gruter, OBRENDARIO is uſed for OFRENDARIO. See F, &c.

B requires an entire cloſure and preſſure of the lips, and is pronounced by forcing them open with a ſtrong breath. This letter alſo, if it paſs through the noſe, becomes an M; as appears by thoſe who have the noſtrils ſtopped by a cold or otherwiſe, when they endeavour to pronounce the letter M; for inſtance, *many men*, is by ſuch a one ſounded *bany ben*. See M.

With the ancients, B, as a numeral, ſtood for 300, as appears by this verſe:

"Et B trecentum per ſe retinere videtur."

When a line was drawn above it, $\overline{B}$, it ſtood for 3000: and with a kind of accent below it, for 200; but among the Greeks as well as Hebrews, this letter ſignified only 2.

B. F. in the preface to the Decrees, or Senatus-conſulta of the old Romans, ſignified *bonum factum*. It is often found on medals, to mark the epocha or year.

B, in the chemical alphabet, denotes *mercury*, according to Raymond Lully.

B on ſome French coins denotes that they were ſtruck at Rouen.

B is alſo uſed as a contraction for *Bachelor*; as B.A. *Bachelor of Arts*; B.L.L. and B.D. bachelor of laws, and bachelor of divinity.

B, in *Muſic*, is a contraction of *B-mi*, the third ſound of the Guido ſcale or gammut. *B* is the ſecond line in the baſe; the third in the treble; and the note below the tenor or *C* clef, on whatever line it is placed. It likewiſe ſtands for baſſo, baſe, in vocal muſic; and in the inſtrumental tenor part, if C is placed before it in a ſcore, thus, C. B. it implies *col baſſo*, meaning that the alto viola is to play with, or rather an octave above, the baſe. B. C. in old ſonatas, implies *baſſo continuo*, or a conſtant accompaniment for the organ or harpſichord, figured for thorough-baſe. *B-fa*, and *B-mi*, in the ſcale of Guido, imply *B* flat, and *B* natural.

B molle implies *B* ♭.

B quadro, *B* ♮.

If there are flats at the clef, they ſtand in the following order: $B^{1}E^{2}A^{3}D^{4}G^{5}$. See GAMMUT, FLAT, SHARP, and NATURAL.

BA, in *Geography*, a town of Africa, in Ardrah, on the Slave coaſt. See ARDRAH.

BAADEN. See BADEN.

BAADSTED, BADSTED, or BATSTED, or BASTAD, a ſea-port of Sweden, in South Gothland, with a bay, in which are ſeveral ſmall ports; ten miles north of Engelholm. N. lat. 56° 28′. E. long. 12° 40′.

BAAL, BEL, or BELUS, denoting *Lord*, in *Ancient Mythology*, a divinity among ſeveral ancient nations, as the Canaanites, Phœnicians, Sidonians, Carthaginians, Babylonians, Chaldeans, and Aſſyrians.

The term *Baal*, which is itſelf an appellative, ſerved at firſt to denote the true God, among thoſe who adhered to the true religion. Accordingly the Phœnicians, being originally Canaanites, having once had, as well as the reſt of their kindred, ſome notion of the true God, probably called him *Baal*, or Lord. But they, as well as other nations, gradually degenerating into idolatry, applied this appellation

pellation to their reſpective idols; and thus were introduced a variety of divinities under the denomination of Baal, called *Baalim*, or Baal, with ſome epithet annexed to it, as Baal-Berith, Baal-Gad, Baal-Moloch, Baal-Peor, Baal-Zebub, &c. Some have ſuppoſed that the deſcendants of Ham firſt worſhipped the ſun under the title of Baal (ſee 2 Kings, xxiii. 5. 11.), and that they afterwards aſcribed it to the patriarch who was the head of their line; making the ſun only an emblem of his influence or power. It is certain, however, that when the cuſtom prevailed of deifying and worſhipping thoſe who were in any reſpect diſtinguiſhed amongſt mankind, the appellation of Baal was not reſtricted to the ſun, but extended to thoſe eminent perſons who were deified, and who became objects of worſhip in different nations. The Phœnicians had ſeveral divinities of this kind, who were not intended to repreſent the ſun. It is probable that Baal, Belus, or Bel, the great god of the Carthaginians, and alſo of the Sidonians, Babylonians, and Aſſyrians, who from the teſtimony of ſcripture appears to have been delighted with human ſacrifices, was the Moloch of the Ammonites, the Chronus of the Greeks, who was the chief object of adoration in Italy, Crete, Cyprus, and Rhodes, and all other countries where divine honours were paid him, and the Saturn of the Latins. In proceſs of time, many other deities, beſides the principal one juſt mentioned, were diſtinguiſhed by the title of Baal among the Phœnicians, particularly thoſe of Tyre, and of courſe among the Carthaginians, and other nations. Such were Jupiter, Mars, Bacchus, and Apollo or the ſun.

The term Baal, as we have already obſerved, denoted *God* or *Lord* among the orientals; and the *Zeus* of the Greeks had the ſame meaning. Servius (in Æn. i.), who is followed by Voſſius (Theol. Gent. l. ii. c. 4.), obſerves, that Baal in the Punic language had two ſignifications, either denoting Saturn, or being equivalent to the Latin deus or god. Accordingly, if Baal and Zeus, or Jupiter, be words of the ſame import in different languages, we may apply to the former what Varro, cited by Tertullian, ſays of the latter, that the number of thoſe divinities who paſſed under this denomination amounted to 300. Some, however, are of opinion, that there were originally only two gods of the Phœnicians, and conſequently of the Carthaginians; and that all the other deities were comprehended under two; viz. Baal and Aſhtaroth, or Belus and Aſtarte. See Seld. de Diis Syr. Synt. 2. c. 2. p 145. Shuckford's Connect. b. v.

The temples and altars of Baal were generally placed on eminences; they were places incloſed with walls, wherein was maintained a perpetual fire; and ſome of them had ſtatues or images, called in ſcripture "Chamanim." Maundrell, in his journey from Aleppo to Jeruſalem, obſerved ſome remains of theſe incloſures in Syria. Baal had his prophets and his prieſts in great numbers; accordingly we read of 450 of them that were fed at the table of Jezebel only; and they conducted the worſhip of this deity, by offering ſacrifices, by dancing round his altar with violent geſticulations and exclamations, by cutting their bodies with knives and lancets, and by raving and pretending to propheſy, as if they were poſſeſſed by ſome inviſible power. Several of theſe practices, and particularly that of cutting the body, were, according to Mede (vol. ii. p. 774.), funeral rites, as appears from Lev. xxi. 5. xix. 28. Deut. xiv. 1. Jerem. xlviii. 37. xvi. 6.; and they were retained, ſays this learned author, in the funeral worſhip of thoſe that were deified after their death. Hence, and from other circumſtances, he infers, that Baal was a dæmon-god. See Baalim, Dæmon, and Idolatry.

BAALBEC, in *Geography*. See Balbec.

BAAL-Berith, in *Ancient Mythology*, derived from *baal*, *ſovereign*, and *berith*, *covenant*; a deity acknowledged under this title by the Carthaginians and Phœnicians in their alliances.

Jupiter was worſhipped by theſe people under the denomination of Belus or Baal; to him they addreſſed their oaths, and they placed him at the head of their treaties. Hence ſome have not ſcrupled to affirm, that he was the Baal-Berith of the Phœnicians (ſee Banier, in Mythol. vol. i.); but Cumberland (ſee Sanchoniatho's Phœn. Hiſt. p. 152.) ſuppoſes that Baal-Berith was Cronus, or Ham, worſhipped anciently at Berytus. See Judg. viii. 33. ix. 4. According to Bryant (Anal. Anc. Mythol. vol. ii. p. 356.), the Baal-Berith of the Canaanites was no other than the Arkite god; with whoſe idolatry the Iſraelites in general were infected, ſoon after they were ſettled in the land of Canaan. (See Berytus.) The Greeks, however, had their Ζευς ὁρκιος, or Jupiter, the witneſs and arbitrator of oaths; and the Latins their Deus Fidius, or Jupiter Piſtius, whom they regarded as the god of honeſty and integrity, and who preſided at treaties and alliances.

BAAL-Gad, Bagad, or Begad, an idol of the Syrians, whoſe name was compoſed of *baal*, *lord*, and *gad*, *chance* or *fortune*; the god of chance or fortune. After the god of thunder, the god of chance was one of the firſt worſhipped by mankind. See Phil. Tranſ. vol. lvi. N° 2. an. 1766.

Baal-Gad, in *Ancient Geography*, a city of Paleſtine, at the foot of mount Hermon, ſo called from the deity Baal-Gad, who was worſhipped in this place. Joſh. xi. 17.

BAAL-Hammon. See Bocat.

BAAL-Hazor, a city of Ephraim, where Abſalom kept his flocks.; 2 Sam. xii. 23.

BAAL-Hermon, a town of Paleſtine, generally placed north of the tribe of Iſſachar. 1 Chron. v. 23.

The temple of Baal-Hermon in mount Libanus (Judges, iii. 1, 3.), was probably founded, ſays Bryant (Anal. Anc. Myth. vol. ii. p. 163.), by the Cadmians, who formed one of the Hivite nations in thoſe parts.

BAALIM, in *Ancient Mythology*, inferior deities among the Phœnicians.

The learned Joſeph Mede (vol. ii. p. 776.) having ſuggeſted that Baal, or in the Chaldee dialect Bel, was the firſt king of Babel after Nimrod, and the firſt that was deified and reputed a god after his death, apprehends that this gave occaſion for denominating all other dæmons Baalim. Theſe Baalim, he conceives, were the deified ſouls of the dead. Bryant alſo (vol. ii. p. 529.) is of opinion that the moſt early defection to idolatry conſiſted in the worſhip of the ſun, and that of dæmons, called Baalim. See Dæmon.

BAAL-Meon, in *Sacred Geography*, a city of Canaan, in the tribe of Reuben, taken by the Moabites, and poſſeſſed by them in the time of Ezekiel. Numb. xxxii. 38. 1 Chron. v. 8. Ezek. xxv. 9. Euſebius and Jerom place it nine miles from Eſbus or Eſbon, at the foot of mount Pania or Abarim.

BAAL-Peor, or Baal-Phegor, in *Mythology*, an idol deity of the Moabites and Midianites, ſuppoſed by ſome to have been Priapus, whoſe worſhip was conducted with great impurity; by others to have been Adonis; and by others to have been Saturn, adored under this appellation in Arabia. The learned Mede, ſuppoſing Peor to be the name of a mountain in Moab, upon which a temple of Baal was erected, concludes that Baal-Peor was only another name of Baal, derived from the ſituation of his temple; and to add no more, Selden (De Diis Syris, Syntag. 1. c. 5.) ſuggeſts that Baal Peor is Pluto, founding his conjecture on Pſ. cvi. 28. where it is ſaid, "They joined themſelves unto Baal-Peor, and ate the ſacrifices of the dead." The ſacrifices to which theſe words refer, ſay the authors, were

offered to appeafe the manes of the dead. But theſe ſacrifices or offerings of the dead may mean no more than the ſacrifices or offerings made to idols, or falſe gods, who are properly called "The dead," in contradiſtinction to the true God, called in ſcripture "The living God."

BAAL-PERAZIM, in *Ancient Geography*, a place of Paleſtine, in the valley of Rephaim, not far from Jeruſalem, where David put to flight the Philiſtines. 2 Sam. v. 20.

BAAL-SAMEN, or BAAL-*Shemaim*, according to the Hebrew mode of expreſſion, q. d. *the Lord of heaven*, in *Mythology*, a deity of the Phœnicians, which was probably the ſun, to whom they and the Carthaginians paid divine honours, addreſſing him with their arms extended. Beliſama, or the queen of heaven, was the moon.

BAAL-TAMAR, in *Ancient Geography*, a place of Judæa, in the tribe of Benjamin, ſituate, according to Euſebius, near Gibeah, where the children of Iſrael engaged the tribe of Benjamin. Judg. xx. 33.

BAALTIS, in *Mythology*, a goddeſs among the Phœnicians, chiefly worſhipped at Byblos; ſuppoſed by ſome to have been the ſame with the Diana of the Greeks.

BAAL-ZEBUB. See BEELZEBUB.

BAAL-ZEPHON, or BAAL-TSEPHON, q. d. *the god or idol of the north*, in *Mythology*, a deity of the ancient Egyptians, ſo called, according to to Dr. Shaw, (Trav. p. 309.) in contradiſtinction, perhaps, to others of the Lower Thebais, whoſe places of worſhip were to the ſouth or eaſt. But if Tzephon be derived from צפה, *to ſpy out*, or *obſerve*, then Baal-tzephon will probably ſignify the "god of the watch-tower," or "the guardian god," ſuch as the Hermes or Terminus of the Romans, the Ἐφορος Θεος of the Greeks, &c. At the temple of this deity, according to the Jeruſalem Targum, Pharaoh, when he was purſuing the Iſraelites in their exodus, offered ſacrifice, waiting till the next day for an attack upon Iſrael, whom he believed his god had delivered into his hands; but, in the mean time, they paſſed the Red ſea, and eſcaped.

BAAL-ZEPHON, in *Ancient Geography*, a place thought by ſome to be a city, oppoſite to Pihahiroth, where the Iſraelites encamped before they paſſed the Red ſea. It was diſtinguiſhed either by its northern ſituation, צפון, ſignifying the *north*, in Exod. xxvi. 20. Joſh. viii. 11. and in other places of ſcripture; or by ſome watch-tower or idol temple that was erected upon it. Dr. Shaw ſuppoſes, that this place was at the eaſtern extremity of the mountains of Suez, or Attackah, the moſt conſpicuous of theſe deſerts; inaſmuch as it overlooks a great part of the lower Thebais, as well as the wilderneſs that reaches towards, or which rather makes a part of, the land of the Philiſtines. Accordingly Migdol might lie to the ſouth, and Baal-tzephon to the north of Pihahiroth. For the march of the Iſraelites from the edge of the wilderneſs being towards the ſea, or the ſouth-eaſt, their encampment betwixt Migdol and the ſea, or before Migdol, could not well have any other ſituation. See Exod. xiv. 2. xix. 2. 9. Numb. xxxiii. 7. Euſebius reports, from ancient traditions, that the Iſraelites paſſed at Cluſma, the Kolſoum of the Arabs, both of the terms ſignifying deſtruction, which was a very expreſſive appellation, if it was deduced from the deſtruction of the Egyptian army. The ſituation of Kolſoum, it has been ſaid, is near Suez; and hence it has been thought, that Baal-zephon was at Suez, though Pococke, Shaw, and Bruce, place it farther to the ſouth. In ſupport of this opinion it has been further alleged, that the appellation Baal-zephon, the god of the north, implies, that the temple of this deity ſtood either on the northern extremity of the Red ſea itſelf, or on the northern extremity of the gullet called Pihahiroth. "Baal-zephon," ſays Bruce (Travels, vol. i. p. 233.) "was probably ſome idol's temple, which ſerved for a ſignal-houſe upon the cape which forms the north-entrance of the bay, oppoſite to Jibbel Attakah, where there is ſtill a moſque, or ſaint's tomb. It was probably a light-houſe, for the direction of ſhips going to the bottom of the gulf, to prevent miſtaking it for another foul bay, under the high land, where is alſo a tomb of a ſaint, called Abou Derage." See PIHAHIROTH.

BAAL's RIVER, and BAY, in *Geography*, lie in Weſt Greenland, between Bear Sound on the ſouth-eaſt, and Delft's Point on the north-weſt, and oppoſite to the mouth of Hudſon's Strait.

BAAN, JOHN DE, in *Biography*, an eminent portrait-painter, was born at Haerlem, in 1633, and after receiving inſtructions in the art of painting from his uncle Piemans, purſued his ſtudies with ſingular aſſiduity under Bakker, at Amſterdam. Having determined to form himſelf upon the model of Vandyck, his merit was ſoon univerſally known; and he was invited by Charles I. to London, where he painted the portraits of the king, queen, and chief nobility at court, and was much admired for the elegance of his attitudes, and alſo for his clean, natural, and lively tone of colouring. Upon his return to the Hague, he painted a noble portrait of the duke of Zell, for which he received a ſum amounting nearly to 500l. The beſt of De Baan's performances is the portrait of prince Maurice of Naſſau, in the execution of which he exerted the utmoſt efforts of his pencil. He died in 1702. Pilkington.

BAAN, *Jacob de*, the ſon of the former, was born at the Hague in 1673; and having acquired eminence as a painter under the inſtruction and by the example of his father, he came over to England about the age of twenty, among the attendants of William III., where he was favourably received. From England, where he gained by his performances in portrait-painting diſtinguiſhed reputation, he travelled through Tuſcany to Rome, and he there devoted himſelf to the proſecution of his ſtudies. However, though he gained a conſiderable ſum of money by painting ſeveral portraits and converſations, during his reſidence at Rome, he ſquandered it away by various modes of profuſion and expence. His prematurre death, at the age of twenty-ſeven, A.D. 1700, and the previous intermiſſion of his aſſiduity, prevented his arriving at that excellence of which his talents were capable. Pilkington.

BAANITES, in *Eccleſiaſtical Hiſtory*, the followers of Baanes, who adopted and diſſeminated the Manichean notions in the ninth century, about the year 810.

BAAR, in *Geography*, a landgraviate of Germany, in the circle of Swabia, belonging to Furſtenberg, ſituate to the eaſt of Briſgau. The ſource of the Danube is in this territory.

BAARAS, BAHARAS, or BACHARAS, in *Botany*, an extraordinary kind of root, ſaid to grow on mount Lebanon, in a valley called *Baaras*, whence the name, near the city Macheron.

By the account which Joſephus gives of it, it ſeems to be a ſort of vegetable phoſphorus, for he repreſents it as of a flame colour, emitting rays of light in the night, and diſappearing by day.

BAARIOU, in *Geography*, a river of Aſia, in Kamtſchatka, which runs in a valley between two mountains.

BAAT, in the language of the Siameſe, anſwering to *ticul* in that of the Chineſe, denotes a weight and coin current in thoſe kingdoms. It weighs about half an ounce.

BABA, in *Biography*, a Turcoman impoſtor, and pretender to prophecy, who appeared among the Mahometans, in the city of Amaſia in Natolia, in the year of the Hegira 638, A.D. 1240, and who ſeduced a great multitude of followers. One of his diſciples, named Iſaac, publiſhed his commiſſion, and gained a number of adherents. Baba and Iſaac concurred in commencing acts of hoſtility againſt all

all who would not adopt their profeſſion of faith, viz. "There is but one God, and Baba is his apoſtle:" and they put ſeveral Mahometans and Chriſtians, who reſiſted them, to death. At length, the Mahometans and Chriſtians uniting together, raiſed an army, which entirely routed their followers, deſtroyed many of them, and took their two chiefs captives, who were afterwards beheaded; and thus their ſect was totally annihilated. Herbelot. Bib. Orient. Sale's Koran. Introd. p. 187.

BABA, in *Geography*, a territory in the juriſdiction of Guayaquil, in South America, extending to the ſkirts of the Cordilleras, or the mountains of Anga Marca, belonging to the juriſdiction of Latacunga. Beſides the principal town of the ſame name, at ſome diſtance from a river of the ſame appellation, there are two other places called San Lorenzo and Palenque, far from the capital, and near the Cordilleras, whoſe inhabitants are little civilized. The cacao-trees, which abound in this diſtrict, produce fruit twice in the year.

BABA, or *Temiſvar*, a town of European Turkey, in Bulgaria, 64 miles eaſt of Silиſtria.

BABA, *Cape*, a cape of Natolia, in Aſia Minor, between the iſlands of Tenedos and Leſbos, and near the gulf of Adramytti, on the coaſt of the Archipelago. N. lat. 39° 33′. E. long. 26° 22′. It was formerly the promontory *Lectos*. A ſmall town of the ſame name, ſituated to the eaſt of the cape, on a ſloping ground, has a ſmall harbour for boats; and is famous in Turkey for the knife and ſword blades which are manufactured there for the uſe of the orientals. It is peopled by Turks and Greeks; the adjacent ſoil is tolerably good, and furniſhes the ſame productions as that of Troas. Olivier's Trav. vol. ii. p. 56.

BABA, in *Ornithology*, the Ruſſian name of the PELICAN.

BABACHOKA, in *Geography*, one of the Biſſagos iſlands.

BABAHOYO, a territory and town of the juriſdiction of Guayaquil, in South America. The town is the ſite of the grand cuſtom-houſe, where account is taken of the various commodities that are conveyed to or from the Cordilleras and adjacent countries. Beſides the principal town, this diſtrict contains Ujiba, Caracol, Quilea, and Mangaches; the two laſt border on the Cordilleras, and are at a conſiderable diſtance from Ujiba, where the prieſt reſides during winter, and whence he removes to Babahoyo in the ſummer. The capital, beſides its ſettled inhabitants, has always a great number of traders from other ports. This country, being level and low, is overflowed by the ſwellings of the rivers Caluma, Ujiba, and Caracol; ſo that at Babahoyo the water riſes to the firſt ſtory of the houſes; and during winter it is entirely deſerted. In this diſtrict cacaos are abundant. It alſo produces cotton, rice, Guinea pepper, and a great variety of fruits. It has likewiſe large droves of black cattle, horſes, and mules, which, in winter, are kept in the mountains, and in ſummer are removed to the low lands to feed on the gamalote, a plant ſo luxuriant as to cover the ground, and riſing to the height of two and a half yards.

BABAIN, a town of Perſia, in the province of Kerman, ninety miles ſouth-eaſt of Sergian.

BABAIN, a village or burgh of Egypt, built on the ruins of an ancient town, about ſix miles weſt of ACHMOUNAIN.

BAB-BAHA, one of the richeſt countries of Abyſſinia, about twelve miles from the river Baha, and near the lake Tzana. This on the ſouth, and Woggora on the north, are the two granaries that ſupply the reſt of the kingdom. It contains a number of ſmall villages; in which the queen and many of her relations have their houſes and poſſeſſions. Theſe villages are all ſurrounded with Kolquall trees, as large in the trunk as thoſe of the province of Tigré, but leſs beautiful, and furniſhed with fewer branches. Bruce's Travels, vol. iii. p. 504.

BABBI, GREGORIO, in *Biography*, a tenor ſinger in the Italian opera, with the ſweeteſt, moſt flexible, and moſt powerful voice of its kind, that his country could boaſt at the time. He flouriſhed from 1730 to 1740; never was in England; but we have ſeen the principal ſongs that were compoſed for him, and converſed with many good judges that heard him ſing them, and have no doubt but that he was a dignified, ſplendid, and powerful performer.

BABBIN, in *Geography*, a town of Pomerania, in the iſland of Rugen, twelve miles north of Bergen.

BABBINI, MATTEO, in *Biography*, ſo named from being the ſcholar or imitator of Babbi, arrived in England in 1786, at the ſame time as Rubinelli. He had a tenor voice that was ſweet, though not powerful, had an elegant and pleaſing ſtyle of ſinging; but it was eaſy to imagine that his voice had been better; and not difficult to diſcover, though his taſte was modern, and many of his *riffioramenti* refined and judicious, that his graces were ſometimes redundant, and his manner affected. His importance was very much diminiſhed, when he ſung with the Mara; and after the arrival of Rubinelli, he ſunk into inſignificance.

BABBLING, among *Hunters*, is when the hounds are too buſy after they have found a good ſcent.

BABEL, WILLIAM, in *Biography*, organiſt of All-hallows, Bread-ſtreet, ſeems to have been the firſt, in this country at leaſt, who thinned, ſimplified, and diveſted the muſic of keyed-inſtruments of the crouded and complicated harmony, with which, from the convenience of the clavier, and paſſion for full and elaborate muſic, it had been embarraſſed from its earlieſt cultivation. This author acquired great celebrity by wire-drawing the favourite ſongs of the opera of Rinaldo, and others of the ſame period, into ſhowy and brilliant leſſons, which, by mere rapidity of finger in playing ſingle ſounds, without the aſſiſtance of taſte, expreſſion, harmony, or modulation, enabled the performer to aſtoniſh ignorance, and acquire the reputation of a great player, at a ſmall expence. There is no inſtrument ſo favourable to ſuch frothy and unmeaning muſic as the harpſichord. Arpeggios, which lie under the fingers, and running up and down the ſcales of eaſy keys with velocity, are not difficult, on an inſtrument of which neither the tone nor tuning depends on the player; as neither his breath nor bow-hand is requiſite to give exiſtence or ſweetneſs to its ſounds. And Mr. Babel, by avoiding its chief difficulties of full harmony, and diſſimilar motion of the parts, at once gratified idleneſs and vanity. We remember well, in the early part of our life, being duped to the glare and glitter of this kind of tinſel; this *poudre dans les yeux*, which Mr. Felton continued, and other dealers in *notes, et rien que des notes*, till Jozzi, the ſinger, by his neat and elegant manner of executing the brilliant, graceful, and pleaſing leſſons of Alberti, rendered them the objects of imitation. At length, on the arrival of the late Mr. Bach, and conſtruction of pianofortes in this country, the performers on keyed-inſtruments were obliged wholly to change their ground; and inſtead of ſurpriſing by the dazzling labour and dexterity of execution, had the real and more uſeful difficulties of taſte, expreſſion, and light and ſhade, to encounter. Babel, who was one of his Majeſty George the Firſt's private muſic, died about the year 1722.

BABEL, in *Ancient Geography*, a city and tower built by Noah's poſterity in the plain of Shinar, Gen. xi. 1—9. Its preciſe ſituation is not aſcertained; nor is it of any great importance to determine it. It was within the province of Shinar, and probably the ancient Babylon was erected on or near its ruins. (See SHINAR, and BABYLON.) Some travellers

vellers, led by a tradition of the inhabitants, have judged a place about eight or nine miles to the weſt, or north-weſt of Bagdad, to be the tower of Babel. This is called the tower of Nimrod, and is conſpicuous at a great diſtance, being inſulated in an extenſive plain between the Euphrates and Tigris, and reſembling by its ruins a ſhapeleſs mountain more than a tower. Rauwolf ſuppoſes he found the ruins of Babylon upon the Euphrates, near Felujia, about 36 miles to the ſouth-weſt of Bagdad; and Della Valle was directed, by another tradition, to ſeek it about two days journey lower, near an ancient city called Hilla, ſeated on the ſame river. After all, there is no end of conjectures; the ruins deſcribed by many authors ſeeming to be rather the remains of ſome later ſtructures raiſed by the Arabs, than thoſe of the original tower of Babel. The time of this enterpriſe is generally allowed to have been before the birth of Peleg, about the year 2247 B.C. in the year of the flood 101 according to the Hebrew calculation; in the year 401, according to the Samaritan; and, according to the Septuagint, in 531. The perſons concerned in this undertaking were, according to the hiſtory, the poſterity of Noah; who journeying from the eaſt, found the plain of Shinar, where they dwelt, and concurred in this enterpriſe. There is no reaſon, therefore, for excluding the family of Shem, as ſome have done, from any ſhare in this memorable tranſaction. Bryant, however, maintains that Shem and his poſterity had no concern in it; and that the chief agents were the ſons of Chus, or Chuthites; and that they were the ancient Titans, or worſhippers of fire. Anal. Anc. Myth. vol. iii. p. 31. 91. The motives which induced them all to unite and co-operate in the execution of this deſign have been differently aſſigned. Accordingly, the meaning of the paſſage which announces it, has been differently interpreted. It is as follows; "And they ſaid, go to, let us build us a city and a tower, whoſe top may reach unto heaven; and let us make us a name, leſt we be ſcattered abroad upon the face of the whole earth." Some have ſuppoſed, that they apprehended a ſecond deluge, and in order to ſecure for themſelves a refuge in caſe of danger, they determined to erect this lofty building. Others, who imagine, that if this had been their purpoſe, they ſhould have ſelected an eminence, and not a plain, for the ſite of their propoſed edifice, ſuppoſe that they engaged in this undertaking in order to prevent that ſeparation and diſperſion of which they had been previouſly admoniſhed. The ſcripture, ſay theſe perſons, expreſsly aſſign the reaſon of their conduct, which was "to make for themſelves a name," or eſtabliſh a memorial of themſelves, "leſt they ſhould be ſcattered," or, as the words are otherwiſe rendered, "before they ſhould be ſcattered abroad." Other interpreters allege, that the word שֵׁם, *ſhem*, ſhould be tranſlated "a ſign," and not "a name;" and they render the paſſage "let us make us a ſign, leſt we be ſcattered;" and thus as Perizonius (Orig. Babyl. c. 10. p. 168. c. 11. p. 193. c. 12. p. 223.) explains it, the tower was to ſerve them as a beacon, or mark, by the ſight of which, or of a ſignal from the top of it, they might avoid ſtraying in the open plains with their flocks (the firſt men being ſhepherds), and be brought back again into the city, which they had built for a place of abode, as they were unwilling to be diſperſed. As to the expreſſion "of its top reaching unto heaven," it is a Hebrew phraſeology, merely denoting its great height; and for this purpoſe we read of cities walled up to heaven. Some, however, have ſuppoſed, that the phraſe was intended to denote the uſe to which this tower was to be appropriated, or that it was to be conſecrated to the heavens, or to the worſhip of the ſun, moon, and ſtars, of the fire and air, and other natural powers, as deities; and as it indicated a tendency towards idolatry, the true God interpoſed to prevent a total and irreclaimable defection. Whatever was the deſign with which this edifice was conſtructed, Almighty God thought proper to reſtrain the execution of it (Gen. xi. 6.), by the confuſion of language and diſperſion which enſued. See CONFUSION *of Languages*, and DISPERSION *of Mankind*. From this *confuſion*, the city and tower were denominated *Babel*. By altering in the word *Babel* the ſecond *b* into a *lamed*, the paſſage (Gen. xi. 9.) might be thus rendered, "the name of it was called Balel, becauſe there the Lord did *balel*, that is, confound the lip of all the earth;" or thus, "the name of it was called *confuſion*, becauſe there did the Lord confound the lip of all the earth." Some have ſuppoſed, deviating indeed too far from the literal hiſtory (vid. Bocharti Oper. t. i. p. 36.), that Moſes did not mean any particular tower, but that he ſpoke in general of a turreted city, or a city with turrets on its walls. Such a city, compared with the caverns in which the firſt men unqueſtionably lodged, might well appear a tower with a heavenly or very elevated top, like the habitations of the Anakims; theſe being ſurmounted with natural rocks or peaks, and that with artificial elevations. See Gen. xi. 4. Deut. i. 28.

The materials of which this tower was conſtructed were, as the ſcripture informs us (Gen. xi. 3.), burnt bricks inſtead of ſtone, and ſlime inſtead of water. According to an eaſtern tradition, three years were employed in making and burning theſe bricks, and each of them was 13 cubits long, 10 broad, and 5 thick. The ſlime was of a pitchy ſubſtance, or bitumen, brought from a city in the neighbourhood of Babylon, called Is or Hit. Oriental writers, on whoſe report we can repoſe little confidence, pretend that the city was 313 fathoms in length, and 151 in breadth; that the walls were 5533 fathoms high, and 33 broad; and that the tower itſelf was no leſs than 10,000 fathoms or 12 miles high. St. Jerome affirms, from the teſtimony of eye-witneſſes, who, as he ſays, had examined the remains of the tower, that it was four miles high. But it is needleſs to recount more of theſe fables. See BABYLON.

BABEL-MANDEB, ſometimes called BABEL-MANDEL, in *Geography*, a narrow ſtrait at the entrance into the Red ſea, which connects it with the Indian ocean, lying between the ſouth-weſtern coaſt of Yemen or Arabia Felix, and the coaſt of Adel in Africa, and formed by the projecting land of Arabia on the eaſt, and that of Abyſſinia on the weſt. N. lat. 12° 50′. E. long. 43° 50′. The whole breadth of this ſtrait is about 30 geographical miles; and within it, about a league from the coaſt of Yemen, is the ſmall barren iſland of Perim, ſometimes called Babel-mandel, which has a good port, but is without freſh water. This iſland is called by Arrian the iſle of Diodorus. Near the African coaſt are ſeveral ſmall iſlands, and on the continent is the town of Zeila, which is ſubject to the Imam of Yemen. Veſſels that navigate this ſtrait moſt commonly paſs between the iſle of Perim and Arabia, though the paſſage is narrow, on account of the number of ſmall iſlands on the African coaſt. The currents are ſtrong, and the ſwell high, ſo that it is difficult to paſs without a fair wind; hence this navigation has been dreaded by the unſkilful mariners of the adjoining countries. In ancient times the navigation of the Arabian gulf, which is even now ſlow and difficult, was conſidered by nations around it to be ſo extremely perilous, that it led them to give ſuch names to ſeveral of its promontories, bays, and harbours, as convey a ſtriking idea of the impreſſion which the dread of this danger had made upon their imagination. Accordingly, the entry into the gulf, they called Babel-mandeb, which ſignifies *the gate or port*

of

of deſtruction; to a harbour not far diſtant, they gave the name of *Mete*, or *death;* and an adjacent iſland they called *Gardefan*, or *the cape of burial.* Near this ſtrait Ptolemy places a town, which he calls, in the Greek, Mandaeth, probably a corruption of Mandeb; and the [illegible] on the ſouth ſide of the ſtrait, and the city upon it, is Diræ, which means the Hades, or Hell, by Ptolemy called Ανρη. A cluſter of iſlands met with in the same [illegible] Mocha, is called Jibbel Zekir, or the iſlands of prayer for the remembrance of the dead. And in the ſame courſe up the gulf, others are called Sebaat Gzier, praiſe or glory be to God, as we may ſuppoſe, for the return from this dangerous navigation. Niebuhr and Bruce.

In the "Periplus of the Erythræan ſea," by Dr. Vincent, the ſtraits of Babel-mandeb are contracted to 23 miles, and divided into two chanuels, by the intervention of Perim and other iſles; and they [illegible] in an orderly direction to Cana or Cape Fartaque on the Arabian ſide, and to Aromata or Gardefan on the coaſt of Africa; which two promontories form the proper entrance to the ſtraits from the Indian ocean, and are about 250 geographical miles aſunder.

BABENHAUSEN, a town of Germany in the circle of Swabia, to which belongs a lordſhip of the counts of Fugger, ſeated on the Gunz; 26 miles W. S. W. of Augſburgh, and 16 S. E. of Ulm. N. lat. 48° 11'. E. long. 9° 16'.

BABENSKOI, a town of Ruſſia, in the government of Archangel, 90 miles S. S. W. of Kola.

BABIA, a river of Ruſſian Lapland, which runs into the White ſea, ſix miles ſouth of Pialitza.

Babia, in *Mythology*, a goddeſs of Syria, worſhipped particularly at Damas. She was ſuppoſed to be the goddeſs of youth, and to have been their Venus, who preſided over love and marriage. Selden, de Diis Syris, Syntag. II. c. 4.

BABIBA, in *Ancient Geography*, a town of Africa, in Libya interior, on the Weſtern coaſt, between the rivers Aradus and Stachir.

BABICA, in *Geography*, a town of Poland, in the Palatinate of Minſk, eight miles eaſt of Mozyr.

BABIN, Francis, in *Biography*, a theologian and canoniſt of France, was born at Angers in 1651, and elected profeſſor of divinity, in the univerſity of his native city. Here he read lectures to numerous claſſes for 20 years. In 1706, he was appointed by the biſhop of Angers one of his grand vicars, and employed to collect and regulate the minutes of the conferences of the dioceſe. This work was publiſhed in 18 volumes 12mo, and is much eſteemed for its method and ſtyle. In 1697, Babin publiſhed in 4to. a work, intitled, "A Narrative of what paſſed in the univerſity of Angers, on the ſubject of Janſeniſm and Carteſianiſm." Louis XIV. allowed him a penſion of 2000 livres, and appointed him to ſeveral lucrative and honourable offices, which he enjoyed till his death in 1734, at the age of 83. He retained his faculties to the laſt, and was often conſulted on eccleſiaſtical queſtions and caſes of conſcience. Nouv. Dict. Hiſt.

Bobin, in *Geography*, a town of Poland, in the palatinate of Inowlaw; eight miles north-eaſt of Inowlaw.—Alſo, a town of Poland, in the palatinate of Braclaw; twenty-eight miles north-eaſt of Braclaw.—Alſo, a town of Poland, in the palatinate of Belcz, thirty-ſix miles eaſt of Belcz.

[illegible], Godwin, in *Biography*, an Engliſh biſhop, was born about the middle of the ſixteenth century, in Nottinghamſhire, as ſome ſay, but according to others, [illegible], and educated at Cambridge. [illegible] domeſtic chaplain to Henry earl of Pembroke,

profeſſor of the [illegible] in the [illegible] of Wales, he is ſaid to have [illegible] king Mary's time, the [illegible] at Hereford, [illegible] and [illegible] Dean of Davids. [illegible] maſter of the [illegible] of Llandaff, and in 1687 [illegible] of that ſee, from which he was tranſlated firſt to Exeter, and afterwards to Worceſter, where he remained for thirteen years, till the time of his death in 1610. Notwithſtanding his liberality in repairing the cathedral of the dioceſe, and [illegible], he has been highly extolled. He was alſo humble and diligent, and with the exception of having alienated from the biſhopric of Exeter the rich manor of Crediton in Devonſhire, he has been deemed unobnoxious to the charge of avarice. His works, publiſhed in 1615 and 1637, contain "Comfortable Notes on the Pentateuch:" an "Expoſition of the Creed, Commandments, and Lord's Prayer;" a "Conference between Man's Frailty and Faith;" and three ſermons. They are written in the quaint ſtile of the times, and are diſtinguiſhed by their piety more than by their literary merit. Biog. Brit.

BABINOVITCHI, in *Geography*, a diſtrict of the government of Mohilef in Ruſſia, on the river Lutchoſſa, falling into the Duna. N. lat. 54° 52'. E. long. 30° 14'.

BABIROSA, Barbirousa, and Barbirossa. See Barbarossa.

BABITZ, in *Geography*, a town of Bohemia, in the circle of Czaſlau; five miles W. N. W. of Teutſch Brod.

BABOEUF, a town of France, in the department of the Oiſe, and chief place of a canton in the diſtrict of Noyon; two miles E. N. E. of Noyon.

BABOLZA, a town of Lower Hungary, in Sclavonia, between Poſſeg and Zigeth, towards the Drave; ſuppoſed by ſome to have been the ancient *Marianianum*, or *Port Marianianus*.

BABOON, in *Zoology*, the name of that tribe of Apes (*Simia* Linn.) which have ſhort tails;—cauda abbreviata: *papiones* κυνοκεφαλα *veterum*, Gmel. Linn. Syſt. Nat.; and comprehending the ſpecies nemeſtrina, apedia, ſphinx, mormon, maimon, and porcaria. The baboons of Dr. Shaw are ſuch of the *Simia* genus as have very muſcular bodies, and whoſe tails are commonly ſhort. *Baboon* in the Engliſh language has the ſame application as *babouin* in the French, and of which many accounts have been given by Buffon, Sonnini, and others. Virey obſerves, that the *babouins* are a ferocious and very laſcivious kind of ape, found in many parts of the old world, and eſpecially in Africa. Their muzzle, he remarks, is a little lengthened in the ſame manner as that of a dog, and on that account they have ſometimes been called *ſinges cyanocephales*, and alſo *magots*. They live on fruits, ſeeds, roots, leaves, inſects, &c. like the other kinds of apes; and are obſerved to be a miſchievous and thieviſh race. In a ſtate of captivity they are altogether untameable, are fond of wine and [illegible] liquors; and the females, it is aſſerted, have an antipathy to the fair ſex, as the males have againſt men. See Simia.

BABOPAS, in *Geography*, a town in the interior part of New Albion, eaſt of the long range of mountains which extend northward [illegible] on the peninſula of California. N. lat. 37° 45'. W. long. 114° 25'.

BABORA, a town of Poland, in the palatinate of Lemberg; twelve miles ſouth of Lemberg.

BABOUCARD, in *Ornithology*, the name given by Buffon to the Senegal variety of *Alcedo Iſpida* (β Gmelin), or common kingfiſher; and which Latham calls *Iſpida Senegalenſis*.

BABOUIN A MUSEAU DE CHIEN, in Sonnini (edit. Buffon), in *Zoology*, the *Simia hamadryas*, Linn.; and *dog-faced ape*, Penn. See SIMIA HAMADRYAS.

BABRA, in *Geography*, a town of North America, in the country of New Navarre; 205 miles ſouth of Caſa Grand.

BABUCO, a ſmall town of Italy, in the Campagna of Rome.

BABUL, a town of the Eaſt Indies, in an iſland of the river Indus, ſuppoſed by ſome to be Cambaya, and by others Patan, ſtretching out towards the iſlands Formoſa and Lequios.

BABUYANES, a cluſter of ſix or ſeven ſmall iſlands, about nineteen leagues north of the iſle of Luçon, in the Pacific ocean; one of them contains about 500 inhabitants; and the chief produce is wax, ebony, bananas, cocoas, and plantains.

BABUYEA, a town of North America, in the province of Culiacan; 65 miles north-eaſt of Culiacan.

BABYLAS, in *Biography*, a celebrated martyr of the Chriſtian church, was choſen biſhop of the ſee of Antioch, A. D. 238, under the emperor Gordian; and after governing this church for thirteen years, he either died in priſon, or was put to death, in the perſecution of Decius. Chryſoſtom applauds his courage for refuſing admiſſion into the church to an emperor who had killed the ſon of a king, whom he had received as an hoſtage; and this emperor is ſuppoſed to have been Philip, who put his colleague, the young Gordian, to death. This is ſaid to have been the cauſe of the biſhop's death. But there are ſeveral circumſtances that invalidate the truth of this ſtory. However this be, the remains of Babylas were tranſported about one hundred years after his death, by order of the Cæſar Gallus, into the midſt of the grove of Daphne, where was a temple of Apollo; a magnificent church was erected over them; a portion of the ſacred lands was appropriated to the maintenance of the clergy, and the burial of the Chriſtians at Antioch; and the heathen oracle was ſilenced, as it was ſuppoſed, by the preſence of the ſaint's duſt, but more probably, as Van Dale ſuggeſts (De Oraculis, p. 392.), by an apprehenſion of the prieſts, that the Chriſtians, who daily viſited the tomb of the martyr, would detect their impoſture. Julian ſoon after demoliſhed this church; and the Chriſtians removed the relics of St. Babylas, with acclamations of triumph, to their former habitation within the walls of Antioch. On this occaſion, Julian exerted his pride to diſſemble his reſentment; but during the night which terminated this proceſſion, the temple of Daphne was in flames, the ſtatue of Apollo was conſumed, and the walls of the edifice were left a naked and awful monument of ruin. The Chriſtians of Antioch confidently aſſerted, that the powerful interceſſion of St. Babylas had pointed the lightnings of heaven againſt the devoted roof. Julian, however, could diſguiſe and reſtrain his indignation no longer. Imputing the fire of Daphne to the revenge of the Chriſtians, whom he opprobriouſly denominated Galilæans, he ordered the doors of the cathedral at Antioch to be ſhut, and its wealth to be confiſcated. For the purpoſe of diſcovering the criminals, ſeveral eccleſiaſtics were tortured, and a preſbyter of the name of Theodoret was beheaded. Euſeb. E. H. l. vi. c. 29. c. 39. Julian in Miſopogon, p. 361. Ammianus Marc. l. xxii. c. 13. Gen. Dict. Gibbon's Hiſt. vol. iv. p. 121, &c.

BABYLON, in *Ancient Geography*, the capital of the ancient Babylonia, or Chaldæa, ſuppoſed to have been ſituated in N. lat. 33°. E. long. 42° 46′ 30″; or according to the obſervations of M. Beauchamp (Mem. Ac. Sc. Paris, 1787), N. lat. 32° 34′, and E. long. 44° 12′ 30″. This ancient city, reckoned for many ages one of the wonders of the world, was ſituated on the Euphrates; and its ruins, of which few veſtiges now remain, are placed by geographical writers at a town called Hilla, or Elugo, about fifteen leagues to the ſouth-weſt of Bagdad. It was ſeated on a plain, and ſurrounded by water; and hence appears the propriety of the ſcripture expreſſion (If. xxi. 1.) "the burden of the deſert of the ſea," or rather "of the plain of the ſea;" and beſides, the places about Babylon, as Abydenus informs us from Megaſthenes (Euſeb. Præp. Evang. l. ix. c. 41. p. 457.) are ſaid from the beginning to have been overwhelmed with waters, and to have been called "the ſea." Nevertheleſs, it is no leſs properly denominated "a mountain" (Jer. li. 25.) on account of the great height of its walls and towers, its palaces and temples; and accordingly Beroſus cited by Joſephus (ubi infra), ſays of ſome of the buildings, that they reſembled mountains. It was founded, as ſome ſay, by Semiramis, and according to others, by Belus, who is thought by many to be the ſame with Nimrod. But whoever was the firſt founder of it, it was in proceſs of time much improved; and Nebuchadnezzar, in particular, repaired, enlarged, and beautified it to ſuch a degree, that he may be ſaid to have built it, according to his own vain-glorious boaſt (Dan. iv. 30.); "Is not this great Babylon, that I have built for the houſe of the kingdom, by the might of my power, and for the honour of my majeſty?" Nor is this aſſerted only in ſcripture, but it is likewiſe atteſted by heathen authors, Megaſthenes, Beroſus, and Abydenus, whoſe words are quoted by Joſephus (Antiq. l. x. c. 11. § 1. t. i. p. 536. ed. Haverc.) and Euſebius (Præp. Evangel. l. ix. c. 41. p. 457. ed. Vigeri). By one means or other Babylon became a city ſo great and famous, that it gave name to a very large empire; and it is denominated by a variety of juſt and appropriate terms in ſcripture, ſuch as "great Babylon" (Dan. iv. 40.); "the glory of kingdoms," and "the beauty of the Chaldees excellency" (If. xiii. 19.); "the golden city" (If. xiv. 4.); "the lady of kingdoms" (If. xlvii. 5.); "abundant in treaſures" (Jer. li. 13.); and "the praiſe of the whole earth" (Jer. li. 41.)

The moſt famous works in and about this ancient city, as they are enumerated and deſcribed by Prideaux from ancient authors, were the walls, the temple of Belus, the palace of Nebuchadnezzar, the hanging gardens, the banks of the river, the artificial lake, and the canals.

This city was ſurrounded with walls, which, according to the account of Herodotus (l. i.), the moſt ancient author who mentions them, and who himſelf had been at Babylon, were 87 feet thick, 350 feet high, and in compaſs 480 furlongs, or 60 miles. Other writers, who differ from Herodotus in ſome particulars, give nearly the ſame account of the dimenſions of the walls. Diodorus Siculus indeed (l. ii.) has very conſiderably diminiſhed the circumference of theſe walls, and ſomewhat reduced their height as ſtated by Herodotus, but he has enlarged their breadth by ſaying that ſix chariots might drive upon them abreaſt; whereas the former obſerves, that one chariot only might turn upon them: but then he places buildings on each ſide of the top of theſe walls, which, according to him, were only one ſtory high; and thus theſe two writers may be tolerably reconciled. As for thoſe who aſſign fifty cubits as the height of theſe walls, they repreſent them as they were after the time of Darius Hyſtaſpes, who had cauſed them to be beaten down to that level. See Strabo, l. 16. p. 743. Pliny H. N. l. vi. c. 26. Philoſtrat. l. i. c. 18.

Theſe walls formed an exact ſquare, each ſide of which

was 120 furlongs, or 15 miles long, built of large bricks cemented together with bitumen, a glutinous ſlime which iſſues out of the earth in that country, and in a ſhort time becomes harder than the brick or ſtone cemented by it. Without the walls, the city was encompaſſed by a large ditch filled with water, and lined on both ſides with bricks made of earth dug out of the ſite of the ditch, whoſe dimenſions are indicated by thoſe of the walls. In the compaſs of the walls there were 100 gates, or 25 in each of the four ſides, all of which were formed of ſolid braſs, referred to by the prophet Iſaiah, ch. xlv. 2. Between every two of theſe gates were three towers, and four more at the four angles of this large ſquare, and three between each angle and the next gate on either ſide; and each of theſe towers was ten feet higher than the walls. This, however, is to be underſtood merely of thoſe parts of the walls where towers were neceſſary for defence; for as ſome parts were ſeated on a moraſs, and conſequently inacceſſible by an enemy, there the labour and expence were ſpared; and therefore the whole number of theſe towers amounted to no more than 250. From the 25 gates on each ſide of this ſquare proceeded 25 ſtreets, extending in ſtraight lines to the correſponding gates in the oppoſite ſides, ſo that the number of the ſtreets was 50, each of them being about 15 miles long, and all croſſing one another reſpectively at right angles. Beſides theſe there were alſo four half ſtreets, which were rows of houſes, facing the four inner ſides of the walls. Theſe latter were properly the four ſides of the city within the walls, and each of them was 200 feet broad; the whole ſtreets being about 150 feet in breadth. By this interſection of the 50 ſtreets, the city was divided into 676 ſquares, each of which was four furlongs and a half on each ſide, or two miles and a quarter in compaſs. Round theſe ſquares on every ſide toward the ſtreets ſtood the houſes, all of three or four ſtories in height, and beautified with every kind of ornaments; and the ſpace within each of the ſquares was vacant, and occupied only by court-yards or gardens, adapted to convenience or pleaſure.

A branch of the river Euphrates interſected the city, running through the middle of it from north to ſouth; and over the river, in the central part of the city, was a bridge, a furlong, as ſome ſay, but according to others, much more, in length, and thirty feet broad; which bridge was ingeniouſly conſtructed in order to ſupply a defect in the bed of the river, which was compoſed of ſand. At the two ends of this bridge were two palaces; the old palace on the eaſt ſide, and the new one on the weſt ſide of the river; the former occupying four of the above mentioned ſquares, and the latter nine. The temple of Belus, which ſtood next to the old palace, took up another of theſe ſquares.

The whole city ſtood on a large plain, in a fat and deep ſoil; that part or half of it which lay on the eaſt ſide of the river, was the old city; the other on the weſt was added by Nebuchadnezzar; and both were included within the ſquare bounded by the walls already deſcribed. The form of the whole was ſeemingly borrowed from Nineveh, which was alſo 480 furlongs in compaſs, but its form was that of a parallelogram, whereas that of Babylon was an exact ſquare. Nebuchadnezzar, who had deſtroyed that old ſeat of the Aſſyrian empire, is ſuppoſed to have deſigned that this new one ſhould exceed it in ſize and in magnificence. It appears, however, that it was never wholly inhabited, though Nebuchadnezzar carried thither a great number of captives out of Judæa and other conquered countries; nor was time allowed for its arriving at that population and glory, which were the objects aimed at by Nebuchadnezzar; for Cyrus removing the ſeat of empire to Shuſhan, Babylon gradually ſunk into utter decay. When Alexander came to Babylon, we learn from Quintus Curtius, that no more than 8100 ſquare furlongs were then occupied by buildings; but the whole ſpace within the walls contained 14,400 ſquare furlongs; and therefore there muſt have been 6300 ſquare furlongs, which, as Curtius informs us, were ploughed and ſown. Nor indeed were the houſes contiguous, but a void ſpace was left on each ſide between one houſe and another.

According to the obſervations of major Rennell (Geographical Syſtem of Herodotus examined and explained, &c. p. 341.), there ſeems to be no mode of invalidating the fact reſpecting the extent of the ſpace incloſed by the walls of ancient Babylon: "nor (ſays he) can it in our idea be reduced to leſs than a ſquare of about 8½ Britiſh miles, giving an area of 72 ſquare miles. But that even 72 contiguous ſquare miles ſhould have been in any degree covered with buildings, is on every account too improbable for belief. The inhabitants of London, taken at a ninth part of the whole population of South Britain (ſay about 7,000,000, or for London 800,000), require for their ſupply of proviſions and neceſſaries, a proportion of land equal to about 6600 ſquare Britiſh miles, on a ſuppoſition that they were confined to its produce alone, and that it was taken as it generally runs throughout the kingdom."—"If there be allowed to Babylon an area of ſeventy-two miles, we conceive that it would then bear a proportion to the ſpace which the buildings of London occupy, taking in all its ſuburbs and members, whether contiguous or otherwiſe, and allowing the man area of 15¼ Britiſh miles, as 9 is to 2 nearly. But as moſt of the large Aſiatic cities that we have ſeen or heard of, ſcarcely contain within the ſame ſpace half the number of inhabitants that European cities do, we muſt reckon the proportion of population that Babylon would have contained to that of London, as 9 to 4. In this caſe, 15,000 ſquare miles of ſuch land as the common run of that in England would have been required for the ſupport of the people of Babylon. But as the ſimpler manner of living among the lower claſſes of people in Aſia requires a leſs quantity of land to ſupport it, a conſiderable deduction may be made, and inſtead of 15,000 ſquare miles, we may perhaps ſubſtitute 12,000. Now it will appear, that this reduced ſum of ſquare miles equals, within one-twelfth part, the whole area of Lower Meſopotamia; and even the whole tract properly denominated Babylonia and Chaldæa, including all the arable and paſture land, from whence Babylon could have been conveniently ſupplied by the inland navigations, was little more than double the above aggregate, taken at 13,000 ſquare miles. And though it be true, that the quality of the Babyloniſh lands, in moſt places, was ſuperior in fertility to those of England; yet, on the other hand, a prodigious deduction muſt be made for the marſhes and lakes of Lower Meſopotamia and Chaldæa." Hence the author very juſtly infers, that the houſes occupied only a part of the vaſt ſpace inclosed by the walls, and he furniſhes a modern inſtance, in the ſame region, of a city ſurrounded by a wall ſeven miles in circuit; and yet Bagdat contains only from 40 to 50,000 inhabitants; the wall incloſing date groves and corn fields. Beſides, it ſhould be remembered that the Euphrates flowed through the centre of Babylon, in which part of its courſe it is from 400 to 500 feet wide. The palace of the Babylonian kings, the temple of Belus, and other public buildings muſt alſo have occupied a conſiderable part of the ſpace within the walls.

The next object particularly worthy of notice in the city of Babylon, was the temple of Belus. In the middle of this temple ſtood the ancient tower, ſuppoſed by Bochart

(Phlegr. p. 1. l. i. c. 9.) to have been the famous tower of Babel. This tower was at its baſe a ſquare of a furlong on each ſide, or half a mile in compaſs, and conſiſted of eight towers, as they appeared to be, built one above the other; the height of each being 75 feet, and that of the whole 600 feet. The aſcent to its top was by ſtairs on the outſide, formed by a ſloping line from the bottom to the top eight times round it, ſo as to exhibit the appearance of eight towers. As theſe compartments or ſtories had many rooms with arched roofs ſupported by pillars, they made parts of the temple, when the tower became conſecrated to idolatrous purpoſes. The uppermoſt ſtory was the moſt ſacred, and the moſt appropriate to the uſes of devotion. Over the whole of the top of the tower there was, it is ſaid, an obſervatory (Diod. Sic. l. ii.), by the advantage of which the Babylonians extended their ſkill in aſtronomy beyond other nations. For when Alexander took Babylon, Calliſthenes, the philoſopher, who accompanied him thither, found they had aſtronomical obſervations for 1903 years from that time, which carried up the account as high as the 115th year after the flood, or within 15 years after the tower of Babel was built, or to the year B. C. 2334. Till the time of Nebuchadnezzar, the temple of Belus contained only this tower, the rooms of which ſerved all the occaſions of its idolatrous worſhip. But he enlarged it by erecting edifices round it in a ſquare of two furlongs on every ſide, and a mile in circumference, exceeding the ſquare at the temple of Jeruſalem by 1800 feet. The whole of theſe buildings was incloſed by a wall, which is computed to have been two miles and a half in circumference. In this wall were ſeveral gates of ſolid braſs, ſuppoſed to have been formed out of the brazen ſea, brazen pillars, and other veſſels and ornaments, which Nebuchadnezzar had brought to Babylon from Jeruſalem; for he is ſaid to have dedicated in this temple the ſpoils of that expedition. Dan. i. 2. 2 Chron. xxxvi. 7. In the ſame place were ſeveral images or idols of maſſy gold; one of them, which was a ſtatue of Belus, in an erect poſture, forty feet high, crowning the ſummit, and reſting on a pedeſtal of fifty feet in height. As this is ſaid to have weighed 1000 Babylonian talents, it is computed to have been worth three millions and a half of our money. According to Diodorus Siculus (ubi ſupra), the weight of the ſtatues and decorations amounted to five thouſand and odd talents in gold, and their value has been eſtimated at above twenty-one millions of our money; and the like ſum is allowed for the treaſure, utenſils, and ornaments.

On the eaſt ſide of the river ſtood the old palace of the kings of Babylon, four miles in circuit; and oppoſite to it, on the other ſide of the river, was the new palace built by Nebuchadnezzar, which was eight miles in circumference.

For an account of the hanging gardens of Babylon, ſee Pensiles Horti. The other works aſcribed to Nebuchadnezzar, by Beroſus and Abydenus, were the banks of the river, the artificial canals, and the completion of the artificial lake, ſaid to have been ſunk by Semiramis. The canals were cut out on the eaſt ſide of the Euphrates, in order to convey the waters of the river, when it overflowed its banks, into the Tigris, before they reached Babylon. The chief of theſe was the Naarmalcha.

The lake was on the weſt ſide of Babylon, and, according to the loweſt computation, 40 miles ſquare, 160 in compaſs, and 35 feet deep as Herodotus ſays, and 75 according to Megaſthenes. It was dug to receive the waters of the river, while the banks were building on each ſide of it; but the lake, and the canal that led to it, were afterwards preſerved, and found uſeful to prevent inundations, and to ſerve as a reſervoir, from which water was occaſionally let out by ſluices for improving the land. The banks were conſtructed of bricks and bitumen, on both ſides of the river, to keep it within its channel, and were extended through and beyond the city, occupying an interval of twenty miles. Oppoſite to each ſtreet, on either ſide of the river, was a brazen gate in the wall, with ſtairs leading down from it to the river; which gates were open in the day, and ſhut in the night.

All theſe works are attributed by Beroſus, Megaſthenes, and Abydenus, to Nebuchadnezzar; but Herodotus ſays, that the bridge, the banks, and the lake, were the work of a queen who reigned after him, called Nitocris, who probably finiſhed what Nebuchadnezzar had begun and left imperfect.

Babylon ſubſiſted with ſingular reputation, and was for a long time conſidered as one of the wonders of the eaſt. At length Cyrus, having ſubdued the ſeveral nations that inhabited the great continent from the Ægean ſea to the Euphrates, and likewiſe Syria and Arabia, entered Aſſyria, and directed his march towards Babylon. Nabonadius, Labynitus, or Belſhazzar, who then reigned at Babylon, hearing that he was advancing to his metropolis, marched out to give him battle; but being put to flight, he returned into the city, where he was cloſely beſieged by Cyrus. But the capture of a place ſo ſtrong, and furniſhed with all kinds of proviſions for twenty years, was no eaſy enterpriſe. Deſpairing of ſucceeding againſt it by ſtorm, he drew round it a line of circumvallation, with a large and deep ditch, to intercept its communication with the country. He alſo divided his army into twelve bodies, each being appointed to guard the trenches for a month; but the beſieged, triumphing in the height of their walls, and the amplitude of their ſtores, inſulted Cyrus from the ramparts, and ſeemed to defy all his efforts. Cyrus, having ſpent two years before Babylon without making any impreſſion, adopted the following ſtratagem, which proved ſucceſsful. Informed that a great annual ſolemnity was to be kept in the city, and that the Babylonians were accuſtomed, on this occaſion, to ſpend the whole night in drinking and debauchery, he thought this a proper time for ſurpriſing them. Accordingly he ſent a ſtrong detachment to the head of the canal leading to the great lake, already deſcribed, with orders, at an appointed time, to break down the bank which ſeparated between the lake and the canal, and to turn the whole current of the river into the lake. At the ſame time he appointed one body of troops to occupy the place where the river entered into the city, and another to ſtation themſelves where it came out; and he ordered them to march in by the bed of the river, which was two ſtadia broad, as ſoon as they ſhould find it fordable. Towards the evening, he opened the head of the trenches on both ſides of the river above the city, that the water might diſcharge itſelf into them, and by theſe means, and the breaking down of the great dam, the river was ſoon drained. Then the two bodies of troops abovementioned entered the channel, according to the inſtructions which they had received; and advancing towards the city, they found the gates left open, in conſequence of the riot and diſorder of the night, and penetrated into the city without oppoſition. Meeting at the palace, according to their previous agreement, they ſurpriſed the guards, and cut them in pieces. Thoſe who were in the palace, opening the gates to know the cauſe of the confuſion, made way for the Perſians to ruſh in; and thus they took poſſeſſion of the palace, and killed the king, who with his ſword in his hand came out to meet them. The king being killed, and thoſe who were about him being put to flight, the reſt ſubmitted, and the Medes and Perſians became maſters of the place; B.C. 538. The reduction of Babylon put an end to the Babylonian empire, and finally fulfilled, in the name and character

racter of the conqueror, and in the various circumſtances that attended this event, the prophecies which Iſaiah, Jeremiah, and Daniel, had uttered againſt this proud metropolis. However, the tower or temple ſtood to the time of Xerxes; but in his return from the Grecian expedition, he firſt plundered it of its wealth, then demoliſhed the whole, and laid it in ruins. Alexander, on his return to Babylon from his Indian expedition, propoſed to rebuild it, and to make it the ſeat of his empire; but his death prevented his accompliſhing that deſign. After the death of Alexander, the city of Babylon began to decline apace; and its decay was chiefly owing to the vicinity of Seleucia, which was built by Seleucus Nicator, as it is ſaid to mortify the Babylonians, and peopled with 500,000 perſons drawn from Babylon.

We learn further from a fragment of Diodorus Siculus, produced by Valeſius, and quoted from him by Vitringa (Comment. in Jeſaiam, c. 13. vol. i. p. 421.), that a king of Parthia ſent many of the Babylonians, under the moſt trivial pretences, into ſlavery, burnt the forum and ſome of the temples of Babylon, and demoliſhed the beſt parts of the city. This happened about 130 years B.C. Diodorus Siculus (l. ii.) deſcribes the buildings as ruined or deſtroyed in his time (B.C. 44.), and aſſerts that only a ſmall part of the city was inhabited, but that the greateſt part of it within the walls was tilled. Strabo (l. xvi. p. 1073.), who wrote not long after Diodorus (B.C. 30.), ſays, that part of the city was demoliſhed by the Perſians, and part of it decayed by time and the neglect of the Macedonians, particularly after the building of Seleucia, and the removal of the royal court thither. Strabo applies to Babylon what a comic poet ſaid of Megalopolis in Arcadia; "The great city is now become a great deſert." Pliny alſo (H. N. l. 6. c. 30.) affirms (A.D. 66.), that it was reduced to ſolitude by the neighbourhood of Seleucia. Pauſanias, about A.D. 153, compares Megalopolis to Babylon, and ſays (Arcad. c. 33. p. 668. ed. Kuhnii), that of Babylon, the greateſt city which the ſun ever ſaw, nothing remained but the walls. Maximus Tyrius (Diſſ. 6.) mentions it as lying neglected and forſaken; and Lucian intimates (Επισκ. five Contemplantes), that in a little time it would be ſought for and not be found, like Nineveh. Conſtantine the Great, in an oration preſerved by Euſebius, ſays, that he himſelf was upon the ſpot, and beheld the deſolate and miſerable condition of the city. In the time of Jerome, about the cloſe of the fourth century, it was converted into a chaſe for keeping wild beaſts within the compaſs of its walls, for the hunting of the later kings of Perſia. St. Jerome adds, that, excepting the brick walls, which after many years are repaired for the incloſing of wild beaſts, the whole ſpace within is deſolation. Hieron. Comment. in Iſai. c. 13. c. 14. vol. iii. p. 111. 115. ed. Benedict. Benjamin of Tudela, who lived in the twelfth century, aſſerts (Itin. p. 76.), that ancient Babylon is now laid waſte, but that ſome ruins are ſtill to be ſeen of Nebuchadnezzar's palace, into which men fear to enter on account of the ſerpents and ſcorpions that are in the midſt of it. Texeira, a Portugueſe, in his deſcription of his travels from India to Italy, cited by Bochart (Phaleg. l. 4. c. 15.), and by Prideaux (pt. 1. b. 8.), affirms, that of this great and famous city nothing but a few veſtiges remained, and that there was not any place in the whole region leſs frequented. Rauwolf, a German traveller, whoſe travels have been edited by Ray, paſſed this way, A.D. 1574, and deſcribes the ruins of this famous city, which he found in the village of Elugo, not far from Bagdad. He mentions ſome piers and arches of the old bridge over the Euphrates, and the ruins of the caſtle and tower, which are the habitations of venomous creatures, that are ſo dangerous as not to be acceſſible with ſafety, except during two months in winter, when theſe animals never ſtir out of their holes. Petrus Vallenſis, or Della Valle, was at Bagdad in 1616, and viſited the ruins, as they are thought to be, of ancient Babylon, which, he ſays, appear in confuſion like a large mountain, and contain a mass correſponding in form and ſituation to the pyramid called by Strabo the tower of Belus, and being probably the tower of Nimrod in Babylon, or Babel, as the place is called. But beſides this large maſs, there are no traces of ruins ſufficient to convince an obſerver that ſo great a city as Babylon was ever ſituated in that place. Tavernier ſays, that at the parting of the Tigris, which is but a little way from Bagdad, there is the foundation of a city which may ſeem to have been a large league in compaſs. Some of the walls, he ſays, are yet ſtanding, upon which ſix coaches may paſs abreaſt. They are made of burnt brick, ten feet ſquare and three thick. The chronicles of the country repreſent this as the ſite of the ancient Babylon. But this intelligent traveller adopts the opinion of the Arabs, and conceives the ruins obſerved by himſelf, and alſo by Benjamin the Jew, Rauwolf, and Della Valle, to be the remains, not of Nebuchadnezzar's palace, or of the tower of Babel, but of ſome tower built by one of their princes, and deſigned as a beacon to aſſemble his ſubjects in time of war. Hanway (Trav. vol. iv. p. 3. c. 10. p. 78.) ſays, that the ruins of Babylon, placed about fifteen leagues to the ſouth of Bagdad, are now ſo much effaced, that there are hardly any veſtiges of them to point out the ſituation.

Whoever compares theſe accounts, given more in detail by the authors above cited, with the predictions of the ancient prophets, will perceive, and be led to acknowledge, how punctually the ravages of time have contributed to accompliſh them. To this purpoſe biſhop Newton obſerves (Diſſert. on the Prophecies, vol. vii. p. 285.), that when Babylon "was converted into a chaſe for wild beaſts to feed and breed there," then were exactly accompliſhed the words of the prophets, that "The wild beaſts of the deſert, with the wild beaſts of the iſlands, ſhould dwell there, and cry in their deſolate houſes." One part of the country was overflowed by the river's having been turned out of its courſe, and never reſtored again to its former channel, and thence became boggy and marſhy, ſo that it might literally be ſaid to be "a poſſeſſion for the bittern, and pools of water." Another part is deſcribed as dry and naked, and barren of every thing, ſo that thereby was fulfilled another prophecy, which ſeemed in ſome meaſure to contradict the former, "Her cities are a deſolation, a dry land and a wilderneſs, a land wherein no man dwelleth, neither doth any ſon of man paſs thereby." The place thereabout is repreſented as overrun with ſerpents, ſcorpions, and all ſorts of venomous and unclean creatures, ſo that "their houſes are full of doleful creatures, and dragons cry in their deſolate places; and Babylon is become heaps, a dwelling for dragons, an aſtoniſhment and an hiſſing, without an inhabitant." For all theſe reaſons, "neither can the Arabian pitch his tent there, neither can the ſhepherds water their folds there." And when we find that modern travellers cannot now certainly diſcover the ſpot of ground whereon this renowned city was once ſituated, we may very properly ſay, "How is Babylon become a deſolation among the nations! Every purpoſe of the Lord hath he performed againſt Babylon, to make the land of Babylon a deſolation, without an inhabitant:" and the expreſſion is no leſs true than ſublime, that "The Lord of hoſts hath ſwept it with the beſom of deſtruction." "How wonderful (adds the prelate) are ſuch predictions compared with the events, and what a convincing argument of the truth and divinity of the holy ſcriptures! Well might

might God allege this as a memorable inſtance of his preſcience, and challenge all the falſe gods and their votaries to produce the like. Iſ. xlv. 21. xlvi. 10. And indeed where can you find a ſimilar inſtance, but in ſcripture, from the beginning of the world to this day?" The triumphant ode upon the fall of Babylon, recited in the fourteenth chapter of Iſaiah, merits particular attention, as it is truly admirable for the ſevereſt ſtrokes of irony, as well as for the ſublimeſt ſtrains of poetry. "The Greek poet Alcæus, who is celebrated for his hatred to tyrants, and whoſe odes were animated with the ſpirit of liberty no leſs than with the ſpirit of poetry, we may preſume to ſay, never wrote any thing comparable to it." Biſhop Lowth, in his excellent lectures upon the ſacred poeſy of the Hebrews, hath juſtly deſcribed it as one of the moſt ſpirited, moſt ſublime, and moſt perfect compoſitions of the lyric kind, ſuperior to any of the productions of Greece or Rome. See his Prælect. xiii. p. 120, &c. Prælect. xxviii. p. 277, &c. Mr. Maſon hath alſo imitated it in an Engliſh ode, publiſhed with ſome other odes, in 1756.

Babylon, a city of Egypt, which was watered by the river Trajanus, according to Ptolemy. It was ſituated near the Nile, where Grand Cairo now ſtands, or at a ſmall diſtance from it, and had a caſtle ſtrongly fortified both by nature and art. Some ſay, that it was founded by the Perſians when they ravaged Egypt under Cambyſes, (ſee Joſephus Antiq.); and that it was erected in the place where Latopolis ſtood; or according to others, when Semiramis viſited this country at the head of a formidable army. Strabo ſays (l. xvii.), that it was built by ſome Barbarians, who retired thither by permiſſion of their ſovereign, and that in his time the Romans kept in garriſon there one of the three legions that were ſtationed in Egypt. From the fortreſs of Babylon, the mountain gently ſloped to the bank of the Nile; and 150 ſlaves were continually employed there in raiſing the water by means of wheels and an aqueduct. The Perſians, who were worſhippers of the ſun, kept up a perpetual fire in this place, which occaſioned its being called by the Arabs "The caſtle of the Lights." See Cairo, and Fostat.

Babylon, in *Scripture Hiſtory*, is a name figuratively given by the ſacred writers, particularly by St. Peter, 1 Ep. ch. v. v. 13. and by the author of the Revelations, ch. xvii. and xviii. and alſo by the fathers, to Rome; partly on account of her greatneſs, pride, and oppreſſion of God's people, and partly for her reſemblance of it in idolatry; that kingdom ſo fully repreſenting the idolatry of the church of Rome in the deſcription given of it in the ſixth chapter of Baruch, that ſcarcely any real difference betwixt them can be obſerved. Whitby's Paraphraſe, vol. ii. p. 661. p. 753.

BABYLONIA, or Chaldæa, an ancient kingdom of Aſia, was founded by Nimrod, the grandſon of Ham, and continued diſtinct and ſeparate from that of Aſſyria, till Ninus conquered Babylon, and made it tributary to the Aſſyrian empire. (See Assyria.) This country was known, in ancient times, by the names of Shinar, and Shinaar, which appellation it ſeems to have retained even in the time of Daniel. The name of Babylon is univerſally ſuppoſed to have been derived from that of the tower of Babel; and the name of Chaldæa aroſe from the Chaldæans, or Chaſdim. (Joſeph. Ant. l. i. c. 7.) Theſe two names ſometimes extend to the whole country, being indifferently taken for each other; and ſometimes they are limited to certain parts. By Babylon, or Babylonia, is meant the country more immediately in the neighbourhood of the city of Babylon; and by Chaldæa, that which extends ſouthward to the Perſian gulf. Chaldæa is uſed by the writers of the Old Teſtament for the whole country (Jer. xxiv. 5. xxv. 12. l. 8. Ezek. xii. 13.); and Babylonia, generally ſpeaking, by profane authors. (Diodor. Sic. l. ii. c. 11, 12. Strabo, l. xvi. ſub init.) It lies between thirty and thirty-five degrees of north latitude; and was bounded, according to Ptolemy, on the north by Meſopotamia, on the eaſt by the Tigris, on the weſt by Arabia Deſerta, and on the ſouth by the Perſian gulf and part of Arabia Felix. In Babylonia, properly ſo called and conſidered as a diſtinct province from Chaldæa, were the following cities; viz. Babylon, the metropolis, (See Babylon); Vologeſia, or Vologeſocerta, built on the Euphrates by Vologeſis, king of the Parthians, in the time of Veſpaſian; Barſita, probably Strabo's Borſippa, ſacred to Diana and Apollo, famous in the time of this geographer for a woollen manufacture, and for being the habitation of a certain ſect of Chaldæans, thence called Boriſippeni; Idiccara, on the Euphrates and the borders of Arabia Deſerta; Coche, in the iſland Meſene, formed by the Tigris; Sura; and Pombeditha, of which the ſituation is very uncertain. In ancient times the Babylonian name, extending far beyond the limits both of Babylonia and Chaldæa, compriſed all, or the greater part of the provinces ſubject to the Babylonian empire. See Empire.

The air of this country was generally temperate and ſalubrious; though it was occaſionally ſubject to extraordinary heat and a peſtilential wind. As it ſeldom rained, the inhabitants were under a neceſſity of watering their lands by means of wheels and engines, and of trenches and canals, which flowed from the Euphrates to the Tigris. The ſoil was rich, the climate was for the moſt part excellent, and the inhabitants were induſtrious; and therefore this country vied, in reſpect of fertility, with any other ſpot on the face of the earth. The ſouthern parts of it, between the rivers, have been compared with the Delta of Egypt, which it reſembles by its natural and artificial iſlands, and by being almoſt under the ſame parallel of latitude; and the other part of it, or Chaldæa properly ſo called, between the Euphrates and the mountains of Babylon, as they are commonly termed, is not much leſs watered by rivers and canals conducted from the Euphrates, and large reſervoirs of lakes borrowed from the ſame river. Hence Herodotus (l. i. c. 193.), compares this country with Egypt; and he ſays, that, with regard to the plenty of its productions, it was reckoned to be equal to a third part of Aſia, or of the Perſian empire; and that, in the ſame year, it yielded 300 fold, but generally 200. As it was low, flat, and well-watered, it abounded with willows, and was called "the valley of willows," as Prideaux (Conn. p^t. i. b. i. p. 105.), after Bochart, corrects the text, Iſ. xv. 7. The palm alſo flouriſhed naturally every where, and particularly the date kind, which afforded bread, wine, and honey; but the vine, olive, and fig-tree, did not ſucceed here any more than in Egypt. But as to grain, it exceeded every other land; the millet and ſeſame ſhot up to the ſize of trees; and the leaves of the barley and wheat were uſually four fingers broad. The ſeſame afforded oil, inſtead of the olive; and the palm yielded wine inſtead of the grape. This fertility was owing in a great meaſure to the inundations of the Euphrates and Tigris, in the months of June, July, and Auguſt; the ſnow of the mountains of Armenia melting in thoſe months: and to guard againſt injury from theſe inundations, the inhabitants formed artificial rivers and canals, by which they diſtributed the waters, and maintained an eaſy communication with one another. For the purpoſe of mutual intercourſe, and particularly of navigating the Euphrates, they had boats, of a round form, conſtructed like wicker-baſkets, which were covered

covered with hides, and guided by two oars or paddles. They had neither head nor ſtern; but being of different ſizes, they ſerved for carrying various quantities of their commodities to Babylon, whence they returned by land, the rapidity of the ſtream not allowing them to return by water.

The government of Babylon, like that of Aſſyria, was deſpotic, and the ſceptre ſeems to have been hereditary. Their potentates, however, who aſſumed divine titles, and who received divine honours, adminiſtered their government by a variety of officers, civil and military; and theſe were divided into three claſſes: the firſt had the charge of virgins, and of their diſpoſal in marriage, and were to judge in caſes of adultery, and ſimilar matters; the ſecond took cognizance of thefts; and the third of all other crimes. The chief officers of the king's houſhold were the captain of his guard, who had the execution of his arbitrary and ſanguinary commands; the prince of the eunuchs, who had the charge of the education and ſubſiſtence of the youth of the palace; and the prime miniſter, reſembling the Turkiſh vizier, who ſat in the king's gate, as it was called, to hear complaints, and to paſs judgment. Beſides theſe, there was alſo a maſter of the magicians, whoſe province it was to ſatisfy the king on ſubjects that reſpected the prognoſtication of futurity. Among their laws, which were vague and variable, one of the beſt ſeems to have been that which reſpected marriage, and which was calculated to increaſe the number of inhabitants; for which, ſee Assyria. Their puniſhments were arbitrary, and depended upon the will of a capricious monarch. Beheading, cutting to pieces, turning the houſe of the criminal into a dunghill, and burning in a fiery furnace, were penalties, which were executed by order of the kings of Babylon. The religion and boaſted learning of the Babylonians were ſo blended together, that they are not eaſily ſeparated: for the Chaldees, properly ſo called, were not only their prieſts, but alſo their learned men; whoſe whole ſcience ſeems to have been ſubſervient to the purpoſes of ſuperſtition. (See Belus, and Sabaism.) As the Babylonians gave riſe to all the idolatries and ſuperſtitions that prevailed among the neighbouring nations, they are charged with having introduced the horrible cuſtom of ſacrificing human victims, in order to appeaſe or conciliate their deities. The Babylonians were much addicted to judicial aſtrology; and aſcribed an influence to the ſtars and planets, in the explication of which their chief ſcience conſiſted. Aſtronomy was with them ſubſervient to aſtrology, and the former was cultivated in ſubordination to the latter. Indeed, the principal part, if not the whole, of their philoſophy and learning, conſiſted in the application of this fanciful and unfounded ſcience. However, ſome have diſtinguiſhed, with juſtice, between the Chaldees, and Babylonians, aſcribing to the latter a more accurate and extenſive acquaintance with the principles of aſtronomy, mathematics, and mechanics, than the former. (See Chaldæan Philosophy.) Of their muſic and poetry, we have few certain records. They are ſaid to have excelled in architecture and ſculpture, in the arts of deſigning, and of caſting metals, as the ornaments of their metropolis ſeem to teſtify. Their manufactures, particularly of rich embroideries, ſumptuous veſtments, magnificent carpets, and fine linen, were famous; and they ſent their purple into the eaſtern parts as an article of traffic. Their commerce, eſpecially when Babylon was in the meridian of her glory, muſt have been conſiderable. The metropolis was advantageouſly ſituated for this purpoſe; being as it were in the midſt of the world, and having, by means of the Euphrates and Tigris, an eaſy communication with the weſtern and northern parts, and alſo with the eaſtern by means of the Perſian gulf. With regard to their cuſtoms, we may mention in particular their mode of treating ſick perſons. Having no phyſicians, they expoſed them publicly in the moſt frequented places, that all who ſaw them might offer their advice, if they had, either from their own experience or that of others, any knowledge of their caſe. Their dead they embalmed with honey and wax, and their manner of mourning reſembled that of the Egyptians. The Babylonians were, in a high degree, credulous and ſuperſtitious: and much addicted to luxuriouſneſs and debauchery in their general conduct. In their dreſs, they affected pride and effeminacy. Their under garment was a linen veſt, which hung down to their heels; over this they had another of woollen; and their outer garment was a white mantle or cloak. They ſuffered their hair to grow; adorned their heads with a turban or mitre; and anointed their bodies with the oil of ſeſame. Every individual wore a ring with a ſeal on his finger, and bore in his hand a carved ſtaff or ſceptre, the head of which was adorned with ſome figure, as that of an apple, rose, lily, eagle, or ſome ſuch emblem. On their feet they wore a kind of ſlippers. The inhabitants of this country were divided not only into two great tribes, the Babylonians, and Chaldæans, properly ſo called, but into other ſubordinate ſects. Three of theſe are ſaid to have fed upon nothing but fiſh, which they dried in the ſun, and formed into paſte, thus ſupplying the want of bread.

As to the hiſtory of the kingdom of Babylon, diſtinguiſhed from the kingdom of Aſſyria, the firſt king of this country mentioned in Ptolemy's Aſtronomical Canon, is Nabonaſſer, to whom Pul or Phul bequeathed it, as he did that of Aſſyria to Tiglath-Pileſer, in the year 747 B. C. The latter reſided at Nineveh; and the former at Babylon. From this period, commonly denominated the æra of Nabonaſſer, to the year 625, B. C. when Nabopolaſſar began his reign, nothing remarkable occurs in the hiſtory of the kings of Babylon; excepting that Aſſaradinus or Eſſarhadon, king of Aſſyria, the brother and ſucceſſor of Sennacherib, took poſſeſſion of the kingdom of Babylon, B. C. 680; and that upon his death, theſe kingdoms of Aſſyria and Babylon were again ſeparated, B. C. 668. In the twentieth year of Nabopolaſſar, B. C. 606, Nineveh was taken and deſtroyed by the united armies of Cyaxares and Nabopolaſſar, and the ſeat of the empire transferred to Babylon. This Nabopolaſſar, ſometimes called Nebuchadnezzar, was the father of the famous Nebuchadnezzar, or Nabocolaſſar, whoſe hiſtory occurs in the ſacred writings, and who commenced his reign in the year 604 B. C. From this period, to the conqueſt of Babylon by Cyrus, in the reign of Nabonadius, Labynitus of Herodotus, and Belſhazzar of Scripture, the ſon of Evil-Merodach by Nitocris, and the grandſon of Nebuchadnezzar, in the year 538 B. C. the hiſtory of Babylon preſents nothing worthy of particular notice. For an account of the conqueſt of Cyrus, which terminated the Babylonian empire and ſubjected it to the Perſians, ſee Babylon. From this time, Babylonia was never erected into a diſtinct kingdom, but has ſhared the viciſſitudes of the great conquerors who have at different times appeared in Aſia. It is now frequently the object of contention between the Turks and Perſians. Anc. Un. Hiſt. vol. iii. p. 367—437. Rollin's Anc. Hiſt. vol. ii. p. 1—153.

BABYLONIAN, Babylonicus, in Botany, *Cornutus*, *Eryngium*, *Gomara*, *Ivara*, *Tabernæmontani*, *Vera*, &c. See the ſeveral articles.

BABYLONICA Texta, in *Antiquity*, denote a rich ſort of weavings, or hangings, denominated from the city of Babylon, where the practice of interweaving divers colours in their hangings firſt obtained. Plin. H. N. lib. viii. c. 48.

Hence

Hence alſo Babylonic garments, Babylonic ſkins, Babylonic carpets, houſings, &c.; and Babylonica ſolana, which were coverings laid over couches, &c. painted with gold, purple, and other colours.

BABYLONIAN, *Babylonius*, is alſo uſed in ſome *Ancient Writers*, for an aſtrologer, or any thing relating to aſtrology. Hence *Babylonia Cura*, the art of caſting nativities; and *numeri Babylonii*, the computation of aſtrologers. Hor. lib. i. cd. 12.

BABYLONICS, or CHALDAICS, in *Literary Hiſtory*, a fragment of the ancient hiſtory of the world, ending at 267 years before Chriſt; and compoſed by Beroſus or a prieſt of Babylon, about the time of Alexander. Stanley Hiſt. Phil.

The Babylonics were very conſonant with Scripture, as Joſephus and the ancient Chriſtian chronologers aſſure us; whence the author is uſually ſuppoſed to have conſulted the Jewiſh writers. He ſpeaks of an univerſal deluge, an ark, &c.; he reckons ten generations between the firſt man and the deluge; and he marks the duration of the ſeveral generations by *Saroi* or periods of 223 lunar months, which reduced to years, differ but little from the chronology of Moſes. There now remain only a few imperfect extracts, preſerved chiefly by Joſephus and Syncellus. They were forged by Annius of Viterbo. Fabr. Bib. Græc. tom. xiv. p. 175. See BEROSUS, and CHALDÆAN PHILOSOPHY.

BABYRSA, in *Ancient Geography*, a ſtrong place of Armenia Major, ſituate in the mountains, near Artaxates, where were kept the treaſures of Tigranes and Artabazus.

BABYRUSSA, in *Zoology*, a ſpecies of SUS, or hog, having two tuſks growing from the lower part of the front. This is the horned-hog of Grew; porcus indicus babyrouſſa dictus of Ray; and baby-rouſſa of Buffon. In the arrangement of the French naturaliſts, it belongs to the genus of *cochons*, and order *pachydermes*.

The babyrouſſa is deſcribed by Dr. Shaw, to be nearly of the ſize of a common hog, but of a ſomewhat longer form, and with more ſlender limbs; and to be covered, inſtead of briſtles, with fine, ſhort, and ſomewhat woolly hair, of a deep brown or blackiſh colour, interſperſed with a few briſtles on the upper and hinder part of the back. It is alſo diſtinguiſhed by the very extraordinary poſition and form of the upper tuſks, which inſtead of being ſituated internally on the edge of the jaw as in other animals, are placed externally, perforating the ſkin of the ſnout, and turning upwards towards the forehead; and as the animal advances in age, becoming ſo extremely long and curved as to touch the forehead. Theſe continue their curvature downwards, by which means they muſt of neceſſity loſe their power as offenſive weapons, which they probably poſſeſs in the younger animals; the tuſks of the lower jaw are formed as in the reſt of the genus, and are alſo long, ſharp, and curved; but not of equal magnitude with thoſe of the upper. The upper tuſks are of a fine hard grain, like that of ivory; the eyes are ſmall; the ears ſomewhat erect, and pointed; the tail rather long, ſlender, and tufted at the end with long hairs.

The babyrouſſa is a gregarious animal, and is found in large herds in many parts of Java, Amboina, and ſome other Indian iſlands, but is ſaid never to be found on the continent of India. Their food is entirely of a vegetable nature, and they often feed on the leaves of trees. When ſleeping, or reſting themſelves in a ſtanding poſture, they are ſaid often to hook or ſupport themſelves by placing the upper tuſks acroſs the lower branches of the trees. When purſued, they will often plunge into a river, or even into the ſea, if near, and can ſwim with great vigour and facility, and to a vaſt diſtance. The voice of the babyrouſſa is ſaid to reſemble that of the common hog, but it occaſionally utters alſo a ſtrong or loud growling note. It is ſometimes tamed by the inhabitants of the Indian iſlands, and the fleſh is conſidered as wholeſome food. Vide Shaw Gen. Zool. Erxleben, &c.

Some writers imagine this quadruped to have been mentioned by Elian, Pliny, and other ancient writers. It is thought to be the animal noticed under the name of tetracheros, or four-horned, by the former; and that kind of Indian boar, deſcribed by Pliny as having two very long bent teeth in the lower jaw, and two others riſing in front. Aper in India, Plin. &c. Aper cornutus, Calpurn; aper indicus orientalis babi raeſa dictus, Seba; ſtrange hogs, hogs with horns, Purch. pilgr.; eberhirſch oder hirſcheber, Knorrdelic, &c.

BABYSENGA, in *Ancient Geography*, an ancient town of India, on the other ſide of the Ganges. Ptolemy.

BABYTACE, a town of Aſia, ſeated on the northern bank of the Tigris. Pliny.

BAC, in *Navigation*, is uſed for a praam or ferry-boat.

BAC, in *Brewing*. See BACK.

BACA, or BATATHA, in *Ancient Geography*, a village of Paleſtine, which ſerved as a boundary between the Tyrians and Galilee.

BAÇA, in *Geography*, a town of North America, in New Navarre, forty-five miles north-eaſt of Cinaloa.

BAÇA. See BAZA.

BACACUM, or BAGACUM, in *Ancient Geography*, a town of the Nervii, in Gallia Belgica; now *Bavay*.

BACADUCHI, in *Geography*, a town of North America, in New Navarre, 240 miles north of Cinaloa.

BAÇAIM, or BACAM. See BASSEEN.

BACALA, a town of India, on this ſide of the Ganges, on the eaſtern coaſt, in the kingdom of Arracan.

BACALAL, a lake and ſmall country of North America, in the peninſula of Yucatan.

BACALAN, a town of Aſia, in Tokareſtan, one of the ſouthern provinces of Great Bucharia, at a ſmall diſtance N. W. from Anderab. N. lat. 36° 12′. E. long. 67° 35′.

BACALEO, BACALIEU, BACCOLOM, or BACCOLAN, an iſland on the eaſt coaſt of Newfoundland, about nine leagues from cape St. Francis, and eight leagues north by eaſt from Portugal cove, is about two leagues long, and half a league broad. This iſland is about a league from the main, with a fair channel between for any ſhips. N. lat. 48° 24′. W. long. 52° 34′.

BACAM, a town of North America, in New Navarre, 165 miles north-weſt of Cinaloa.

BACANO, a ſmall lake of Italy, near a village of the ſame name, in the patrimony of St. Peter, out of which iſſues the ſmall river CREMERA.

BACANORA, a town of North America, in New Navarre, 230 miles ſouth of Caſa Grand.

BACANTIBI, in *Eccleſiaſtical Antiquity*, wandering clerks, who ſtroiled from church to church. Bingham.

The word ſeems formed by corruption from *vacantivi*.

BACAPA, in *Geography*, a town of North America, in New Navarre, 120 miles ſouth-weſt of Caſa Grand.

BACAR. See BAHAR.

BACARAT, a town of France, in the department of the Meurte, and chief place of a canton in the diſtrict of Luneville; four leagues ſouth-eaſt of Luneville.

BACARDO, a town of Italy, in the ſtate of Genoa, three miles N. N. E. of Vintimiglia.

BACASERAY, or BAKTSCHISARAY, a town in the peninſula of the Crim-Tartary, where the khans uſually reſided, ſeventy miles ſouth of Precop. It was partly burned by the Ruſſians in 1736. N. lat. 45° 30′. E. long. 35° 10′.

BACAY, a town of India, on the other ſide of the Ganges,

Ganges, the capital of a country of the ſame name, on the eaſtern bank of the river Ava.

BACBAKIRI, in *Ornithology*, the name by which le merle á plaſtron noir de Ceylan of Buffon, is known at the cape of Good Hope; becauſe its note very clearly expreſſes the ſyllables *bac-ba-ki-ri*. This is the green-pye from Ceylon of Edwards; Ceylon thruſh of Latham; and turdus Zeylonus of Linnæus.

BACCA, Berry, in *Botany*, denotes ſuch fruits as conſiſt of a pericarpium full of juice and ſeeds, without any valves. The ſeeds have no membranous capſule or covering, but are diſpoſed promiſcuouſly throughout the pulp, as in ſolanum, &c., and are generally placed on foot-ſtalks attached to receptacles within the pulp, as in ribes, &c. The berry is ſaid to be *proper* when it is a true pericarpium, formed of a germen; and *improper*, when it is formed from other parts of the fructification, as in morus, roſa, juniperus, taxus, &c. A large ſucculent calyx becomes a berry; in juniperus the three petals become the umbilicus; in poterium the berry is formed of the tube of the corolla; in fragaria, &c. it is formed of the top of the receptacle; in rubus, &c. it is formed from a ſeed, which is the receptacle of the berry; in ruſcus, &c. it is incloſed within, and is part of the nectary. The berry is commonly either round or oval; and is frequently furniſhed with an umbilicus, as in ribes, &c. It does not naturally open to diſperſe the ſeeds like the capſule; that office being performed by birds and other animals.

BACCÆ *Bermudienſes*, in the *Materia Medica*, the name of the fruit or berries of the *ſapindus*, or *ſoap-berry-tree*.

BACCAIÆ, in *Ancient Geography*, a town of Aſia, in Syria, ſeated on a plain between the mountains and the river Orontes.

BACCALAN, in *Geography*, a ſmall iſland in the Red ſea, on the coaſt of Arabia Felix, about 36 geographical miles N.W. of Loheia. It is inhabited by fiſhermen, and has no water in ſummer, which is then brought from Fooſht.

BACCALARIA, in *Middle Age Writers*, denotes a kind of country farms, conſiſting of ſeveral manſes. Du-Cange.

Baccalaria *Dominicaria*, or *Indominicata*, was more particularly uſed for a farm belonging to the lord, and kept in his own hands.

BACCANELLUS, Johannes, in *Biography*, a native of Rheggio, lived in the early part of the ſixteenth century. He was deformed in body, and of a diminutive ſtature, but theſe defects were abundantly compenſated by the powers of his mind, as Braſſavolus teſtifies. We have of him the following works, which were much eſteemed: "De conſenſu Medicorum, in curandis morbis," lib 4.; and "De conſenſu Medicorum in cognoſcendis ſimplicibus Liber," Lut. 1554, Venet. 1555 and 1558, and Lugd. 1572, 12mo. containing a judicious abridgment of the opinions of the early Greek writers, on theſe ſubjects. Linden. Rediv. p. 524.

BACCARACH, in *Geography*, a town of Germany, in the Lower Palatinate, formerly imperial and free, but now ſubject to the elector palatine, who has contributed to its proſperity by allowing the Calviniſts and Lutherans to eſtabliſh their forms of worſhip there, under equal privileges with the Roman Catholics; ſeated on the left bank of the Rhine, at the foot of a mountain called Vottſberg. It is famous for its wines; whence it is ſuppoſed to have its name corrupted from "Bacchi ara," the altar of Bacchus. Baccarach was ſo completely pillaged by the troops of Louis XIV. in 1689, that the French commander was obliged, on the night before he left the town, to ſleep on ſtraw, which was uſed next day for burning it; eight miles north of Deux Ponts, and twenty-three ſouth of Coblentz. N. lat. 50° 2'. E. long. 7° 52'.

Baccarach *Wine*, a name of a particular kind of wine, by ſome eſteemed a kind of Rheniſh; but Portzius, who has written expreſsly on the ſubject, obſerves that it differs from all the common Rheniſh wine, in colour, odour, taſte, and virtue.

BACCARUM, in *Entomology*, a ſpecies of Acarus, found on gooſeberries, currants, and other fruit-trees. The abdomen is diſtended, red, and duſky on the ſides. Linn. Fn. Suec.

Baccarum, a ſpecies of Cimex, of a ſomewhat fulvous colour; margin of the abdomen ſpotted with brown. Degeer, Gmelin. Inhabits Europe.

BACCHÆ, in *Antiquity*, the prieſteſſes of Bacchus, who celebrated the orgia, or myſteries of that god.

The word was alſo uſed for the ivy crowns and garlands worn by the prieſts of Bacchus, in offering ſacrifices to him.

BACCHANALIA, religious feaſts in honour of Bacchus, celebrated with much ſolemnity among the ancients, particularly the Athenians, who even computed their years by them, till the commencement of Olympiads.

The bacchanalia are ſometimes alſo called orgia, derived, as ſome conceive, from the Greek ὀργὴ, *fury*; on account of the madneſs and enthuſiaſm wherewith the people appeared to be poſſeſſed at the time of their celebration.

They were held in autumn, and took their riſe, according to Herodotus, from Egypt, where they were known under the name of the myſteries of Iſis and Oſiris; whence, according to Diodorus, they were brought into Greece by Melampus; and they afterwards paſſed into Italy and Gaul, and were adopted almoſt throughout the whole Pagan world.

The form and diſpoſition of the ſolemnity depended, at Athens, on the archon, and was at firſt exceeding ſimple; but, by degrees, it became incumbered with a number of ridiculous ceremonies, and attended with much diſſoluteneſs and debauchery; inſomuch that the Romans, who grew aſhamed of them, ſuppreſſed them by a ſenatus-conſultum throughout all Italy, A.U.C. 568. B.C. 186. It was a ſaying of Plato, recorded by Diogenes Laertius, (l. iii. Segm. 39.), that to drink to exceſs was not allowable, except upon the feſtival of that god who is the giver of wine.

The women had a great ſhare in the ſolemnity, which is ſaid to have been inſtituted on their account; for a great number of them attended Bacchus in his expedition to India, carrying in their hands the *thyrſus*, i. e. a *little lance*, covered with ivy and vine leaves, ſinging his victories and triumphs wherever they went; the ceremony was kept up after Bacchus's deification, under the title of Bacchanalia, and the women were inſtalled prieſteſſes thereof, under that of *Bacchæ* or *Bacchantes*.

Theſe prieſteſſes, at the time of the feaſt, ran through the ſtreets, and over the mountains, covered with tiger's ſkins, their hair diſhevelled, their thyrſus in one hand, and torches in the other, howling and ſhrieking Εὐοι σαβοι, εὐοι Βακχε, or Io Bacche, or Io Bacchæ.

Men and women met promiſcuouſly at the feaſt, all perfectly naked, except only for the vine-leaves and cluſters of grapes, which bound their heads and hips; here they danced and jumped tumultuouſly, and, with ſtrange geſticulations, ſung hymns to Bacchus, till, being weary and giddy, they tumbled down.

The licentiouſneſs of theſe, and of ſome other feſtivals, was ſo well known, that it was the advice of wiſe men to

married women to abſtain from the feaſts of Bacchus, and Ceres, and the mother of the gods. Hence that ſaying of Ariſtippus, mentioned by Sextus Empiricus, concerning a chaſte woman, "That ſhe will not be corrupted even at the Bacchanals:" intimating the great danger of being vitiated that attended theſe feſtivals.

Bacchanalia, *Bacchanals*, is alſo a name given to pictures, or baſſo-relievos, whereon the feaſt is repreſented, conſiſting chiefly of dancings, nudities, and the like. Of theſe baſſo-relievos, we have ſeven or eight in the "Monumenti inediti" of Winkelmann. They are alſo exhibited on a fine vaſe of agate, preſerved in the abbey of St. Denis, in France.

There are antique bacchanals ſtill ſeen on ſeveral ancient friezes. The bacchanals painted by Pouſin are excellent.

In the Juſtinian garden at Rome, there is a marble vaſe of moſt precious workmanſhip, upon which is a repreſentation of theſe orgies of Bacchus. The vaſe, from the beauty of its ſculpture, is ſuppoſed to be by the hand of Saurus. The whole pomp of one of theſe proceſſions is there admirably repreſented; in which are introduced Bacchus, the Bacchanals, the Mænades, the players on flutes, matrons and virgins, with the crotalum or cymbalum, and tympanum; fawns and ſatyrs, holding in their hands vaſes and cups; prieſts leading the victims deſtined for ſacrifice, ſuch as the boar, the he-goat, and the bull; and, laſtly, old Silenus, drunk, upon his aſs, which he is hardly able to guide. Burney's Hiſt. Muſ. vol. i. p. 300.

Some writers call the Romiſh Carnaval, the *Chriſtian Bacchanalia*.

BACCHARIS, in *Botany*, ploughman's ſpikenard. Lin. 949. Schreb. 1285. Gærtn. t. 166. Juſſ. 180. Claſs, *Syngeneſia polygamia ſuperflua*. Nat. Ord. *Compoſitæ. Corymbiferæ* Juſſ. Gen. Char. *Cal.* common, cylindric, imbricate; ſcales linear, acute. *Cor.* compound, equal; corollules hermaphrodite and female mixed; proper, to the hermaphrodite, funnel-form, five-cleft; to the females, ſcarcely apparent, almoſt none. *Stam.* filaments five, capillary, very ſmall; anthers cylindric, tubular. *Piſt.* germ ovate; ſtyle filiform, the length of the flower; ſtigma bifid. *Per.* none. *Calyx* unchanged. *Seeds*, ſolitary, very ſhort, oblong; down ſimple. *Recc.* naked.

Eſſ. Gen. Char. *Cal.* imbricate, cylindric; florets female, mixed with hermaphrodites; down ſimple. *Recept.* naked. *Obſ.* This genus ſcarcely differs from that of conyza.

Species, 1. B. *ivæfolia*, Peruvian ploughman's ſpikenard. Eupatorium Africanum, &c. Pluk. Phyt. t. 328. f. 2. "Leaves lanceolate, longitudinally tooth-ſerrate." Five or ſix feet high. The female florets with a trifid corolla are very abundant. The hermaphrodites at the diſk are few and five-cleft; ſcales of the calyx in a ſtate of maturity ſpread very much; florets of the diſk barren, of the ray fertile, ſubulate, ſcarcely toothed; recept. conical. A native of America. Cultivated at the Chelſea garden in 1696. 2. B. *nerifolia*, oleander-leaved ploughman's ſpikenard. "Leaves lanceolate, ſerrate at the upper part with one or two toothlets." This riſes, with a ſoft ſhrubby ſtalk, to the height of eight or ten feet. Flowers of an herbaceous colour, produced in ſpikes at the extremities of the branches. 3. B. *arborea*. "Leaves elliptic-lanceolate, quite entire, naked, petioled." About three feet high, with a trunk the thickneſs of the human arm. Leaves alternate, acute, rough; the terminal corymbs panicled. Obſerved in woods on the iſland of Johanna, by Koenig. 4. B. *halmifolia*, ſea-purſlane-leaved ploughman's ſpikenard, or groundſel tree. "Leaves obovate, emarginate-crenate in the upper part." Stems ſhrubby, ſix feet high; leaves many, like thoſe of gooſe-foot, but ſtiffer, irregularly placed on the branches; flowers crowded, naked, at the ends of the twigs, not handſome, ſo that it is rather for the foliage of the plant, which continues green throughout the year, that it is uſually cultivated. A native of North America. Cultivated by biſhop Compton in 1688. 5. B. *Dioſcoridis*. "Leaves broad, lanceolate, toothed, ſeſſile, ſtipuled." Shrubby, ſix feet high; leaves alternate, half ſtem-claſping, deeply indented at the baſe, ſoft; panicles ſmall; calyx ſhorter than the flower. It is wrongly named Baccharis of Dioſcorides, ſee Supp. Plant. 367. A native of Egypt. 6. B. *indica*. "Leaves obovate, tooth-letted, petioled." Leaves ſmooth; branches with raiſed ſtreaks; corymb large, terminating; peduncles angular, with ſubulate bractes; calyxes cylindric, ſmooth. A native of Ceylon, and the cape of Good Hope. 7. B. *braſiliana*. "Leaves obovate, entire, ſcabrous, ſeſſile, veined underneath." Stem ſomewhat angular; leaves obtuſe, almoſt quite entire; panicles nearly naked, with remote alternate flowers; down ferruginous. It differs from the indica in having ſtiffer, ſeſſile, and ſcarcely toothed leaves, and its flowers larger, fewer, and more remote. A native of Braſil. 8. B. *fœtida*. "Leaves lanceolate, ſerrate-toothed, corymbs leafy." Six or ſeven feet high; leaves long, hoary on the under ſide, of a diſagreeable ſmell when handled; corymbs terminal. A native of North America. Cultivated here in 1729. 9. B. *chinenſis*. Lour. Coch. 494. "Leaves lanceolate, quite entire, tomentoſe beneath, ſtalked; peduncles many-flowered, axillary." An under-ſhrub, three feet high, erect, ſimple, round; leaves alternate, ſtalked; flowers yellow, oblong. A native of China, near Canton.

Propagation and Culture. Species 1. may be propagated by cuttings, planted in a ſhady border, during any of the ſummer months; or by ſeeds ſown on a common border in the ſpring. If planted in a warm ſituation, it will live in mild winters in the open air; but it is uſually kept in the green-houſe, and placed out in ſummer. It requires much water in warm weather. The ſecond ſpecies is difficult to propagate, for the cuttings will ſeldom take root, and it rarely has ſhoots near the ground to lay down, ſo that in Holland they lay down the entire head of young plants, ſlitting the ſmaller branches, in the ſame manner as is practiſed for carnations, laying them into the ground, and forking each down to prevent their riſing: theſe, when duly watered, will put out roots in one year, when they may be taken off, and planted in ſmall pots filled with light earth, and placed in the ſhade till they have taken new root. In ſummer they ought to be kept in a ſheltered ſituation, and in the green-houſe in winter. The fourth ſpecies may be propagated by cuttings planted in April or May, in a ſhady border, and if properly watered they will be fit for tranſplanting in the places where they are to remain at Michaelmas. The eighth ſpecies may be alſo propagated by cuttings, which in about two months take root, when they are to be potted and kept under a frame during the winter. The others are more tender and require the protection of a ſtove, but are little known in this country. See Martyn's Miller's Dict.

Baccharis. See Athanasia, Chrysocoma, Conyza.

Baccharis was alſo the name of a ſweet ointment among the ancients, ſo called perhaps from this herb's being a principal ingredient in it.

BACCHAROIDES. See Conyza.

BACCHI, in *Mechanics*, a kind of ancient machines, in form of goats, uſed by Jupiter in his wars againſt the giants.

Rudbeck

Rudbeck deſcribes two kinds of bacchi, one made like the battering-ram, wherewith Jupiter demoliſhed the enemies' fortifications; the other contrived to caſt fire out of, from whence the Greeks are conjectured to have framed their idea of chimæra.

BACCHIAS, and ANTIBACCHIAS, in *Ancient Geography*, the name of two iſlands in the Arabic gulf, according to Pliny. They are called by Ptolemy and Stephanus, *Bacchi* and *Antibacchi inſulæ*.

BACCHIC, ſomething relating to the ceremonies of Bacchus. The celebrated intaglio, called Michael Angelo's ring, is a repreſentation of a bacchic feaſt.

BACCHIC *Song*, is ſometimes uſed for a *chanſon à boire*, or compoſition to inſpire jollity. But, in a more proper ſenſe, it is reſtrained to a dithyrambic ode, or hymn.

BACCHICA, in *Botany*, is ſometimes uſed for *hedera*, or *ivy*.

BACCHIGLIONE, in *Geography*, a river of Italy, in the ſtate of Venice, which, after watering Vicenza and Padua, diſcharges itſelf into the gulf of Venice, near Chiozza.

BACCHINI, BENEDICT, in *Biography*, a learned monk, was born at Borgo San Donino, in the duchy of Parma, in the year 1651. At the age of ſixteen he entered into the order of St. Benedict, in the monaſtery of Mount Caſſin, and applied to his ſtudies ſo intenſely as to injure his health. After having travelled with Arcioni, abbot of the Benedictines at Ferrara, to whom he was ſecretary, he reſigned his office, and ſettled at Parma. Here he publiſhed a literary journal, manifeſting great learning and judgment; but it excited againſt him many enemies, who prevailed with the duke of Parma to baniſh him from his territory. Bacchini then retired to Modena, where he was patroniſed by the duke of Modena, and appointed his hiſtoriographer and librarian. The materials which he collected for inveſtigating the genealogy and hiſtory of the houſe of Eſte, were tranſferred to his ſucceſſor Muratori, upon his removal to the abbacy of the Benedictines of Modena. In 1705, he founded at Modena an academy of eccleſiaſtical literature. His laſt preferment was that of profeſſor of eccleſiaſtical hiſtory in the univerſity of Bologna, where he died, at the age of ſeventy, in the year 1721. Bacchini was one of the moſt celebrated ſcholars of his age, diſtinguiſhed by his univerſal learning, refined taſte, theological ſkill, and eccleſiaſtical philology; to all which he added in early life eloquence as a preacher; and in more mature years critical acumen, and eminent ſkill in decyphering manuſcripts. Beſides his literary journal, commmenced at Parma in 1686, and continued to 1690, reſumed at Modena from 1692 to 1697, and extant in nine volumes 4to.; he wrote in Italian "the Hiſtory of the Benedictine Monaſtery of Polironi;" and in Latin, "De Siſtrorum Figuris ac Differentiâ," 4to. Bononiæ, 1691, and reprinted at Utrecht, 4to. 1696, with notes by Tollius; "De Eccleſiaſticæ Hierarchiæ Originibus," 4to. Modenæ, 1703; and ſome other ſmall pieces. Nouv. Dict. Hiſtor. Gen. Biog.

BACCHIS, in *Ancient Geography*, a town of Egypt, near the lake Mœris. Ptolemy.

BACCHIUM, an iſland of the Ægean ſea, oppoſite to Phocæa, at the entrance of the gulf of Smyrna. The temples and ſtatues, with which it was richly adorned, were ranſacked by the Romans.

BACCHIUS, in the *Latin Poetry*, a kind of foot, conſiſting of three ſyllables; whereof the firſt is ſhort, and the two latter long; as *ĕgēſtās*.

The bacchius is the reverſe of a dactyl, and takes its name from that of Bacchus, becauſe frequently uſed in the hymns compoſed in his honour. It was alſo called among the ancients, *anotrius*, *tripodius*, *ſaltans*; and by the Greeks, παιωνικὸς.

BACCHIUS SENIOR, in *Biography*, one of the ſeven Greek writers in muſic, collected and publiſhed with a Latin tranſlation and notes, by Meibomius, in 1652, is ſuppoſed to have flouriſhed about the time of Ptolemy, that is, in the ſecond century. His "Introduction to the Art of Muſic," is in dialogue; in the courſe of which all the terms uſed in the ancient Greek muſic are defined, and explained in Greek characters of notation.

Bacchius is the only one of theſe ſeven ancient muſical writers, who, like Ptolemy, allows of no more than ſeven modes. See MODES. On the ſubject of rhythm, he quotes Ariſtoxenus, Nicomachus, Euphranor, and Dionyſius; ſo that it is certain he wrote ſubſequent to all thoſe authors.

BACCHUS, in *Entomology*, a large ſpecies of SCARABÆUS, that inhabits the cape of Good Hope. The ſhield of the head is four-toothed; thorax gibbous, and with the wing-caſes glabrous. Fabricius.

BACCHUS, a ſpecies of CURCULIO that inhabits Europe. It is coppery, with the ſnout and ends of the feet black. Fabricius, &c.

BACCHUS, a ſpecies of MONOCULUS, with an orbicular ſhell: antennæ extended horizontally; tail denticulated on each ſide. Müller entomoſtr. Inhabits rivers.

BACCHUS, in *Mythology*, a name ſynonymous among the Phœnicians with "mourning," and ſuppoſed to be derived from the Phænician term *bakah*, *to weep*, and given to ſeveral deities, or rather to the ſame god, acknowledged under various diſtinct epithets and characters in the different countries where he was worſhipped. In Egypt, he was called *Oſiris*; in Arabia, *Adoneus*; in Myſia, *Phanaces*; in India, *Dionyſius*, or *Dionuſus*; by the Lucanians, *Penthens*; throughout the Roman dominions, *Liber*, &c. &c. The reaſons aſſigned for theſe different appellations, by which the ſame god was diſtinguiſhed, are ſtated by Banier in the ſecond volume of his "Mythology." It is natural to ſuppoſe that the Greeks and Romans, in their uſual manner, beſtowed upon the *one* Bacchus whom they worſhipped, the ſeveral actions and attributes of the *many* divinities known by that name, and by other equivalent denominations in different countries. Cicero (de Nat. Deor. iii. 23.) mentions five divinities known by the name of Bacchus, and thus adds two to the three of Diodorus Siculus and Philoſtratus Antiquity, however, has chiefly diſtinguiſhed two gods, under the title of Bacchus; that of Egypt, the ſon of Ammon, and the ſame with Oſiris; and that of the Greeks, or of Thebes in Bœotia, the ſon of Jupiter and Semelé. The Bacchus of Egypt was the Dionyſus of the Arabians, ſo called from the city of Nyſa in Arabia Felix, where he was brought up, and worſhipped by them in conſequence of the glory he had acquired by leading his army into India. (See DIONYSUS.) According to ſir Iſaac Newton (Chron. apud Op. vol. v. p. 77—80.), this great Bacchus, whom the Arabians ſo denominated from a word which in their language ſignified "great," was the ſame with Seſac or Seſoſtris, who became king of Egypt in the reign of Solomon. (1 Kings xi. 40.) See SESAC, and SESOSTRIS.

All agree (ſays this author) that Bacchus was the ſame king of Egypt with Oſiris (ſee OSIRIS); and he ſuppoſes that the Cœlus, or Uranus, or Jupiter Uranius of the Arabians, the other god beſides Dionyſus whom they worſhipped, was the ſame king of Egypt with Ammon, the father of Bacchus, according to the poet:

" Quamvis Æthiopum populis, Arabumque beatis
Gentibus, atque Indis tutus fit Juppiter Ammon."

(See Ammon.) Sir Isaac Newton says, that when Ariadne, the daughter of Minos, was deserted by Theseus in the island Naxos or Dia, and taken up by Gicanus an Egyptian commander at sea, she became the mistress of the great Bacchus, who was at that time returning from India in triumph; and by him she had two sons, Thoas and Staphylus, who were Argonauts. This Bacchus was caught in bed in Phrygia with Venus, the mother of Æneas, according to Homer (Odyss. l. viii. v. 292.), just before he came over the Hellespont and invaded Thrace; and he married Ariadne, the daughter of Minos, according to Hesiod (Theogon, v. 947.); and therefore, by the testimony of both Homer and Hesiod, who wrote before the Greeks and Egyptians corrupted their antiquities, this Bacchus was one generation older than the Argonauts; and so being king of Egypt at the same time with Sesostris, they must be one and the same king. They also agree in their actions: Bacchus invaded India and Greece; and after he was routed by the army of Perseus, and the war was suppressed, the Greeks did him great honours, and built a temple to him at Argos, and called it the temple of the Ctesian Bacchus, because, as Pausanias relates (l. 2. c. 23.), Ariadne was buried in it.

The distinctive character of this Indian Bacchus was a long beard, whence he was denominated "the bearded Bacchus," or Καλαπωγων. Some have supposed that there was another Bacchus peculiar to Egypt, and the most ancient of all; and, indeed, Diodorus Siculus seems to warrant this opinion, by mentioning three different deities under this appellation. Accordingly, Bochart (Geog. Sacr. l. i. c. 18. apud Oper. t. i. col. 439, &c.) suggests, that Bacchus was the same with Nimrod the father of Ninus; and he supposes that the worship of this deity originated in Assyria, and from thence was transmitted to the Syrians and Phœnicians; and that it was communicated by the Phœnicians to the Greeks. Many of his names, attributes, and actions bear an obvious allusion to the scripture history, and are most satisfactorily elucidated by it. Amongst those who have referred the origin of Bacchus, and the worship that was performed in honour of him, to the earliest antiquity, and very nearly to the dispersion at Babel, we may mention the learned Mr. Bryant, who discovers in the history of the exploits of this illustrious person, references to the migration of the Cuthite colonies, or of the sons of Chus, who, upon the dispersion, partly betook themselves eastward to the Indus and Ganges, and partly passed into Egypt. See Cuthites, and Dispersion.

The Theban Bacchus, or Grecian Bacchus, is particularly distinguished by Diodorus Siculus, l. iii. This historian informs us, that Orpheus first deified the son of Semelé by the name of Bacchus, and that he appointed his ceremonies in Greece, in order to render the family of Cadmus, the grandfather of the Grecian Bacchus, illustrious. Semelé, it seems, was struck with lightning at the very instant of her son's birth; and the child was probably denominated Bacchus, from the grief which this melancholy accident might have occasioned in the family. Cadmus, with a view of concealing his daughter's dishonour, conveyed away his infant grandson, as it should seem, to some of his relations in Phœnicia or Egypt. After having been there instructed in the mysteries of Isis and Osiris, and initiated in all the magical or juggling tricks of the Egyptian priests and hierophants, and having attained the maturity of age, he returned to Thebes with the traditional retinue of the original deity of the same name, and claimed divine honours; which, after some opposition, were allowed him. To this Grecian Bacchus the actions of Osiris were ascribed, together with a variety of absurd and disgraceful adventures in which his prototype had no concern. Hence the Theban Bacchus became a monster of licentiousness and debauchery; whereas the Egyptian was of a very contrary character. Of course the mysteries of the former were attended with the most abominations. See Bacchanalia.

According to the account of Diodorus Siculus (l. iii. p. 207.) there was no nation upon earth, neither Grecian nor foreign, that was not indebted to this deity for some mark of his munificence and favour. He taught the people to plant the vine, and to preserve the juice of the grape, and to lay up the fruits of the earth in proper repositories. Those who possessed an harsh and ungenial soil, not adapted to the cultivation of the vine, were shewn the art of making a drink from barley, not less grateful than that which proceeded from the grape. He adds (l. iv. p. 210), that the person, from whom these blessings were derived, is represented of the highest antiquity, and the greatest benefactor ever known by mankind. Such is also the history given of Osiris, under which character, says Bryant (Anc. Myth. vol. iii. p. 445.), we are to understand a people who went forth and performed all that has been mentioned. Their religion consisted in the worship of the sun under various titles; accordingly however Dionusus or Bacchus may be diversified by various names or titles, all of them, as this learned writer imagines, with regard to worship, relate ultimately to the sun. Such was also the opinion of Selden (De Diis Syris, p. 77.) To this worship were added, by the ancient people to whom Bryant refers, divine honours paid to their ancestors, the Baalim of the first ages; all which were attended with particular mysterious rites, in which were commemorated the circumstances of the deluge, and the history of the great patriarch by whom mankind was preserved. Bacchus was esteemed one of the founders of medicine.

Diodorus Siculus further informs us, that it was Bacchus, the son of Semelé, who invented farces and theatres, and who first established a music school, exempting from all military functions such musicians as discovered great abilities in their art; on which account, says the same author, musicians formed into companies have since frequently enjoyed great privileges.

Dr. Burney (Hist. Music, vol. i. p. 298.) observes, that the dithyrambics, which gave birth to dramatic representations, are as ancient as the worship of Bacchus in Greece; and there is little doubt but that the ceremonies of his mysteries gave rise to the pomp and illusions of the theatre. Many of the most splendid exhibitions upon the stage for the entertainment of the people at Athens and Rome being performed upon the festivals of Bacchus, gave occasion to the calling all those that were employed in them, whether for singing, dancing, or reciting, "servants of Bacchus." Pausanias, in his Attics (p. 7. ed. Kuhnii), speaks of a place at Athens consecrated to Bacchus the *singer*; thus named, he says, for the same reason as Apollo is called the chief and conductor of the Muses. Whence it should seem, says Burney (ubi supra), "that Bacchus was regarded by the Athenians not only as the god of wine, but of *song*; and it must be owned, that his followers, in their cups, have been much inclined to singing ever since. Indeed we are certain, that in none of the orgies, processions, triumphs, and festivals, instituted by the ancients to the honour and memory of this prince of *bons vivans*, music was forgotten, as may be still gathered from ancient sculpture, where we find not only that musicians, male and female, regaled him with the lyre,

lyre, the flute, and with ſong; but that he was accompanied by fauns and ſatyrs playing upon timbrels, cymbals, bagpipes, and horns; theſe Suidas calls his minſtrels; and Strabo gives them the appellations of Bacchi, Sileni, Satyri, Bacchæ, Lenæ, Thyæ, Marrillenes, Naiades, Nymphæ, and Tityri. Theſe repreſentations have furniſhed ſubjects for the fineſt remains of ancient sculpture: and the moſt voluminous paſſages of ancient poetry are deſcriptions of the orgies and feſtivals of Bacchus.

Nonnus, an Egyptian of Panopolis, who lived in the fifth century, has collected all the fabulous adventures of Bacchus, and exhibited them in a beautiful, but irregular, poem, under the title of "Dionyſiacs." See Dionysiaca, and Nonnus.

The Grecian Bacchus, the god of wine and ſong, is uſually repreſented under the figure of a jolly beardleſs youth, crowned with ivy (that plant, as it is ſaid, being reputed an antidote to the intoxicating effects of wine), and alſo vine-leaves; bearing in one hand a ſpear or thyrſus, wrapped with the ſame, and in the other, grapes, a cup or a horn for drinking; and drawn on a car by tigers and panthers. He is ſometimes exhibited with a mitre on the head, or a kind of band or fillet raiſed in front, and falling back over the ſhoulders, and with his temples ornamented by horns. Theſe horns originated from the relation he ſuſtained to the ſun, whoſe rays were thus repreſented. On the Greek medals, Bacchus is known by his crown of ivy or vine, his diadem and horn, with a tiger and ſatyrs around him.

Bacchus, in *Experimental Philoſophy*, is the name of a ſmall braſs apparatus (*Pneumatics*, *Pl.* IX. *fig.* 73.) ſeated on a caſk, with a tube proceeding from the mouth to the barrel; this is filled with red wine, or coloured water, ſo that being put under a receiver, when the air is exhauſted, the liquor is thrown up into his mouth, by the expanſion of confined air, and the roſy god ſeems to be at his uſual employment; while he is drinking, his belly expands, which is effected by a bladder, containing a ſmall quantity of air, concealed under his ſhirt.

BACCHYLIDES, in *Biography*, a celebrated Greek lyric poet, the nephew of Simonides, was a native of the iſland of Ceos, and flouriſhed in the 82d olympiad, B. C. 452. He is reckoned the laſt of the nine lyric poets of ancient Greece. The purity of his ſtyle, the correctneſs of his manner, and the regular and connected beauties of his work (See Longin. de Sublim. c. 33.), obtained for him an applauſe of which Pindar only, it has been ſaid, could deprive him. Theſe two poets divided, for ſome time, the favour of king Hiero, and the ſuffrages of his courtiers; but when the royal patronage no longer prevented each from taking his true place, Pindar ſoared to the ſkies, and Bacchylides remained on earth. The compoſitions of Bacchylides conſiſted of hymns, odes, and epigrams, which abounded in moral ſentiment; ſo that the emperor Julian, according to Ammianus Marcellinus, was ſo much delighted with them, that he was frequently accuſtomed to repeat his verſes. Horace is ſaid ſometimes to have imitated him in ſome of his pieces, particularly in the prophecy of Nereus, which was ſuggeſted by the Greek poet's vaticination of Caſſandra. Some fragments only of Bacchylides now remain. Anacharſis, vol. vi. p. 342.

BACCHYLUS, a Chriſtian divine, was biſhop of Corinth in the ſecond century. He is mentioned by Euſebius, with Polycrates biſhop of Antioch, and others, who had left teſtimonies of the orthodoxy of their faith in writing. He afterwards ſpeaks of a letter written by Bacchylus, about the time of celebrating Eaſter. Jerom, in his Catalogue, ſays, that Bacchylus, biſhop of Corinth, who flouriſhed in the time of the emperor Severus, wrote an elegant book about Eaſter, in the name of all the biſhops of Achaia. His works are loſt. Euſeb. H. E. l. v. c. 22, 23. p. 190. Hieron. de Vir. Illuſtr. c. 44. Lardner's Works, vol. ii. p. 305.

BACCIFEROUS Plants, in *Botany*, are ſuch as bear berries, i. e. fruit, covered with a thin membrane, wherein is contained a pulp which [illegible] and incloſes the ſeed within its ſubſtance. The bacciferous trees Mr. Ray divides into four kinds: 1. Such as bear a caliculate, or naked berry, the flower and calyx both falling off together, and leaving the berry bare, as the ſaſſafras tree, &c. 2. Such as have a [illegible] fruit, that is, containing in it only one ſeed; as the arbutus, the terebinthus, lentiſcus, &c. 3. Such as have a naked, but a polypyrenous fruit, that is, containing two or more kernels or ſeeds within it, as the jaſminum, liguſtrum, &c. 4. Such as have their fruit compoſed of many alcini or round ſoft balls, ſet cloſe together, like a bunch of grapes; as the uva marina, the rubus vulgaris, rubus Idæus, and the rubus minor fructu cœruleo.

PACCINUM, or Bacinum, [illegible] to hold water to waſh the hands. The holding the baſon, or waiting at the baſon, on the day of the king's coronation, was an ancient tenure in ſerjeantry. Lib. Rub. Scaccar. f. 137.

BACCICI, or Bacici, in *Biography*. See Gauli.

BACCIO, Fra. Bartolomeo, called *Bartelemi di S. Marco*, a painter of hiſtory and portrait, was born at Savignane, near Florence, in 1469, and became a diſciple of Coſimo Roſelli; but derived his principal knowledge in the art of painting from Leonardo da Vinci. He underſtood the true principles of deſign better than moſt maſters of his time, and was alſo a conſiderable painter in perſpective; ſo that he directed the ſtudies of Raphael with regard to the art of managing and uniting colours, as well as the rules of perſpective. Some years after Raphael left Florence, Baccio viſited Rome; and by the obſervations he made on the antiques, and the works of Raphael, he made great improvement, which was manifeſted in his picture of St. Sebaſtian. This picture, which he finiſhed after his return to Florence, was ſo well deſigned, ſo naturally and beautifully coloured, and had alſo ſuch an expreſſion of pain and agony, that it was removed from public view in the chapel of the convent, becauſe it made too ſtrong an impreſſion on the imaginations of many women who beheld it. He was [illegible] the naked correctly; his figures had much grace, and his colouring was admirable. To him is aſcribed the firſt invention of the machine called by the artiſts a layman, and at this day generally uſed. Upon this he placed his draperies, for the purpoſe of more accurately obſerving their natural and their more elegant folds. A capital picture of the Aſcenſion by Baccio is in the Florentine Collection. He died in 1517. Pilkington.

BACCIUS, Andrew, a native of Ancona, practiſed medicine at Rome, towards the end of the 16th century. He was phyſician to Cardinal Aſcanio Columna, and afterwards to pope Sixtus the fifth. A man of indefatigable induſtry, and of great genius and learning, as his numerous publications teſtify. The principal of them "De Thermis, Lacubus, Fluminibus, et Balneis totius Orbis," lib. vii. was firſt printed at Venice, 1571; [illegible] 1622; at Padua, 1711, fol. [illegible] with an eighth book, containing analyſes of the different mineral waters, with obſervations extracted from other writers on the ſubject. We have alſo of this author, treatiſes, "De Venenis, et de Antidotis," 4to. Rome, 158[illegible]; "De

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Dignitate Theriacæ," alſo 4to. Patavii, 1583; "De Naturali Vinorum Hiſtoria, de Vinis Italiæ, et de Conviviis Antiquorum," fol. Rome, 1596; "De Gemmis et Lapidibus prætioſis, de eorum viribus et uſu," 12mo. Francf. 1603, and 1643; with various other works. Haller Bib. Med. Pract. p. 157.

BACCOFOE, in *Botany*, the name of a fruit very common in Guinea. It is like the banana, except that it is whiter, thicker, and ſhorter. The taſte and ſmell are both very agreeable, and ſome pretend, that on cutting it through tranſverſely, there is the figure of a crucifix on each ſide of it. Phil. Tranſ. N 108.

BACH, SEBASTIAN, in *Biography*. The illuſtrious family of Bach has produced more great muſicians, than any other ſingle family in Germany, or, perhaps, in Europe: as previous to the great eminence to which Sebaſtian had arrived, early in the laſt century, his family, according to Walther, had diſtinguiſhed itſelf in the profeſſion of muſic, particularly in organ-playing, for four generations. Innumerable are the ſtories ſtill circulating in Germany, of Sebaſtian Bach's conflicts and triumphs over great competitors, till at length, like a courſer often victorious, his form was ſo high, as to diſcourage all competition. He was as ſuperior to all organ-players on the continent, as Handel was in England. The performances and compoſitions of theſe two great muſicians, not only ſurpaſſed thoſe of all their cotemporaries, but eſtabliſhed a ſtyle of playing and writing for the organ, which is ſtill reſpected and imitated by the greateſt organiſts in Germany, where men of ſuperior abilities have always abounded, and been celebrated, not only for treating the manuals, but the pedals of that noble inſtrument.

Sebaſtian Bach is ſaid by Marpurg, in his "Art de la Fugue," to have been "many great muſicians in one, profound in ſcience, fertile in fancy, and in taſte eaſy and natural;" he ſhould rather have ſaid, original and refined, for to the epithets eaſy and natural many are unwilling to aſſent; as this truly great man ſeems by his works for the organ, to have been conſtantly in ſearch of what was new and difficult, without the leaſt attention to nature and facility.

Old Kirkman, the harpſichord maker, uſed to relate the extraordinary curioſity excited at Salzburg, when Handel and Sebaſtian Bach happened to meet in that city. On their going together to the cathedral, they found it ſo full that they could ſcarcely get to the organ-loft; and when one of them opened the organ, it was not poſſible for more perſons to crowd into the church. But ſo great was the fame of theſe performers, that thoſe who could not gain admiſſion into the interior of the building, procured ladders, and placed them at the windows, in order to gratify their ears with all the paſſages which the full organ could convey to them through all impediments.

Of *Sebaſtian Bach*, who was ſucceſſively cantor, organiſt, and muſic director, at Leipſig, all the muſical writers of Germany for theſe laſt ſixty years, have born teſtimony to the abilities. Quantz in his "Art of Playing the Flute," written during the life of Bach, ſays, that this admirable muſician had brought organ playing to the higheſt degree of perfection.

The challenge which he received and accepted, from the celebrated French organiſt Marchand, at Dreſden, is well known in Germany. Upon the arrival of Marchand in that city, after he had vanquiſhed all the organiſts of France and Italy, he offered to play extempore with any German whom the king of Poland could prevail upon to enter the liſts againſt him; no one at Dreſden had the courage to encounter ſo ſucceſsful a champion; but an expreſs being ſent to Sebaſtian Bach, who was at that time a young man, and reſident at Weimar, he came away immediately, and, like another David, vanquiſhed this Goliah. It muſt not, however, be concluded from this defeat, that Marchand was a mean performer; if that had been the caſe, the victory over him would have added nothing to the fame of his competitor. It was an honour to Pompey that he was conquered by Cæſar, and to Marchand to be only vanquiſhed by Bach.

This was the Bach whom the learned editor of the Latin Theſaurus, John Matthias Geſner, has celebrated in his notes on Quinctilian, i. xii. p. 61. where the ancient citharædiſts are extolled for the uſe they made of their feet as well as their hands (perhaps merely to beat time) in their performance. The critic addreſſing himſelf to the ſhade of Quinctilian, exclaims; "you would think but ſlightly, my dear Fabius, of all thoſe exertions of the citharædiſts, if you could reviſit the world, and attend the exhibitions of Bach, one of my colleagues in the univerſity of Leipſig; who, when at the great organ, while every finger of both hands is engaged at the manuals, his feet are running over the pedals with a ſkill and velocity which ſeveral of your citharædiſts with 500 tibicinifts could not emulate; nor is his dexterity inferior in directing a band of thirty or forty performers, all employed at once; correcting the time of one by his nod, of another by his foot, and of a third by holding up a threatening finger; giving the right note to one from the top of his voice, to another from the bottom, and to a third from the middle of it; if you could have ſeen him amidſt the very powerful ſounds with which he was ſurrounded, performing a very difficult part himſelf, yet marking whence proceeded the leaſt diſcordance, and aiding thoſe that erred; favourer as I am of antiquity, the exertions of our Bach appear to me to effect what not many Orpheuſes, nor twenty Arions, could atchieve."—"Maximus alioquin antiquitatis fautor, multos unum Orpheas et viginti Arionas complexum Bachium meum, et ſi quis illi ſimilis fit forte, arbitror." Sebaſtian Bach died at Leipſig in 1754.

BACH, *Charles Philip Emanuel*, ſon of Sebaſtian, reſided many years at Berlin, in the ſervice of Frederic II. king of Pruſſia: he was afterwards muſic-director at Hamburg, and long regarded as the greateſt compoſer and performer on keyed inſtruments of his time; he was certainly the founder of the preſent ſtyle of compoſition for the piano-forte, as his father and Handel had been for that of the organ. It was obſerved by Abel, that if Sebaſtian Bach and his admirable ſon Emanuel, inſtead of being muſic-directors in commercial cities, had been fortunately employed to compoſe for the ſtage and public of great capitals, ſuch as Naples, Paris, or London, and for performers of the firſt claſs, they would doubtleſs have ſimplified their ſtyle more to the level of their judges; the one would have ſacrificed all unmeaning art and contrivance, and the other have been leſs fantaſtical and *recherché*; and both, by writing in a ſtyle more popular, and generally intelligible and pleaſing, would have extended their fame, and been indiſputably the greateſt muſicians of the eighteenth century.

Emanuel Bach, in his life, written at our requeſt by himſelf, has ſome excellent reflections on his own ſtyle, which he formed and poliſhed by hearing the greateſt performers, vocal and inſtrumental, of his youth, who viſited his father, or were employed in the theatre at Berlin. When the critics, ſays he, are diſpoſed to judge impartially, which ſeldom happens, they are frequently too ſevere on works that come under their laſh, from not knowing the circumſtances that gave them birth, or remember-

ing the author's original intention. But how ſeldom are critics found to poſſeſs feeling, ſcience, probity, and courage; qualities without which no one ſhould ſet up for a ſovereign judge. It is a melancholy truth, that muſical criticiſm, which ought to be uſeful to the art, is in Germany a trade, commonly carried on by dry, malignant, and ſtupid writers. He then declares that of all his works, thoſe for the clavichord or piano-forte are the chief in which he has indulged his own feelings and ideas. His principal wiſh has been to play and compoſe in the moſt vocal manner poſſible, notwithſtanding the great defect of all keyed inſtruments, except the organ, in not ſuſtaining their tone. But to make a harpſichord or piano-forte ſing, is not eaſily accompliſhed; as the ear muſt not be tired by too thin a harmony, nor ſtunned by too full an accompaniment. In his opinion, muſic ought to touch the heart, and he never found that this could be effected by running, rattling, drumming, or arpeggios.

If Haydn ever looked up to any great maſter as a model, it ſeems to have been C. P. Em. Bach: the bold modulation, reſts, pauſes, and free uſe of ſemitones, and unexpected flights of Haydn, remind us frequently of Bach's early works more than of any other compoſer. But in writing for violins, he has ſurpaſſed his model in facility and invention; freaks, whim, and even buffoonery, appear natural to Haydn, which in the works of his imitators ſeem downright caprice and affectation. Em. Bach uſed to be cenſured for his extraneous modulation, crudities, and difficulties; but, like the hard words of Dr. Johnſon, to which the public by degrees became reconciled, every German compoſer takes the ſame liberties now as Bach, and every Engliſh writer uſes Johnſon's language with impunity. Emanuel Bach died at Hamburg, 1788, at near eighty years of age.

Bach, *John Chriſtian*, arrived in England 1763, during the opera regency of the admirable female fingers and actreſs, Colomba Mattei, who had engaged him as compoſer of the ſerious opera. He was the youngeſt ſon of Sebaſtian Bach, and had been a conſiderable time in Italy, where he added new luſtre to his name and family by his dramatic productions, and had been appointed by the empreſs queen organiſt of the Duomo at Milan.

On his arrival here, he was extremely mortified to find that he had no better ſingers to write for than Ciardini and the Cremonini, two performers hardly worthy to be ranked in the ſecond claſs; and for ſome time he totally declined compoſing for our ſtage, being unwilling, as a ſtranger, to truſt his reputation to ſuch performers. But, at length, having heard the De Amicis ſing two or three ſerious ſongs in private, it ſuggeſted to him the idea of giving her the firſt woman's part in his ſerious opera; and having communicated his deſign to Mattei the impreſaria, matters were ſoon arranged, and the De Amicis, who afterwards held the firſt rank among female ſingers in the ſerious operas of Naples and other great cities of Italy, was now firſt taken from the comic opera, and inveſted with the character of principal woman in the ſerious. And during the reſt of the ſeaſon, on Tueſday nights, ſhe delighted the town as the repreſentative of Thalia, and on Saturdays as that of Melpomene.

John Chriſtian Bach's firſt opera in England, called *Orione, o ſia Diana vendicata*, was honoured with the preſence of their Majeſties on the firſt night, February the 19th, 1763, and extremely applauded by a very numerous audience. Every judge of muſic perceived the emanations of genius throughout the whole performance; but were chiefly ſtruck with the richneſs of the harmony, the ingenious texture of the parts, and above all with the new and happy uſe he had made of wind inſtruments; this being the firſt time that clarinets had obtained admiſſion in our opera orcheſtra. Their Majeſties honoured the ſecond repreſentation likewiſe with their preſence, and no other ſerious opera was wanting for near three months. *Zanaida*, however, a ſecond ſerious opera by this compoſer, was brought out in May, which ran more than a month, when the ſeaſon cloſed.

The principal ſongs of theſe two operas, though excellent, being calculated to diſplay the compaſs of voice and delicate and difficult expreſſion and execution of De Amicis, were not likely to become common or of much uſe out of the opera houſe. The reſt of the airs were ſo indifferently ſung, that they were more admired as inſtrumental pieces, than compoſitions for the voice. But this excellent maſter ſoon convinced us that he poſſeſſed every requiſite for a great muſician, by the ſongs he afterwards compoſed in every ſtyle of good ſinging; by his ſymphonies, quartets, and concertos for almoſt every ſpecies of inſtrument, as well as by his expreſſive and maſterly performance on the piano-forte. It is with pleaſure that we take this opportunity of doing juſtice to the talents and abilities of a man who improved our taſte both in compoſition and performance. Having very early in life been deprived of the inſtructions of his father, the great Sebaſtian Bach, he was for ſome time a ſcholar of his elder brother, the celebrated Charles Phil. Emanuel Bach, under whom he became a fine performer on keyed-inſtruments; but on coming early to Italy, where his chief buſineſs was the compoſition of vocal muſic, he aſſured us, that during many years he made little uſe of a harpſichord or piano forte but to compoſe for or accompany a voice. When he arrived in England, his ſtyle of playing was ſo much admired, that he recovered many of the loſſes his hand had ſuſtained by diſuſe, and by being conſtantly cramped and crippled with a pen; but he never was able to recollect it with ſufficient facility ſufficient for great difficulties; and in general his compoſitions for the piano-forte are ſuch as ladies can execute with little trouble; and the allegros rather reſemble bravura ſongs than inſtrumental pieces for the diſplay of great execution. On which account, they have much of their effect when played without the accompaniments, which are admirable, and ſo maſterly and intereſting to an audience, that want of hand, or complication in the harpſichord part is never diſcovered.

There are many admirable airs in the operas he compoſed for our ſtage that long remained in favour. The richneſs of the accompaniments perhaps deſerve more praiſe than the originality of the melodies; which, however, are always natural, elegant, and in the beſt taſte of Italy at the time he came over. The Neapolitan ſchool was in fashion, is manifeſt in his cantilena, and the ſcience of his father and brother in his harmony. The operas of this maſter are the firſt in which Da Capos diſappeared, and airs, that at this time, began to be generally diſcontinued: the ſecond part being incorporated with the firſt, to which, after modulating into the fifth of the key, the ſinger generally returns.

Bach ſeems to have been the firſt compoſer to obſerved the law of contraſt, as a principle. Before his time, contraſt there frequently was, in the works of others; but it ſeems to have been accidental. Bach in his ſymphonies and other inſtrumental pieces, as well as his ſongs, ſeldom failed, after a rapid and buſy paſſage, to introduce one that was flow and ſoothing. His ſymphonies ſeem infinitely more original than either his ſongs or harpſichord pieces, of which the harmony, mixture of wind-inſtruments, and general richneſs and variety of accompaniment, are certainly the moſt

moſt prominent features. In the ſonatas and concertos which he compoſed for his own playing, when his hand was feeble, or likely to tire, he diverted the attention of the audience to ſome other inſtrument; and he had Abel, Fiſcher, Cramer, Crotch, Cervetto, and other excellent muſicians to write for, and take his part, whenever he wanted ſupport.

In 1765, he new ſet Metaſtaſio's *Alcinoo in Sira*, in the performance of which the rich, powerful, and melliſluous voice of Manzoli was aſſigned the principal part. The expectations of the public the firſt night this drama was performed, occaſioned ſuch a crowd at the King's theatre as had been ſeldom ſeen there before. It was impoſſible for a third part of the company collected together on this occaſion to obtain places. But whether from heat or inconvenience, the unreaſonableneſs of expectation, the compoſer being out of fancy, or too anxious to pleaſe, the opera failed. Every one ſeemed to come out of the theatre diſappointed, and the drama was performed but two or three times. This ſeemed matter of great triumph to the Italians, who began to be jealous of the Germanic body of muſicians at this time in the kingdom. The ſongs were printed by the elder Welcker, and many of them ſung afterwards at concerts with great applauſe, and found, as detached airs, excellent, though they had been unfortunate in their totality.

Soon after his arrival in England, J. C. Bach and his countryman Abel uniting intereſts, opened a ſubſcription for a weekly concert; and as their own compoſitions were new and excellent, and the beſt performers of all kinds which our capital could ſupply enliſted under their banners, this concert was better patroniſed and longer ſupported than perhaps any one had ever been in this country; having continued for full twenty years with uninterrupted proſperity. Bach had not been long in London before he had the honour of being appointed chamber-muſician and muſic-maſter to her majeſty; and his merit ſeems to have been conſtantly well underſtood and royally patronized at St. James's to the end of his life, which he terminated, after a ſhort illneſs, in 1782. And having much more genius than worldly prudence, he left his widow Mrs. Bach (formerly the ſignora *Graſſi*, firſt woman at the opera during the run of Gluck's *Orfeo*) in very indigent circumſtances; but her majeſty finding that ſhe wiſhed to return to her own country, ſettled a penſion upon her to enable her to end her days there in eaſe and comfort.

Bach, in *Geography*. See Batha.

BACHA, in *Ornithology*, a ſpecies of Falco figured in the fifteenth plate of Le Vaillant's work on the birds of Africa. It is about the ſize of that kind of falcon which we call the common buzzard; and it naturally belongs to that tribe of rapacious birds. The prevailing colour is a very deep brown, with the lower parts of the body and belly ſpotted with white, and a large band of the ſame white colour diſpoſed tranſverſely upon the tail. On the back of the head is a tuft of white feathers, with black tips, that forms a creſt; the beak and legs are yellow. The plumage of the female is varied with whitiſh and yellow.

This is a ſolitary and ferocious creature; and its chief haunts are the barren mountainous parts of South America. It utters a piercing cry, which as it reſounds among the rocks is truly lamentable. The rapidity of this bird in flight is remarkable; and its patience when waiting for its prey is not leſs deſerving mention; it will remain for hours together in one poſture, and be during that time ſo completely immoveable as to be miſtaken for a point of the rock on which it reſts; but the moment a lizard or any other reptile appears on which it feeds, it darts down upon it with the greateſt velocity. Theſe birds build their neſts in the craggy hollows of the rock; and the female lays two, or at moſt three, eggs at a time.

BACHAASH, in *Geography*, a ſmall iſland among the weſtern iſlands of Scotland, near the north-eaſt coaſt of North Viſt.

BACHELERI, La, a town of France, in the department of the Dordogne, and chief place of a canton, in the diſtrict of Martignac; four leagues north of Sarlat.

BACHELOR, or Batchelor, Baccalaureus, in *Middle Age Writers*, was a denomination given to thoſe who had attained to knighthood, but were not rich enough, or had not a ſufficient number of vaſſals, to have their banner carried before them in battle; or, if they were of the order of bannerets, were not yet of age to diſplay their own banner, but obliged to march to war under the banner of another.

Camden and others define bachelor, a perſon of a middle degree between a knight and an eſquire, of leſs age and ſtanding than the former, but ſuperior to the latter.

Others will have bachelor to have been a common name for all degrees between a mere gentleman and a baron.—Thus we find the lord admiral, when he was neither an earl nor baron, denominated a bachelor.—"Ant it is to weet, that when the admiral rideth to aſſemble a ſhippe of war, or other, for the buſineſs and affairs of the realm, if he be a bachelor, he ſhall take for his day-wages four ſhillings ſterling; if he be an earl or baron, he ſhall take wages after his eſtate and degree."

Bachelor was more peculiarly a title given to a young cavalier, who made his firſt campaign, and received the military girdle accordingly.

Bachelor was alſo a denomination given to him who had overcome another in a tournament, the firſt time he ever engaged.

Bachelors, *Knights*, in *Heraldry*. See Knights *Bachelors*.

Bachelors is alſo uſed in a college ſenſe, to denote a perſon poſſeſſed of the *baccalaureate*, which is the firſt degree in the liberal arts or ſciences.

The degree of bachelor was firſt introduced in the thirteenth century by pope Gregory IX. but it remains ſtill unknown in Italy. At Oxford, before a perſon is entitled to the degree of bachelor of arts, he muſt have ſtudied there four years; three years more to become maſter of arts; and ſeven more to commence bachelor of divinity.

At Cambridge, to commence bachelor of arts, he muſt have been admitted near four years, and above three years more before he commence maſter; and ſeven more ſtill to become bachelor of divinity. He may commence bachelor of law after having ſtudied it ſix years.

At Paris, to paſs bachelor in theology, a perſon muſt have ſtudied two years in philoſophy and three years in theology, and held two acts of examination in the Sorbonne. Bachelors in the canon law are admitted after two years ſtudy in the ſame, and ſuſtaining an act according to the forms. A bachelor of phyſic muſt have ſtudied two years in medicine, after having been four years maſter of arts in the univerſity, and having ſtood an examination; after which he is inveſted with the fur, in order to be licenſed.

In the univerſity of Paris, before the foundation of divinity-profeſſorſhips, thoſe who had ſtudied divinity ſix years were admitted to go through their courſe, whence they were called *baccalarii curſores*; and as there were two courſes, the firſt employed in explaining the Bible, during three ſucceſſive years; the ſecond, in explaining the maſter of the ſentences for one year; thoſe who were in their Bible courſe

were called *baccalarii Biblici*; and thoſe arrived at the ſentences, *baccalarii ſententiarii*; and, laſtly, thoſe who had gone through both, were denominated *baccalarii formati*, or *formed bachelors*.

At preſent, *formed bachelor* denotes a perſon who has taken the degree regularly after the due courſe of ſtudy and exerciſes, required by the ſtatutes; by way of oppoſition to a *current bachelor*, who is admitted in the way of grace, or by diploma.

We alſo find mention of bachelors of the church, *baccalarii eccleſiæ*.—The biſhop with his canons and *baccalarii, cum conſilio & conſenſu omnium canonicorum ſuorum & baccalariorum*.

There is ſcarce any word whoſe origin is more controverted among the critics than that of *bachelor*, *baccalarius*, or *baccalaureus*: the two different acceptations of the word literary and military, above recited, have each of them their advocates, who aſſert each to be the primitive ſenſe, and derive the word accordingly.

Among thoſe who hold the military bachelor to be the more ancient, is Cujas, who derives the word from *buccellarius*, a kind of cavalry, anciently in great eſteem. Du-Cange deduces it from *baccalaria*, a kind of fees, or farms, conſiſting of ſeveral pieces of ground, each whereof contained twelve acres, or as much as two oxen would plough; the poſſeſſors of which *baccalaria* were called bachelors.

Caſeneuve and Altaferra derive bachelor from *baculus*, or *bacillus*, a ſtaff, becauſe the young cavaliers exerciſed themſelves in fighting with ſtaves. Martinius derives it from *baccalaureus*, i. e. *baccâ laureâ donatus*, in alluſion to the ancient cuſtom of crowning poets with laurels, *baccis lauri*; as was the caſe with Petrarch at Rome in 1341. Alciat and Vives are of the ſame opinion; nor is this etymology improbable.

Bachelors, in the livery companies of London, are thoſe not yet admitted to the livery.

Theſe companies generally conſiſt of a maſter, two wardens, the livery, and the bachelors, who are yet but in expectation of dignity in the company, and have their function only in attendance on the maſter and wardens; they are alſo called yeomen.

Bachelor is alſo a name given in the ſix companies of merchants at Paris to the elders, and ſuch as having ſerved the offices, have a right to be called by the maſters and wardens to be preſent with them, and aſſiſt them in ſome of their functions, particularly in what relates to the *chef d'œuvres*, or maſter-pieces, of ſuch as are candidates for being admitted maſters.

Bachelor is alſo particularly uſed for a man not married, or who is yet in a ſtate of celibacy.

The Roman cenſors frequently impoſed fines on old bachelors. Dion. Halicarnaſſeus mentions an old conſtitution, by which all perſons of full age were obliged to marry. But the moſt celebrated law of this kind was that made under Auguſtus, called the *lex Julia de maritandis ordinibus*, and by Horace (Carm. Secul. v. 5.) *lex marita*, by which bachelors were made incapable of legacies of inheritances by will, unleſs from their near relations. See Papian-Poppæan *Law*.

The Rabbins maintain, that, by the laws of Moſes, every perſon, except ſome few, is obliged in conſcience to marry at twenty years of age: this makes one of their 613 precepts. Hence thoſe maxims ſo frequent among their caſuiſts; ſuch as, that he who does not take the neceſſary meaſures to leave heirs behind him, is not a man, but ought to be reputed a homicide. Lycurgus was not more favourable; by his laws bachelors are branded with infamy, excluded from all offices civil and military, and even from the ſhews and public ſports. At certain feaſts they were forced to appear, to be expoſed to the public deriſion, and led naked round the market-place. At one of their feaſts, the women led them in this condition to the altars, where they obliged them to make *amende honorable* to nature, accompanied with a number of blows, and laſhes with a red-hot diſcretion. To complete the affront, they forced them to ſing certain ſongs compoſed in their own deriſion.

The Chriſtian religion is more indulgent to the bachelor-ſtate: the ancient church recommended it as preferable to, and more perfect than the matrimonial ſtate.

In the canon law, we find injunctions on bachelors, when arrived at puberty, either to marry, or turn monk and profeſs chaſtity in earneſt.

In Great Britain, taxes have been occaſionally levied on bachelors, as by 7 W. III. 1695, which impoſed a tax on ſuch, after 25 years of age, of 12*l.* 10*s.* for a duke, and 1*s.* for a common perſon; and the taxes laid on other ſtates have been increaſed with regard to bachelors, as in the caſe of the duty on ſervants by ſtat. 25 Geo. III. c. 41. See Servants.

Bachelors, in *Geography*, a river of South America, which runs into a bay of the ſame name, on the north ſide of the ſtraits of Magellan. N. lat. 53° 35′. W. long. 73° 52′.

BACHER, the name of a chain of Auſtrian mountains, in the ſouth of Stiria.

Bacher's *Tonic Pills*, in the *Materia Medica*. See Hellebore, and Pills.

BACHIAN, or Batchian, in *Geography*, one of the Molucca iſlands, lying ſouth from Machian, and poſſeſſed, ſince the year 1610, by the Dutch. This is the largeſt of the little Moluccas, and is governed by a ſultan, who is likewiſe ſovereign of Oubi and Ceram, together with Goram. This monarch has a penſion from the Dutch, either for the deſtruction or ſupply of nutmegs; but he is otherwiſe little ſubſervient. Bachian riſes into woody hills, and through the idleneſs or oppreſſion of its inhabitants, is ſuffered to become wild and deſert, although by cultivation it is capable of becoming fertile and productive, and it was repreſented as formerly producing the beſt cloves in the Moluccas. On the ſhores, as in moſt of the other iſles of this archipelago, there are prodigious rocks of coral, of infinite variety and beauty. Its principal town is Gebongo; it is about twelve leagues in circuit, and has a burning mountain. It is ſituated nearly under the equinoctial in S. lat. 0° 25′, and E. long. 125° 5′.

BACHINA, in *Ancient Geography*, an iſland of the Mediterranean ſea, near Smyrna, according to Pliny; called by Livy, Bachium.

BACHMUT, a town of Ruſſia, in the province of Ekaterinoſlav, 104 miles W. N. W. of Azof. N. lat. 48° 25′. E. long. 37° 44′.

BACHO, a river of North Wales, which runs into the Severn near Lanidlos, in Montgomerythire.

BACHOLKZ, or Vonchotsch, a town of Poland, in the Palatinate of Sandomirz, 20 miles ſouth of Radom.

BACHOVIUS, Reinier, in *Biography*, a German civilian, was born at Cologne, in 1544, and reſided at Leipſic, where he ſuffered perſecution on account of his religious principles, as he profeſſed attachment to the doctrines of Calvin, rather than to thoſe of Luther. Compelled not only to reſign his public offices, but to quit Leipſic, he withdrew into the Palatinate, and found in the elector a generous patron. At Heidelberg, he held ſeveral honourable and lucrative poſts till his death in 1614. In a theological

tract, intitled, "The Catechiſm of the Palatinate," he cited the writings of the fathers in defence of Calviniſm. His ſon, of the ſame name, was profeſſor of civil law in the univerſity of Heidelberg, which he filled with diſtinguiſhed reputation for more than 20 years, till the city was taken by count Tilly, and the univerſity was diſſolved by the elector Palatine. Upon this event, he quitted Heidelberg; but having ſuffered many diſappointments and vexations on account of his Protеſtant principles, he returned to Heidelberg, and having united with the Catholic church, he was reſtored to his office upon the re-eſtabliſhment of the univerſity. His works, beſides other law tracts, are "Exercitationes ad partem poſteriorem Chiliados Fabri," publiſhed in 1624, folio; "De Actionibus," 1626; "De Pignoribus et Hypothecis," 1627;" Diſputationes de variis Juris Civilis Materiis," 8vo. Heidelberg, 1624; and "In Inſtitutionum Juris Juſtiniani Libros quatuor Commentarii," 4to. Francf. 1628. Gen. Dict. Nouv. Dict. Hiſt.

BACHSTELZE, (*Weiſſe Bachſtelſſe*), in *Ornithology*, the name of the MOTACILLA *Alba*, or white wag-tail, in Friſch. Hiſt. Birds.

BACHU, in *Geography*. See BAKU.

BACILLARIA, in *Natural Hiſtory*, a genus of VERMES *Infuſoria* in Gmelin's Syſt. Nat. of which only a ſingle ſpecies is deſcribed, viz. *paradoxa*. In this genus the body conſiſts of ſtraw-like cylinders placed parallel to each other, and frequently changes its direction and arrangement. Müll. Gmel. &c.

BACILLARIS, a ſpecies of TÆNIA, with the head rounded, and proboſcis pyriform; joints extremely narrow, and reſembling pieces of ſtraw placed on each other. Goëze. Infeſts the inteſtines of the mole; ſize of a very fine thread; neck without joints.

BACILLI, or BACULI, in the *Materia Medica*, ſuch compoſitions as are made up in a cylindrical figure, like a ſtick; thus called from the Latin *baculus*, *a ſtaff*. See LOZENGE.

BACINET, in *Ancient Armour*. See BASSINET.

BACK. See DORSUM.

BACK *Bone*. See SPINE.

BACK, in the *Manege*, and among *Farriers*. A horſe's back ſhould be ſtraight, not hollow, which is called *ſaddle-backed;* horſes of this kind are generally light, and carry their heads high, but are deficient in ſtrength and ſervice. A horſe with a weak back is apt to ſtumble.

In the French riding-ſchools, to mount a horſe *a dos*, is to mount him bare backed, without a ſaddle.

BACK, in *Brewing*, a large flat kind of tub or veſſel, wherein the wort is put to ſtand and cool before boiling.

The ingredients of beer paſs through three kinds of veſſels.

They are maſhed in one, worked in another, and cooled in a third, called *backs* or *coolers*.

To gauge a Brewer's BACK. Moſt backs have their ſides ſtraight; in caſe, however, they be not, but make either an acute or obtuſe angle with the bottom, the true length and breadth muſt be carefully taken in the middle of every inch in depth; from whence the area may be found upon every tenth. For finding the area of the back, this rule muſt be obſerved, to multiply the length by the breadth, and divide by 282; which gives the contents in ale gallons.

To find the true dip of a BACK. Becauſe backs are not placed level, but ſloping, for conveniency of drawing off the wort; therefore, were the dip taken in too deep a place, the ſubject would be wronged; as would the king, if it were taken in too ſhallow a part; to guard againſt which, as many dips as are thought convenient muſt be taken; theſe being added together, and divided by the number of dips, will give a mean depth. When this is done, trial being made in different parts of the back, until one is found which anſwers exactly to the mean depth; let a mark or notch be made at the ſide of the back, to point it out as the true dipping place for the future.

The bottom of large backs ought to be every where equally and well ſupported, to ſecure them from warping, which elſe they will do, more and more as they grow older. Thoſe who make backs and other veſſels for brewers, are denominated *back-makers;* and the workmanſhip conſiſts partly of carpentry and partly of cooperage.

BACK, in the *Diſtillery*, a veſſel in which liquor is put to be fermented.

BACK, or *Dutchman's Cap*, in *Geography*, one of the ſmall iſlands of Scotland, eleven miles ſouth-eaſt of Coll.

BACK, *Iron*, is a large plate of caſt iron, frequently adorned with figures in low relievo, intended to preſerve the ſtone-work of a chimney-back, and to reflect the heat of the fire.

BACK *a Ship, To*, in *Sea Language:* when the wind is croſs, or nearly off ſhore, or in the oppoſite direction, ſhips will always back by the mizen top-ſail, aſſiſted, if neceſſary, by the mizen ſtay-ſail. If there be no mizen top-ſail, the main top-ſail is uſed. In backing, always keep a ſlight cable, to wind the ſhip, that the anchor may be drawn round. If the wind be not ſufficient for this purpoſe, the ſhip muſt be hove a-peak.

BACK *the Anchor*, is to carry out a ſmall anchor a-head of the large one, in order to ſupport it in bad ground, and to prevent its looſening or coming home.

BACK *a-ſtern*, in rowing, is to impel the boat with her ſtern foremoſt, by means of the oars.

BACK *of the Poſt*. See STERN-*Poſt*.

BACK *the Sails*, is to put them in a ſituation that will occaſion the ſhip to retreat or move a-ſtern. This operation, however, is only performed in narrow channels, when a ſhip is carried along ſideways by the tide or current, and ſtrives to avoid any thing that may interrupt her progreſs, as ſhoals, veſſels at anchor, &c. or in the line of battle, when a ſhip would put herſelf into a ſituation oppoſite to another with which ſhe is engaged.

BACKBEROND, or BACKBEREND, in *Law Writers*, denotes a criminal caught carrying off ſomething on his back.

In this ſenſe Bracton uſes it for a ſpecies of what the civilians call manifeſt theft, *furtum manifeſtum*.

In the *Foreſt Laws*, backberond is one of the four circumſtances, or caſes, wherein a foreſter may arreſt the body of an offender againſt vert or veniſon in the foreſt. The others are *ſtalle-ſtand*, *dog-draw*, and *bloody-hand*.

BACK-*Board*, in *Maritime Affairs*, is of a ſemicircular figure, placed tranſverſely in the after-part of a boat, like the back of a chair, to recline againſt while ſitting in the *ſtern-ſheets*.

BACKELEYS, in *Zoology*, a denomination, derived from *backeley*, which in the Hottentot language ſignifies *war*, and given by the Hottentots to thoſe oxen which they train for war and uſe with ſucceſs, as the Indians employ the elephants in their combats. In all their armies there are conſiderable troops of theſe oxen, which are eaſily governed, and which are let looſe by the chief, when a proper opportunity occurs. They inſtantly dart with impetuoſity on the enemy; ſtriking with their horns, kicking, and trampling under their feet every thing that oppoſes their fury. By running furiouſly into the ranks and putting them into diſorder, they prepare an eaſy victory for their maſters. Theſe animals are likewiſe of great uſe in guarding the flocks. At the ſmalleſt ſignal from the keeper, they collect and bring back thoſe that wander; and they

alſo run with great fury upon ſtrangers and ſerve to ſcour the flocks and herds againſt the attacks of the butchins, or robbers of cattle. Every kraal has at leaſt ſix of theſe backeleys, which are choſen from among the fierceſt oxen; and after they have been duly trained, they diſtinguiſh friends from enemies, underſtand ſignals, and obey the voice of their maſter. If a ſtranger, and particularly an European, ſhould approach the cattle, without being accompanied by a Hottentot, his life would be in great danger. Theſe backeleys would ſoon run round him at full gallop, and if not protected by the ſhepherds, by fire arms, or by ſuddenly climbing a tree, his deſtruction would be inevitable. Kolbe, Voyage and Deſcription du cap de Bonne Eſperance, cited by Buffon, vol. vi. p. 184. ed. Smellie.

BACKER, or BAKKER, JAQUES, in *Biography*, an hiſtorical painter was born at Antwerp in 1530, and received inſtruction from his father: after the death of his father, he reſided in the houſe of Jacopo Palermo, a picture-dealer, who, for the gratification of his own avarice, kept him inceſſantly employed, and diſpoſed of his pictures at Paris, where they were much admired and fetched a high price; whilſt the artiſt himſelf was continued in an obſcure and depreſſed condition. He was diſtinguiſhed by a clean light manner of penciling, and a very pleaſing tint of colour. He died in 1560. Pilkington.

BACKER, or *Bakker*, *Jacob*, a painter of portrait and hiſtory, was born at Harlingen, in 1609, but reſided chiefly at Amſterdam; where he acquired the reputation of an extraordinary painter, particularly of portraits, which he executed with ſtrength, ſpirit, and a graceful reſemblance. He was ſo remarkable for his expedition, that he is ſaid to have painted the half-length portrait of a lady in one day, though he adorned the figure with rich drapery, and ſeveral ornamental jewels. He ſucceeded alſo in painting hiſtorical ſubjects; and in this ſtyle his picture of Cimon and Iphigenia has been much extolled by connoiſſeurs. In deſigning academy figures, his expreſſion was ſo juſt, and his outline ſo correct, that he obtained the prize from all his competitors; and his works are bought up at very high prices in the Low Countries. His capital picture of the Laſt Judgment, preſerved in the church of the Carmelites at Amſterdam, is well deſigned and well coloured. He died in 1651; or, according to Deſcamps, in 1641. Pilkington.

BACKEREEL, called BACQUERELLI, WILLIAM, was born at Antwerp, and was a diſciple of Rubens, at the ſame time with Vandyck. At the commencement of the exerciſe of their profeſſion, Backereel was deemed little, if at all, inferior to Vandyck; as appears from the works of the former in the church of the Auguſtin monks at Antwerp, where theſe two great artiſts painted as competitors; and each poſſeſſing a mode peculiar to himſelf, the ſuperiority was not determined in favour of either. Backereel, by the exerciſe of his poetical talents, and particularly by his ſatires againſt the Jeſuits, incurred the perſecution of this powerful fraternity, and by their perſecution, he was compelled to leave Antwerp, ſo that his country was deprived of the honour which muſt have accrued to it from his performances as a painter. In Italy, and the Low Countries, there were ſeven or eight eminent painters, of the name of Backereel. Pilkington.

BACK-*Gammon*, a game played with dice and tables, to be learned only by obſervation and practice. This game is ſaid to have been invented in Wales, in the period preceding the conqueſt, and to have derived its name from two Welſh words, *bach*, *little*, and *cammon*, battle. Gloſſ. ad Leges Wallicas, a voc. Tawlbwrdd, cited by Henry, vol. iv. p. 404. 8vo.

BACK-*Houſes*, [illegible] in ſeveral parts of [illegible] ſhire, and Suſſex, [illegible] conſtruction of this machine, illuſtrated by a figure, was propoſed by Dr. [illegible], in the year 1727, which, [illegible], will not only render it [illegible] better than by any other [illegible], but alſo by clearing it of the ſmall corn, ſeeds, blacks, ſmut-balls, &c. to ſuch perfection, as to make it proper for ſeed-corn. See Hales's Uſes of Ventilators, part ii. p. 247, &c.

BACKHUYSEN, [illegible] painter of [illegible], and [illegible], was born at [illegible], in 1631, [illegible] Albert Van Everdingen, acquired his principal knowledge by frequenting the painting-rooms of great maſters, and particularly Henry Dr[illegible], and of viewing their various methods of touching and colouring. His improvement was very conſiderable, and his drawings were in ſuch eſtimation, that ſeveral of them were purchaſed at 100 florins a-piece. Whilſt he was painting, his mind was ſo much engaged, that he would not [illegible] to have acceſs to him, leſt [illegible] interrupt him. He ſtudied nature with ſingular attention in all her forms; in gales, calms, ſtorms, clouds, rocks, ſkies, lights, and ſhadows; and he expreſſed every [illegible] with ſo ſweet a pencil, and ſuch a degree of tranſparence and luſtre, as placed him above all the artiſts of his time in that ſtyle, the younger Vandervelde excepted. It was his frequent cuſtom to go out to ſea in a ſtorm, in order to ſtore his mind with grand images, directly deduced from nature; and at the moment of his landing, he flew to his palette, that the traces of thoſe incidents which had occurred might not be obliterated by delay. Backhuyſen perfectly underſtood the management of the chiaro-ſcuro: and he was thus able to give uncommon force and beauty to his objects. He alſo ſtrictly obſerved the truth of perſpective, in the diſtances of his veſſels, the receding of the grounds on the ſhores, and the different buildings, which he deſcribed in the ſea-ports. His works may be eaſily diſtinguiſhed by an obſervant eye, from the freedom and neatneſs of his touch; from the clearneſs, and natural agitation or quieſcence of the water; from a peculiar tint in his clouds and ſkies; and alſo from the exact proportions of his ſhips, and the gracefulneſs of their poſition.

For a picture, exhibiting a multitude of veſſels, and a view of the city at a diſtance, he received from the burgomaſters of Amſterdam 1300 guilders, and a conſiderable preſent; and this picture was afterwards given to the king of France, who placed it in the Louvre. No painter was ever more honoured by the viſits of kings and princes than Backhuyſen; the king of Pruſſia was one of their number; and the Czar Peter the Great took delight in ſeeing him at work, and often endeavoured to draw, after veſſels which he had deſigned. He was remarkably aſſiduous; and yet the number of pictures which he finiſhed, and the exquiſite manner in which they are painted, are aſtoniſhing. He died in 1709. Pilkington.

BACKING *a Colt*, in the *Manage*, the operation of breaking him to the ſaddle, or bringing him to endure a rider.

To back a colt, they uſually take him into ploughed ground, trot him a while, to rid him of his wantonneſs; then having one ſtay to his head, and govern the chaffing-rein, the maſter mounts his back, not ſuddenly, but by degrees, firſt making ſeveral offers, or half-riſings: when he bears theſe patiently, he mounts in earneſt, and ſettles in his place, cheriſhing him, &c.

BACKING *Warrants*, in *Law*, denotes the ſigning of

ſuch as have been iſſued by a juſtice of the peace in one county, by a juſtice of the peace in another county, which is neceſſary before they can be executed there. This practice, which had long prevailed without law, is authoriſed by ſtatutes 23 Geo. II. c. 26. and 24 Geo. II. c. 55. And now, by ſtatute 13 Geo. III. c. 31. any warrant for apprehending an Engliſh offender, who may have eſcaped into Scotland, and *vice verſâ*, may be endorſed and executed by the local magiſtrates, and the offender conveyed back to that part of the united kingdom, in which ſuch offence was committed.

Back-*Nails*. See Nail.

Back-*Painting*, is uſed by ſome for the art of paſting of prints and other deſigns on glaſs.

The art conſiſts chiefly in laying the print upon a piece of crown-glaſs, of ſuch a ſize as fits the print. In order to do this, the print muſt be ſoaked in clean water for forty-eight hours, if it be on very ſtrong, cloſe, and hard gummed paper; but if on a ſoft, ſpongy paper, two hours will ſometimes be ſufficient. The picture, being well ſoaked, muſt be laid between four ſheets of paper, two over and two under it, that the moiſture may be drawn out of it. Inſtead of ſoaking the print, it may be rolled up and boiled for about two hours, more or leſs, according to the quality of the paper, in water; and this mode will anſwer the purpoſe as well as ſoaking it. In the mean while, let the glaſs upon which the print is to be laid be warmed at the fire; then with a hog's-hair bruſh dipped in melted Straſburg turpentine, ſpread the turpentine ſmoothly and evenly on the glaſs. Then lay the print upon the glaſs, rubbing it gently from one end to the other, that it may lie cloſe. With the finger, rub off the paper from the back ſide of the print, till nothing can be ſeen but the print, like a thin film left upon the glaſs, and ſet it aſide to dry. When it is dry, varniſh it over with ſome white tranſparent varniſh, that the print may be ſeen through it, which is now fit for painting.

Having prepared a variety of oil colours, which muſt be ground very fine, and tempered very ſtiff, lay ſuch colours on the tranſparent print as each particular part requires, the maſter-lines of the print guiding the pencil; and thus each colour will appear fair to the eye on the other ſide of the glaſs, and look almoſt as well as a painted piece, if it be done neatly. The ſhadows of the print are generally ſufficient for the ſhadow of every colour; but if it be deſired to give a ſhadow by the pencil, the ſhadows ſhould be laid on firſt, and the other colours afterward. The chief care to be uſed in this part of the work, is that of laying the colours on thick enough, that they may be ſtruck plainly through the glaſs.

Back-*River*, in *Geography*. See Baltimore.

BACKS, among dealers in leather, denote the thickeſt and beſt tanned hides, uſed chiefly for ſoles of ſhoes. See Butts.

Backs *of a Hip*. See Hip.

Back-*ſtaff*, in *Navigation*, an inſtrument, by the French called the *Engliſh quadrant*. It was invented by captain Davis, about the year 1590; and is of good uſe in taking the ſun's altitude at ſea. It conſiſts of three vanes, A, B, and C, and of two concentric arches (*Plate* I. *Navigation*, *fig.* 2.); the vane at A, called the *horizon-vane*; that at B, the ſhade-vane; and that at C, the *ſight-vane*. The leſſ arch B (or ED) is of 60 degrees, and that of C (or FG) of 30 degrees.

To uſe the back-ſtaff. The ſhadow-vane B is ſet upon the 60 arch, to an even degree of ſome latitude, leſs by 10 or 15 degrees than you judge the complement of the ſun's altitude will be; the horizon vane is put on at A, and the ſight-vane on the 30 arch FG: the obſerver's back being then turned to the ſun (whence the name of *back-ſtaff*, or *back quadrant*), he lifts up the inſtrument, and looks through the ſight-vane, raiſing or falling the quadrant, till the ſhadow of the upper edge of the ſhade-vane fall on the upper edge of the ſlit of the horizon vane; and then if he can ſee the horizon through the ſaid ſlit, the obſervation is well made; but if the ſea appear inſtead of the horizon, the ſight vane muſt be moved lower towards F; if the ſky appear, it muſt be moved upward towards G, and thus tried till it comes right: then he obſerves how many degrees and minutes are cut by that edge of the ſight-vane which anſwers to the ſight-hole, and to them adds the degrees cut by the upper edge of the ſhade-vane: the ſum is the ſun's diſtance from the zenith, or the complement of his altitude. To find the ſun's meridian, or greateſt altitude on any day, continue the obſervation as long as the altitude is found to increaſe, which you will perceive by the appearance of the ſea, inſtead of the horizon, removing the ſight-vane lower; but when you perceive the ſky appear inſtead of the horizon, the altitude is diminiſhed; therefore, deſiſt from farther obſervation at that time, and add the degrees upon the 60 arch to the degrees and minutes upon the 30 arch, and the ſum is the zenith diſtance, or co-altitude of the ſun's upper limb.

And becauſe it is the zenith diſtance, or co-altitude of the upper limb of the ſun, and not the centre, that is given by the quadrant, in obſerving by the upper edge of the ſhade-vane, add 16 minutes, the ſun's ſemidiameter, to that which is produced by your obſervation, and the ſum is the true zenith diſtance of the ſun's centre. If you obſerve by the lower part of the ſhadow of the ſhade-vane, then the lower limb of the ſun gives the ſhadow; and, therefore, you muſt ſubtract 16 minutes from what the inſtrument gives: but conſidering the height of the obſerver above the ſurface of the ſea, which is commonly between 16 and 20 feet, you may take 5 or 6 minutes from the 16 minutes, and make the allowance but of 10 minutes or 12 minutes, to be added inſtead of 16 minutes.

Mr. Flamſteed contrived a glaſs *lens*, or double convex, to be placed in the middle of the ſhade-vane, which makes a ſmall bright ſpot on the ſlit of the horizon-vane, inſtead of the ſhade; which is a great improvement, if the glaſs be truly made; for, by this means, the inſtrument may be uſed in hazy weather, and a much more accurate obſervation made in clear weather than could be by the ſhadow.

The theory of this quadrant is very intelligible: for the line AC being horizontal, the arc *f*GC is equal to the height of the ſun above the horizon; but this arc *f*GC is equal to the ſum of the arcs BE + GC; and the arc *af* F = 90° = the altitude and zenith diſtance taken together; conſequently the zenith diſtance = the arcs *fd* + CF = DB + CF.

When the horizon is obſcured by hazy weather, Davis's quadrant is of no uſe; and this often occaſions diſtreſſing conſequences. Means have therefore been ſought for to remedy this defect. Mr. Hadley has recommended and deſcribed a ſpirit level for this purpoſe. Mr. Leigh propoſed to fix a water-level to the quadrant; and he has likewiſe given the deſcription and uſe of an apparatus to be added to this inſtrument, conſiſting of a mercurial level, which he prefers, with reaſon, to a water-level. See Phil. Tranſ. N° 430, &c. or Martyn's Abr. vol. VIII. p. 357, 360, &c.

It has been obſerved, that one great objection againſt this inſtrument is the trouble and time loſt in fixing the ſight-vane upward or downward, which ſometimes cannot conveniently

conveniently be done without taking the quadrant from the eye, by which an opportunity may be loſt for making the obſervation. But this defect is eaſily removed by having a long index or ruler fitted to the quadrant; one end moving round the centre to which the horizon-vane is fixed, and having the ſight-vane fixed to the other end. By this contrivance the ſight vane may be readily raiſed higher, or lowered, by the motion of the index about its centre; and this may be done without taking the inſtrument from the eye. See QUADRANT.

BACK-*Stays of a Ship*, are ropes belonging to the main-maſt and fore-maſt, and the maſts belonging to them, ſerving to keep them from pitching forwards, or overboard. See STAYS.

BACK-*Stays*, *Travelling*, are uſed in bad weather to ſupport the fore and main-top maſts; they ſplice into a ſpan, round the top maſt, under the parrel, and let up in the chain, with a luff-tackle, to an eye-bolt. They travel up and down the top-maſt occaſionally with tricing lines that ſplice into a thimble, on each ſide of the ſpan, and through blocks ſeized to the top-maſt trattle-trees, and lead into the top.

BACK-*Worm*, a name given by *Sportſmen* to a diſeaſe very common among hawks, and called alſo *filander*; which ſee.

BACO, in *Geography*, the capital of Mindoro, one of the Philippine iſlands, where the Alcaide, or governor, reſides. Its environs are well watered by ſprings proceeding from mountains covered with ſarſaparilla. See MINDORO.

BACOBA, in *Botany*, a name by which ſome authors call the banana tree, or *muſa fructu breviori*. Piſo.

BACOFEN, in *Geography*, a town of Bohemia, in the circle of Boleſlaw, five miles N. N. E. from Jung Buntzlau.

BACON, ſwine's fleſh, ſalted, and dried in the chimney. Writers on this branch of œconomics give rules for the hanging, the ſalting, and curing of bacon, larding with bacon, &c.

This appears to be in general an extremely improper and unwholeſome aliment, eſpecially for people who do not uſe great exerciſe; for thoſe who do may almoſt eat any thing without injury. Swine's fleſh, conſidered as an aliment, is none of the beſt; and when hardened by ſalt, and dried by ſmoke, it is rendered more indigeſtible, and in conſequence of that, productive of obſtructions in a very great degree. We may add, that the fat of bacon frequently becomes rancid and acrimonious, and often even excoriates the mouth and throat.

BACON-*Sward*, denotes the thick outer ſkin taken off the lard or fat. Old hiſtorians and law writers ſpeak of the *ſervice of the bacon*, a cuſtom in the manor of Whichenovre in Staffordſhire, and priory of Dunmow in Eſſex; in the former of which places, by an ancient grant of the lord, a flitch of bacon, with half a quarter of wheat, was to be given to every married couple, who could ſwear, that having been married a year and a day, they would never within that time have once exchanged their mate for any other perſon on earth, however richer, fairer, or the like. But they were to bring two of their neighbours to ſwear with them, that they believed they ſwore the truth. On this, the lord of another neighbouring manor, of Rudlow, was to find a horſe ſaddled, and a ſack to carry the bounty in, with drums and trumpets, as far as a day's journey out of the manor: all the tenants of the manor being ſummoned to attend, and pay ſervice to the bacon. Plott's Hiſt. Staff. c. x.

The *bacon of Dunmow*, firſt erected under Henry III. was on much the ſame footing; only the tenor of the oath was, that the parties had never once repented, or wiſhed themſelves unmarried again. Ib. c. x. ſect. 80.

BACON, *Robert*, in *Biography*, an Engliſh divine of the thirteenth century, was born about the year 1168, completed his education at Paris, and returning to Oxford, where he had commenced his ſtudies, read lectures in divinity, and became a famous preacher. In one of his ſermons, preached at Oxford, in 1233, before Henry III., he reproved the king for his partiality to foreigners, and faithfully informed him, that this was the principal cauſe of the diſcontent which prevailed among his ſubjects. Such was the impreſſion made by this addreſs, that the king is ſaid to have diſcovered a diſpoſition to liſten to the complaints of his nobles. Bacon was favoured with the friendſhip and patronage of Edmund Rich, called St. Edmund, archbiſhop of Canterbury; and after his deceaſe, in 1240, wrote his life. He was alſo the author of ſeveral commentaries, ſermons, and lectures. Some have ſuppoſed that he was the brother of the celebrated Roger Bacon; but as Robert died in 1248, at an advanced age, and Roger was not born till the year 1214, it is not probable that they were brothers. Biog. Brit.

BACON, *Roger*, a celebrated Engliſh monk of the Franciſcan order, was born at Ilcheſter in Somerſetſhire, in the year 1214, and at an early age received the rudiments of learning and ſcience at Oxford, where he proſecuted his ſtudies with an ardour and ſucceſs which ſecured to him the patronage and friendſhip of the moſt eminent men in that univerſity. In the number of theſe we may reckon Robert Grouthead, biſhop of Lincoln, to whom he was particularly indebted, and of whom he ſpeaks in terms of high commendation; Edmund Rich, archbiſhop of Canterbury; William Shirwood, chancellor of Lincoln; and Richard Fiſhacre, who was a diſtinguiſhed lecturer in the ſciences both at Oxford and at Paris. Having ſpent ſome years at Oxford in the ſtudy of the languages, logic, mathematics, and various branches of philoſophy, he removed, according to the cuſtom of that age, to Paris, where he was diſtinguiſhed both by his aſſiduity and improvement, and where, in token of his acknowledged eminence in literature and ſcience, he received the degree of doctor in theology. While he was in France, or ſoon after his return to England, in the year 1240, he took the monaſtic habit in the order of St. Francis, and with a view of purſuing his ſtudies and reſearches with the greater advantage, he ſettled at Oxford. Such was the eſteem in which he was generally held, and ſo high were the expectations which his contemporaries entertained of the benefits that would reſult to ſcience from the vigour of his mind and the aſſiduity of his application, that he was enabled, by generous contributions, to collect books, to conſtruct inſtruments, and to proſecute his experiments, during a courſe of twenty years, at an expence of 2000l., which, conſidering the time in which he lived, was a very large ſum. His growing fame, however, excited envy; and the monks of his own order induſtriouſly circulated a report, that he held converſe with evil ſpirits, and practiſed magical arts. His enemies ſo far prevailed, that, under a pretence of dangerous innovations, tending to diſturb the peace of the church, which Bacon was attempting to introduce, he was reſtrained from reading lectures to the young ſtudents in the univerſity; and at length ſo cloſely confined as to be debarred from all intercourſe with his friends, and from receiving a neceſſary ſupply of food. The prelates and the monks, ſays Bacon himſelf (Epiſt. ad Clem. IV.), were afraid leſt his own writings ſhould extend beyond the limits of his convent, and be ſeen by any beſides themſelves and the pope. But other circumſtances had contributed to excite againſt Bacon the ſpirit of perſecution. He had cenſured the clergy, on account both of their ignorance and immorality; he was particularly intimate with biſhop Grouthead, who had written a letter of reproof to pope Innocent IV. and declared to his confi-

dential

demand aſſociates, that in his judgment the pope was antichriſt; and he himſelf had written freely to the pope, concerning the neceſſity of a reformation. The efforts of malevolence, whatever might have been the real or pretended cauſes from which they originated, could not deprive this great man of the eſteem and reſpect to which his diſtinguiſhed talents and character entitled him. Such was the high opinion entertained by the cardinal biſhop of Sabina, who was the pope's legate in England, of his genius and merit, that he requeſted from him a complete copy of all his works. As he was reſtrained, by the prohibition of his own fraternity, from communicating any of his works to any perſon whatever, he at firſt declined complying with the cardinal's requeſt; but as ſoon as he heard that the cardinal-legate was raiſed to the pontifical dignity, under the name of Clement IV. he ſignified to him by letter his readineſs to perform what his holineſs had deſired; and the pope aſſured him of protection againſt any interference of his own order. Bacon immediately began to collect, arrange, and improve the pieces he had already written, and having digeſted them into one volume under the title of "Opus Majus" (the greater work), he ſent it to the pope, in the year 1267, by a ſpecial meſſenger, whoſe name was John of Paris, and who was his own favourite diſciple. This John of Paris was a poor boy, of promiſing talents, taken by Bacon under his tuition, in order to try by experience the efficacy of his peculiar mode of inſtruction; and, as the reſult of it, he obſerves, "that there was no room to conceive any high notions of the perfection of human wiſdom, when it was poſſible, in a year's time, to teach a young man all that, with the utmoſt induſtry and application, a zealous inquirer after knowledge was able either to acquire or to diſcover in the ſpace of twenty, or even forty years." (See Opus Majus, p. 29, and Jebb's Preface.) The pope was ſo gratified with the preſent of this learned work, that it procured for Bacon extraordinary favour and encouragement in his ſtudies.

With the life of the enlightened and liberal Clement IV. terminated the tranquillity of this philoſopher; for in 1278, under the pontificate of Nicholas III. and with the ſanction of his authority, Jerom de Eſculo, or de Aſcoli, general of the Franciſcan order, prohibited the reading of his works, and ſentenced him to impriſonment. The pretended cauſe of this ſeverity has been ſought by ſome writers in tracts of Bacon on necromancy, aſtrology, and alchemy; but the true reaſon was moſt probably that dread of innovation which Bacon's improvements in ſcience cauſed in the minds of bigotted or intereſted perſons. Bacon continued in priſon for ten years; but upon the acceſſion of Jerom de Eſculo to the papal ſee, under the name of Nicholas IV., he attempted to conciliate the favour of the pope, by preſenting to him a treatiſe "On the Means of avoiding the Infirmities of Old Age;" but his endeavours ſeem to have been ineffectual, as he ſtill remained in priſon, and was not releaſed till about the latter end of this pontificate, when ſome Engliſh noblemen interceded in his favour, and obtained for him his liberty. Upon his return to Oxford, he wrote, at the requeſt of his friends, "A Compendium of Theology," of which a copy is preſerved in the Royal library. This work appears, from internal evidence, to have been written about the year 1291; and as additions were afterwards made to it, it is hence inferred that the author lived till the year 1292, or the ſeventy-eighth year of his age. The learned editor of his "Opus Majus" dates his death in 1294; but Anthony Wood, from two MSS. which he mentions, fixes the time of it to the 11th of June, 1292; and Dr. Freind acquieſces in this opinion. He is ſaid to have died in tranquillity, in the college of his order, and to have been interred in their church. Tradition reports, that in order to prevent the uneaſineſs occaſioned by his enemies, in the earlier period of his life, and while he was proſecuting his ſtudies, and performing his experiments at Brazen-noſe hall at Oxford, he was obliged to retire from the univerſity into a ſolitary place, called to this day "Friar Bacon's Study:" and Mr. Hearne informs us, that he ſometimes reſided in the ſummer to Sunning Well.

When we contemplate the extraordinary powers and attainments of Bacon, and review the important and uſeful diſcoveries that were made by him in various branches of ſcience, and compare them with the period in which he lived, we ſhall not be ſurpriſed that he was diſtinguiſhed by the title of "doctor mirabilis," or wonderful doctor; whatever might be the reaſons which induced the monks of his order thus to diſcriminate him. With reſpect to his knowledge of the languages, which he thought to be the foundation of all true learning, it appears that he was perfect maſter of the Latin, Greek, and Hebrew, and that he had ſtudied thoſe languages with a degree of critical exactneſs which renders ſome of his obſervations in that part of the "Opus Majus," which treats on this ſubject, judicious and inſtructive. With various branches of the mathematics he was well acquainted: and in mechanics his knowledge was ſuch, that, in the judgment of Dr. Freind, "a greater genius had not ariſen ſince the days of Archimedes." Accordingly, in his treatiſe, intitled, "Epiſtola Fratris Rogeri Baconis de ſecretis Operibus Artis et Naturæ, et de Nullitate Magiæ," he propoſes the conſtruction of wonderful inſtruments, which may be artificially contrived, by which ſuch things (ſays he) may be done without the help of magic, as magic itſelf is incapable of performing. "For a veſſel may be ſo conſtructed, and oars therein ſo diſpoſed, as to make more way with one man in her, than another veſſel fully manned." "It is poſſible (ſays he) to make a chariot which, without any aſſiſtance of animals, ſhall move with that irreſiſtible force which is aſcribed to thoſe ſcythed chariots in which the ancients fought." "It is poſſible," adds our author, "to make inſtruments for flying, ſo that a man ſitting in the middle thereof, and ſteering with a kind of rudder, may manage what is contrived to anſwer the end of wings, ſo as to divide and paſs through the air. It is no leſs poſſible to make a machine of a very ſmall ſize, and yet capable of raiſing or ſinking the greateſt weights, which may be of infinite uſe on certain occaſions, for by the help of ſuch an inſtrument, not above three inches high, or leſs, a man may be able to deliver himſelf and his companions out of priſon, and to aſcend or deſcend at pleaſure." Hence it has been inferred that Bacon was acquainted with the perpetual ſcrew. Our author's knowledge of the ſcience of optics was ſo accurate and comprehenſive, that he is juſtly allowed to have underſtood the theory and practice of many of thoſe diſcoveries, the application of which has been ſo important and uſeful in more modern times. Beſides the deſcriptions of the camera obſcura, and of burning glaſſes, which are found in his writings, we have unqueſtionable evidence that he was well acquainted with the properties of convex and concave lenſes, and with the effects of refraction; and ſome have even aſcribed to him the honour of having invented the teleſcope. (See theſe ſeveral articles.) In geography his reſearches were various and extenſive; and his acquaintance with aſtronomy enabled him to diſcover the errors of the calendar, and to propoſe the proper method of correcting them. See CALENDAR.

Although Roger Bacon was in ſome inſtances miſled by the viſionary projects of the alchemiſts of his age, and though

though he indulged chimerical notions of the medicinal virtues of the aurum potabile, or tincture of gold, and of a ſecret charm for renewing the native heat of old men, he was led by his chemical proceſſes into an acquaintance with the properties of bodies, and a variety of diſcoveries that were no leſs important and uſeful than novel and curious. Such, in particular, was that of the ingredients and effects of gun-powder, which was for a long time ſuppoſed to have been the invention of a much later period. (See GUNPOWDER.) Of his medical knowledge we have evidence in his "Treatiſe on Old Age," blended with many things that are obſcure and fanciful; and though he ſo far partook of the ſuperſtition of the times as to place ſome confidence in judicial aſtrology, he was an enemy to necromancy and magic. The imputation on his character of his leaning to magic, was altogether unfounded; and the ſtory of his having conſtructed a brazen head, which propoſed and anſwered queſtions, is as ridiculous as it is groundleſs. The firſt object of this calumny, was his patron Robert Grouthead or Groſthead, biſhop of Lincoln; and ſimilar tales have been related of pope Sylveſter II., Albertus Magnus, and other eminent philoſophers; but they gained credit merely with mean and ignorant perſons. In logic and metaphyſics, as well as in philology, and the politer parts of learning, Bacon was equal, if not ſuperior, to moſt of his contemporaries; and his treatiſe on Ethics, or moral philoſophy, contains many excellent principles for directing the judgment, and regulating the conduct. To theology, all his other ſtudies were ſubſervient; and he directed both his actions and his writings to the glory of God, and the good of his fellow-creatures. To the holy ſcriptures he paid due deference; and he enforced the ſtudy of them in their original languages, and an aſſiduous application to the ſeveral branches of learning which he thought neceſſary for rightly underſtanding and interpreting them. This ſeems to have been the object of his laſt treatiſe, which he left as a kind of teſtament to his order.

As the whole life of friar Bacon was ſpent in ſtudy and writing, we need not wonder that his works were very numerous. Bale ſpeaks of upwards of fourſcore books written by him; and Dr. Jebb has digeſted a ſtill greater number, under the diſtinct heads of grammar, mathematics, phyſics, optics, geography, aſtronomy, chronology, chemiſtry, magic, medicine, logic, metaphyſics, ethics, theology, philology, and miſcellany. It ſeems, however, that the number has been multiplied by means of the different titles under which various copies of the ſame treatiſe have been diſperſed, and by conſidering the titles of diſtinct chapters of his work, as the titles of ſeparate treatiſes. Accordingly, eleven of theſe pieces will be found in the work intitled, "Epiſtola Fratris Rogeri Baconis, &c." already mentioned, publiſhed in 4to. at Paris, in 1542; in 8vo. at Baſil, in 1593; in 8vo. at Hamburgh, in 1608 and 1618. This treatiſe abounds with various phyſical facts and obſervations, and expoſes the futility of the ſeveral practices of necromancy, charms, divination, and magic. The "Opus Majus," written in the form of an epiſtle or addreſs to pope Clement IV. is profeſſedly a digeſt of the author's former writings. "In this curious and valuable work, Bacon deſcribes the impediments which hinder men from arriving at true and uſeful knowledge; illuſtrates, at large, the uſefulneſs of the ſtudies of grammar, mathematics, and perſpective; explains the nature and value of experiments in philoſophy; and earneſtly exhorts the pontiff whom he addreſſes, to give all poſſible encouragement to ſcience in general, and particularly to the ſtudy of nature. This work, which affords abundant proofs of the author's ſuperior talents, and, conſidering the time [illegible] remained buried in obſcurity, and never appeared in print till, [illegible] may be found in "Theſaurus Chemicus," printed in 8vo. at Francfort, 1603, 1620; others are in MS. in the univerſity library of Leyden. His treatiſe "On the Means of avoiding the Inconveniences of Old Age," in which, being a regular courſe of life, he recommends the uſe of certain ſecret and extraordinary medicines, was firſt printed at Oxford in 1590, and afterward tranſlated into Engliſh, with notes, by Dr. Richard Browne, under the title of "The Cure of Old Age, and Preſervation of Youth," 8vo. 1683. Several tracts of friar Bacon, yet unpubliſhed, remain in MS.; a piece, bearing the title of "Liber Naturalium;" a treatiſe on Chronology, intitled, "Computus Rogeri Baconis;" and the "Compendium of Theology;" are to be ſeen in the King's library: and two other works, which the author called "Opus Minus," and "Opus Tertium," remain in the Cotton library; and other pieces might probably be found by diligent ſearch."

Although in the preſent advanced ſtate of literature and ſcience, we could not expect to derive much acceſſion to our means of knowledge from the publication and ſtudy of friar Bacon's works, yet as a diſplay of the aſtoniſhing powers of the human intellect, and as a valuable part of the hiſtory of knowledge, they ought to be preſerved and known. The want of a complete edition of his works is the leſs to be regretted, ſince the public have been put into poſſeſſion of his "Opus Majus," by Dr. Jebb.

From the brief account that has been given of the talents and performances of friar Bacon, it will appear, that he contributed, in a very eminent degree, to illuminate the dark age in which he lived, and to prepare the way, by emancipating the mind from the authority of Ariſtotle, and purſuing a plan of experiment and induction in the proſecution of ſcience, for thoſe diſcoveries and improvements, which have diſtinguiſhed a later period. Although allowance ſhould be made for the language of panegyric, which characterizes Bacon as the "brighteſt and and moſt univerſal genius that perhaps the world ever ſaw;" he muſt ever be regarded as a prodigy of learning and ſcience, and a very high rank muſt be aſſigned to him among thoſe who have been inſtruments of enlightening and reforming the world. Jebb's Pref. to Bacon's Opus Majus. Cave, H. L. t. ii. p. 325. Biog. Brit.

BACON, *Sir Nicholas*, an eminent lawyer, and lord keeper of the great ſeal in the reign of queen Elizabeth, was the deſcendant of an ancient and honourable family in the county of Suffolk, and born in the year 1510 at Chiſlehurſt in Kent. He was ſent at an early age to Corpus Chriſti or Bennet college at Cambridge, and finiſhed his education by travelling into France. Upon his return, he entered at Gray's inn, and diſtinguiſhed himſelf by the ſtudy of the law. By favour of Henry VIII. he obtained a grant of ſeveral manors in Suffolk, when the monaſtery of St. Edmondſbury was diſſolved; and was appointed attorney in the court of records; which office he retained during the reign of Edward VI. Having, by his prudence and moderation, eſcaped the dangers of the reign of Mary, he was honoured with knighthood on the acceſſion of queen Elizabeth; and in 1558, he was intruſted with the cuſtody of the great ſeal, and admitted a member of the privy council. He took an active part in the adminiſtration of this period, and was eminently inſtrumental in the ſettlement of religion. It has been ſaid, that he incurred the diſpleaſure of Elizabeth by

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joining the party that was adverſe to the title of the queen of Scots; but from "A Diſcourſe upon certain points touching the inheritance of the crown, conceived by ſir Anthony Brown, and anſwered by ſir Nicholas Bacon," publiſhed in 1723, by Nathaniel Bacthe, of Gray's inn, Eſq., from the original MS., it has been inferred, that ſir Nicholas Bacon was a moſt ſtrenuous aſſerter of the title of the queen of Scots, in oppoſition to ſir Anthony Brown, who had contended for the right of the houſe of Suffolk. However this be, he was placed by Elizabeth, in 1568, at the head of the commiſſion for hearing the diſputes between that unfortunate princeſs and her rebellious ſubjects; and in 1571, he again acted in the ſame capacity. From this time he was a principal agent in the counſels of Elizabeth, and by his inflexible adherence to the Proteſtant cauſe, ſhared the odium of the Popiſh faction in common with her other principal miniſters. As a ſtateſman, he manifeſted great ſkill in properly balancing the different parties, and it is thought that he inſtructed the queen in this art, which ſhe found ſo neceſſary and uſeful. In the chancery he diſtinguiſhed himſelf by a very moderate uſe of power, and by ſhewing great reſpect to the common law. His private as well as his public conduct was regulated with great diſcretion, and a moderate uſe of the fortune which he had acquired. His motto was "Mediocria firma," and he was accordingly content to be ſafe, but did not wiſh to be great. In his ſet ſpeeches he attained the reputation of uniting two oppoſite characters, viz. thoſe of a witty and a weighty ſpeaker. That he was not unduly exalted in his own opinion, notwithſtanding his eminent talents and preferment, appears from his modeſt anſwer to queen Elizabeth, when on a viſit to him at Redgrave, ſhe told him that his houſe was too little for him: "Not ſo, madam," replied ſir Nicholas, "but your majeſty has made me too great for my houſe." In deference to her majeſty's opinion, he added two wings to it; and he alſo indulged his taſte for building and gardening, at Gorhambury, near St. Albans, which was a manor taken from the ancient abbey of this place. Having retained his office of lord keeper for more than twenty years, with the reputation of a wiſe ſtateſman and faithful counſellor, he died, after an illneſs of a few days, on the twentieth of February 1579, in the ſixty-ninth year of his age. Of his writings there are extant in MS. ſeveral diſcourſes on topics of law and politics, and alſo a commentary on the twelve minor prophets. Biog. Brit.

Bacon, *Francis*, baron of Verulam, viſcount of St. Albans, and high chancellor of England in the reign of James I. the glory and ornament of his age and nation, was the ſon of ſir Nicholas Bacon, mentioned in the laſt article, by his ſecond wife Anne, the daughter of ſir Anthony Cook, tutor to king Edward VI.; and born in London on the twenty-ſecond of January 1561. In his childhood he manifeſted indications of ſingular genius, from which thoſe who converſed with him might have deduced preſages of his future attainments. In reply to queen Elizabeth, who aſked him how old he was, he inſtantly replied, "Juſt two years younger than your majeſty's happy reign;" and her majeſty, condeſcending frequently to converſe with him, and forming a high opinion of the ſolidity of his ſenſe, and the gravity of his behaviour, uſed pleaſantly to call him "her young lord keeper." At the age of thirteen, in the year 1573, he was entered a ſtudent in Trinity college, in the univerſity of Cambridge, where his progreſs under the tuition of Dr. John Whitgift, afterwards archbiſhop of Canterbury, was rapid and ſurpriſing. Before he had completed his ſixteenth year, he began to perceive the imperfections of the Ariſtotelian philoſophy, which was then the reigning ſyſtem, and probably to form deſigns of introducing a more rational and profitable method of purſuing philoſophical reſearches. To this purpoſe, we are aſſured by Dr. Rawley, who was his chaplain and biographer, and to whom he communicated ſeveral particulars relating to the earlier period of his life, that his objections againſt the prevalent philoſophy were not owing to any diſreſpect of Ariſtotle himſelf, of whom he entertained a very high opinion, but to the inutility of his philoſophy, which was calculated to produce and perpetuate diſputes, rather than to afford any ſubſtantial benefit to mankind; and theſe ſentiments of it he retained through life. In order to perfect his education, and to extend his knowledge of the world, his father ſent him to France, and placed him under the patronage of ſir Amias Pawlet, who was then the queen's ambaſſador at Paris. In this ſituation he gained the eſteem and confidence of ſir Amias to ſuch a degree, that he was intruſted by him with a commiſſion to the queen, which required both ſecrecy and diſpatch; and having executed this commiſſion in a manner highly honourable to himſelf, and equally ſatisfactory to the queen and ambaſſador, he returned to Paris, and from thence travelled through ſeveral of the provinces, for the purpoſe of gaining a more accurate and extenſive acquaintance with the manners and cuſtoms of the country. The reſult of his inquiries appears in a treatiſe, intitled "Of the ſtate of Europe," and written when he was no more than nineteen years of age. The unexpected death of his father obliged him to return ſuddenly from France, and to engage in ſome lucrative profeſſion. Accordingly he determined upon the profeſſion of the law, and entered himſelf in the Society of Gray's Inn, where by aſſiduous application he obtained ſuch a degree of reputation, that at the age of twenty-eight years he was appointed by the queen to the honourable office of her learned counſel extraordinary in the law. Whilſt he was ſtudying at Gray's Inn, and in the twenty-ſixth year of his age, he formed the plan of that great philoſophical work, afterwards completed, and intitled, the "Inſtauration of the Sciences," which will not only render his name immortal, but do honour to his age and country, as long as learning ſhall flouriſh. The title of the work which our author compoſed at this time, was "Temporis partum maximum," or the "Greateſt birth of time;" with reſpect to which it appears, from a letter written towards the cloſe of his life to father Fulgentio, a learned Italian, that he lived to regret the juvenile folly and vain confidence which led him to prefix to it this pompous title. Theſe rudiments of Bacon's philoſophy have been ſuppoſed to be loſt; but it has been ſuggeſted (ſee Mallet's edition of Bacon's works, Append. to vol. i. p. 17.) that they probably remain under the more modeſt title "Of the Interpretation of Nature," and that philoſophers may ſtill have the pleaſure of tracing the ſteps by which this great genius advanced from one diſcovery in ſcience to another in forming and eſtabliſhing his ſyſtem.

From the high rank of a philoſopher, in which Bacon appears with acknowledged pre-eminence, we are obliged to deſcend, in tracing the outlines of his hiſtory, to the level of ordinary men, and to contemplate him as an humiliating example of human frailty. Reduced by his father's death to circumſtances which rendered it neceſſary for him either to purſue his philoſophical ſpeculations in obſcure retirement, or to become an obſequious dependant on the court; he unfortunately choſe the latter alternative. Allied by marriage to the lord treaſurer Burleigh, and to his ſon Robert Cecil, principal ſecretary of ſtate, he indulged reaſonable expectations of advancement; but his friendſhip for the earl of Eſſex, Cecil's avowed enemy, interpoſed an obſtacle in the way of his

his preferment. The intereſt of lord Burleigh procured for him merely the reverſion of the office of regiſter to the ſtar-chamber, worth about 1600l. a year, which he did not obtain for twenty years. In 1594, Cecil repreſented him to the queen as a man wholly devoted to ſpeculation, and prevented his being advanced to the poſt of ſolicitor-general, which the earl of Eſſex endeavoured to procure for him; but as a compenſation for this diſappointment, the earl preſented him with a landed eſtate, which was afterwards ſold, at leſs than its value, for 1800l. Bacon, however, after this ſingular expreſſion of friendly attachment on the part of Eſſex, proved ungrateful; and in the moment of diſgrace abandoned his friend and benefactor; preſſed againſt him on his trial for high treaſon; produced evidence to his injury from his letters; and after his execution, vindicated the conduct of adminiſtration, in an appeal to the public, under the title of "A Declaration of the Treaſons of Robert earl of Eſſex." In this "Declaration" there occurred ſome apparent marks of tenderneſs for the reputation of Eſſex, which led the queen to obſerve to him, that "old love could not eaſily be forgotten;" but whilſt they proved that he was counteracting his feelings by his conduct, they were inſufficient to exculpate the baſeneſs of his ingratitude. His conduct on this occaſion excited againſt him ſuch general diſſatisfaction, that he found it neceſſary to write an elaborate defence under the title of "Apology;" but no art or eloquence could avail to ſtifle the public indignation. From the queen he received no additional honours or emoluments during the remainder of her reign; and to perſons in power he was an object of jealouſy and averſion.

In public concerns, however, he acted with firmneſs and dignity. Having been choſen, in 1593, to repreſent the county of Middleſex in parliament, he took the popular ſide, though a ſervant of the crown, againſt her majeſty's miniſters; and in the queſtion of ſubſidies, to which he indeed aſſented, he delivered a ſpeech, the freedom of which offended the queen, and prevented his advancement. Towards the end of her reign he became more ſervile in his parliamentary conduct; for which his only plea was his poverty, and debts which he had incurred, and for which he had been twice arreſted.

Upon the acceſſion of James I. Bacon was diſtinguiſhed by the favour of his new ſovereign, and in 1603 received the honour of knighthood. In the firſt parliament of this reign, he regained his popularity by undertaking the redreſs of grievances, ariſing from the exactions of the royal purveyors; and in the conduct of this buſineſs he gave ſatisfaction both to the houſe and to the king. From the former he received a vote of thanks, and from the latter a patent to be one of the king's counſel, with a ſalary of 40l. a year, accompanied with a penſion from the crown of 60l. a year, for ſpecial ſervices rendered by his brother Anthony Bacon and himſelf. Notwithſtanding the oppoſition of Cecil, now earl of Saliſbury, and of ſir Edward Coke, attorney-general, he purſued with ſteady perſeverance his plans of advancement; and by promoting the king's favourite object of an union between the two kingdoms, and by publiſhing, in 1605, one of his moſt important works "On the advancement of learning," he ſo far ſucceeded in gaining the favour of his royal maſter, that in 1607 he was appointed to ſupply the place of ſir John Doddridge, as ſolicitor-general. His practice alſo was at this time very extenſive and profitable, and he alſo improved his fortune by marriage with the daughter of Benedict Barnham Eſq. a wealthy alderman of the city of London. Whilſt he diſplayed his eminent talents both in the ſenate and in the courts, he was not inattentive to his grand philoſophical ſpeculations and purſuits. Of the outline of his intended work he circulated copies, under the title of "Cogitata et viſa," in order to obtain the animadverſions of the learned; and in 1610, he publiſhed his treatiſe, intitled, "Of the Wiſdom of the Ancients." In 1611, he was appointed one of the judges of the Marſhalſea court, and about the ſame time became regiſter to the ſtar-chamber, granted to him by Elizabeth in reverſion; and in 1613, he was made attorney-general. In the exerciſe of this office he ſupported the arbitrary power of government in ſome of the ſtate trials; but on various other occaſions he performed his duty with fidelity, and was active in his exertions for ſuppreſſing the ſavage practice of dueling.

Notwithſtanding the affluence of his circumſtances and income, his prodigality rendered him indigent; and his ambition, which led him to aſpire after the firſt dignity in the law, concurring with his penury, induced him to ſeek it by culpable ſervility and artifice. With this view he cultivated the friendſhip of George Villiers, afterwards duke of Buckingham, the king's favourite; and having ſelfiſh ends to ſecure, this friendſhip on his part degenerated into a mean and crouching ſervility. Apprehending the ſpeedy death of the lord chancellor, he not only petitioned the king for this high office, but baſely traduced the talents and character of thoſe who were likely to be his competitors, and enforced his application by avowing his ready obedience, and his power of influencing the lower houſe of parliament. His ſolicitation, ſeconded by the intereſt of the earl of Buckingham, prevailed; and in March 1617, he was honoured with the ſeals, and the title of lord keeper. In the beginning of 1619, he was created lord high chancellor of England, and baron of Verulam, which title was exchanged, in the following year, for that of viſcount of St. Albans. In this year, viz. in 1620, he preſented the world with a work, which he had been twelve years in completing, his "Novum Organum," or the ſecond part of his grand "Inſtauration of the Sciences." The high department in the law, which he ſought with ſo much anxiety, and with ſuch ſacrifices of perſonal honour, proved in the iſſue an occaſion of vexation and diſgrace. By oppoſing the propoſed treaty of marriage between Charles prince of Wales, and the infanta of Spain, he offended the king; and by endeavouring to prevent the marriage of ſir John Villiers, Buckingham's brother, and ſir Edward Coke's daughter, he diſpleaſed the favourite. The miſunderſtanding occaſioned by both theſe circumſtances ſoon ſubſided; and whilſt he increaſed his aſſiduity in promoting the private intereſt of his royal maſter, he countenanced and encouraged the rapacity of Buckingham, by affixing the great ſeal to patents that were intended to be inſtruments of extortion. At length his conduct in various circumſtances, involving his own pecuniary advantage, became ſo atrocious, that national juſtice demanded an inquiry. The parliament, ſummoned by James at the beginning of the year 1613, for the purpoſe of obtaining legal ſupplies, entered on this buſineſs; and as they proceeded, the king encouraged them to perſevere. "Spare none," ſaid he, "where you find juſt cauſe to puniſh." The further they extended their inquiries, new occaſions of complaint preſented themſelves, and theſe furniſhed materials for a parliamentary accuſation. Accordingly, the cauſe was tranſferred to the houſe of lords, and twenty diſtinct charges of corruption and bribery, amounting to ſeveral thouſand pounds, were exhibited before the ſelect committee. The chancellor was alarmed, and earneſtly ſolicited the king's protection. A ſhort receſs of parliament delayed his danger; but this temporary expedient ſerved only to aggravate the evil, and to increaſe the public clamour. Wiſhing to evade a minute inquiry, the humbled culprit addreſſed a ſubmiſſive letter to the houſe of lords, and exerted all

all his powers of eloquence to induce the peers to content themſelves with diſmiſſing him from the high office which he had diſgraced. They inſiſted, however, on a particular confeſſion, reſpecting each article of bribery and corruption of which he was accuſed; and the chancellor confeſſed his guilt with regard to moſt of the twenty-three articles of corruption which were exhibited againſt him, whilſt he extenuated ſome of them, and again threw himſelf on the mercy of the houſe. Upon being aſked whether the confeſſion which had been read was written by his own hand, he replied, "It is my act, my hand, my heart; I beſeech your lordſhips to be merciful to a broken reed." The houſe moved his majeſty to ſequeſter the ſeals, which was accordingly done; and then proceeded to paſs ſentence; which was, "That the lord viſcount St. Albans, lord chancellor of England, ſhall undergo fine and ranſom of 40,000l.; that he ſhall be impriſoned in the Tower during the king's pleaſure; that he ſhall for ever be incapable of any office or employment in the ſtate or commonwealth; and that he ſhall never ſit in parliament, or come within the verge of the court." This ſentence, ſevere as it may ſeem, and for which collateral cauſes have been alleged, was the reſult of the ſtrict exerciſe of juſtice. Thus degraded under a juſt ſentence, we cannot forbear pitying a man, who, among other crimes, ſuffered his ſervants to become the inſtruments of his ruin; and who in paſſing by ſeveral of his retinue, that ſtood up to ſalute him, ſarcaſtically ſaid to them; "Sit down, my maſters; your riſe has been my fall."

Thus degraded and baniſhed into ſolitude, reproached by his own mind as well as by the public cenſure, and depreſſed by a load of debt, he retained the vigour of his faculties to ſuch a degree, that he returned with ardour to his favourite purſuits, and produced various writings of ſingular merit in hiſtory, morals, and philoſophy. Through all the viciſſitudes of his life, he kept in view the great object of the improvement of ſcience, to which his attention was directed in the early period of his youth. From contemplating the examples of Demoſthenes, Cicero, and Seneca, who, like himſelf, had occupied high ſtations, had fallen into delinquency, and had been baniſhed into retirement, he derived conſolation; and in imitation of them, he determined to devote the remainder of his time to philoſophy, and writing. He might, indeed, have adopted the language in which Cicero addreſſes philoſophy: "Ad te confugimus; a te opem petimus; tibi nos, ut antea magnâ ex parte, ſic nunc penitus totoſque tradimus." "To thee I fly; from thee I ſeek ſupport; to thee I devote myſelf, as formerly in part, ſo now entirely and altogether." It is obſerved, however, that neither philoſophy nor experience had taught Bacon a leſſon of moderation. After his releaſe from confinement in the Tower, which was ſoon granted him, and the entire remiſſion of his ſentence gradually obtained, he poſſeſſed a royal penſion of 1200l. a year, in addition to 600l. a year, accruing to him from the alienation office, and 700l. a year derived from his own eſtate; but he lived with a magnificence and ſplendor which had no bounds. In his way to London, his coach was attended by a number of attendants on horſeback; he was met by the prince of Wales, who aſked whoſe equipage it was, and being told that it was lord St. Albans, attended by his friends, his highneſs remarked; "Well, do what we can, this man ſcorns to go out like a ſnuff." With ſuch prodigality, it is no wonder that at his death his debts ſhould have amounted to 22,000l. As an inſtance of his humility, we may cite his reply to the French ambaſſador, who upon reading a French tranſlation of his Eſſays, paid him the fulſome compliment of comparing him to angels; "If the politeneſs of others compare me to an angel, my own infirmities remind me that I am a man:" and of ſelf-command we have a ſingular diſplay in his behaviour, when he received information by a friend that his application for an important favour at court had proved unſucceſsful; at this time he was dictating to his chaplain an account of ſome experiments in philoſophy, and he calmly ſaid, "Be it ſo;" and diſmiſſing his friend with thanks for his ſervice, he turned to his chaplain, ſaying; "Well, Sir, if that buſineſs will not ſucceed, let us go on with this, which is in our power;" and he continued to dictate to him for ſome time, without heſitation of ſpeech, or interruption of thought.

Lord Bacon purſued his philoſophical reſearches to the laſt, in the midſt of bodily infirmities, occaſioned by intenſe ſtudy, multiplicity of buſineſs, and, above all, by anxiety and anguiſh of mind. In the winter of 1625, his health and ſpirits were much impaired; but in the following ſpring he made an excurſion into the country, for the purpoſe of making experiments on the preſervation of bodies. Having expoſed himſelf imprudently to noxious effluvia, he was ſuddenly ſeized with pains in his head and ſtomach, which made it neceſſary for him to ſtop at the earl of Arundel's houſe at Highgate. Here he fell ſick of a fever, and, after a week's illneſs, expired on the ninth of April 1626, in the ſixty-ſixth year of his age. In a letter addreſſed to the nobleman in whoſe houſe he expired, he compares himſelf to the elder Pliny, who loſt his life by approaching too near to mount Veſuvius during an irruption. He was buried in the chapel of St. Michael's church, within the precincts of Old Verulam. Verſes to his memory were written in various languages by the moſt eminent ſcholars of the univerſity of Cambridge; but the moſt honourable memorial of this great man is found in his immortal writings.

Before we can duly appretiate the value of lord Bacon's philoſophical works, we ſhould duly conſider the ſtate of philoſophy, and the method of purſuing ſcience which prevailed, at the period in which he lived. The authority of Ariſtotle was abſolute; his logic, phyſics, and metaphyſics, were the principal guides in all ſcholaſtic diſquiſitions; and the ſcience that was principally cultivated was ſuch as conſiſted of words and notions, and ſeemed to exclude the ſtudy of nature. Inſtead of inveſtigating the properties of bodies and the laws of motion by which all effects are produced, this ſcience, or philoſophy, if it may be ſo called, was converſant about logical definitions and diſtinctions, and about ſpeculations that were altogether barren and unprofitable. This kind of captious philoſophy was not only uſeleſs, but a real obſtacle to all advances in ſound learning, human and divine. Some few perſons, indeed, had before the time of lord Bacon ventured to diſſent from Ariſtotle; and the fields of natural knowledge had been cultivated and improved by friar Bacon, Galileo, Copernicus, and others. But there was ſtill wanting one great and comprehenſive plan that might embrace the almoſt infinite varieties of ſcience, and guide our inquiries aright in all. This, lord Bacon firſt conceived in its utmoſt extent, to his own laſting honour, and to the general advantage of mankind. To him belongs the praiſe of having invented, methodiſed, and in a conſiderable degree perfected, this general plan for the improvement of natural ſcience by the only ſure method of experiment. With a mind commanding and comprehenſive, prompt in invention, patient in inquiry, and ſubtle in diſcrimination, neither affecting novelty nor idoliſing antiquity, he formed and in a great meaſure executed his grand plan, "The Inſtauration of the Sciences." This plan comprehended *ſix* capital parts. Of theſe, the *firſt* part propoſes a general ſurvey of human knowledge, and is executed in the admirable treatiſe, intitled, "The Advancement of Learning." He begins with

with accurately reviewing the ſtate of learning as it ſtood through all its provinces and diviſions; that he might not loſe himſelf on a ſubject ſo vaſt and of ſuch variety, he ranges, according to the three faculties of the ſoul, memory, fancy, and underſtanding, the ſeveral ſciences and arts under three great claſſes, hiſtory, poetry, and philoſophy. He obſerves and points out defects and errors; and then ſuggeſts proper means for ſupplying omiſſions and rectifying miſtakes. At the end of this treatiſe he has marked out in one general chart the ſeveral tracts of ſcience that lay ſtill neglected or unknown.

The *ſecond*, and the moſt conſiderable part, is the "Novum Organum," or new method of employing the reaſoning faculties in the purſuit of truth. Here our author offers to the world a new and better logic, calculated not to ſupply arguments for controverſy, but arts for the uſe of mankind; not to triumph over an enemy by the ſophiſtry of diſputation, but to ſubdue nature itſelf by experiment and inquiry. Rejecting ſyllogiſm as a mere inſtrument of diſputation, and finding no certainty in the hypothetical ſyſtems of ancient philoſophy, the author recommends and explains the more ſlow but more ſatisfactory method of induction, which ſubjects natural objects to the teſt of obſervation and experience, in order to furniſh certain facts as the foundation of general truths.

The *third* part is the "Sylva Sylvarum," or hiſtory of nature, which furniſhes materials for a natural and experimental hiſtory; upon which the organ, or the inſtrument, which the author has provided for the inveſtigation of nature, may be employed. The phenomena of the univerſe are ranged in this repoſitory under three principal heads, viz. the hiſtory of generations or the production of all ſpecies, according to the ordinary laws of nature; that of preter-generations, or births deviating from the ſtated rule; and the hiſtory of nature as confined or aſſiſted, changed or tortured by the art of man. Of ſuch a hiſtory the uſe is either to acquire the knowledge of qualities in themſelves, or to ſerve for the firſt matter of a true and uſeful philoſophy. The facts and obſervations that are here collected together are poſſibly not always correct; but they are valuable, as they furniſh a pattern of the manner in which ſuch reſearches ſhould be purſued.

The *fourth* part, or "Scala Intellectus," is a ſeries of ſteps by which the underſtanding might regularly aſcend in its philoſophical inquiries; and it is evidently intended as a particular application and illuſtration of the author's method of philoſophiſing.

The *fifth* part, or "Anticipationes Philoſophiæ ſecundæ," was deſigned to contain philoſophical hints and ſuggeſtions, but nothing of this remains beſides the title and ſcheme.

The *ſixth*, and ſubliméſt part, was propoſed for exhibiting the univerſal principles of natural knowledge, deduced from experiments, in a regular and complete ſyſtem; but this the author deſpaired of being himſelf able to accompliſh. Having laid the foundation of a grand edifice, he left the ſuperſtructure to be completed by the united and continued labours of philoſophers in future ages.

Among the more popular works of lord Bacon, the principal are his "Hiſtory of Henry VII." which, allowing for ſome faults, and particularly for its partiality to Henry, with a view of flattering his grandſon James, at whoſe deſire it was written, may be juſtly admired for vigorous conception and energy of language; his "Wiſdom of the Ancients," in which he endeavours, with greater ingenuity than ſolidity, to unveil the hidden ſenſe of the fables of antiquity; his "Moral Eſſays," containing many juſt reflections on ſubjects, which, in the author's own phraſeology "come home to men's buſineſs and boſoms;" and his law tracts, ſpeeches, letters, and other miſcellaneous papers, relative to perſonal or public affairs, and abounding with curious and intereſting matter. Theſe valuable writings, which were gradually collected, have been repeatedly publiſhed on the continent in Latin. An edition in folio was printed at Francfort in 1665; and another by Arnold at Leipſic, in 1694. They have paſſed ſeparately and collectively through ſeveral editions in Engliſh; in 1740, they were publiſhed in 4 volumes, folio; but the moſt complete edition is that printed at London in 1778, in five volumes, quarto.

The character of lord Bacon ſeems to be pretty fully delineated by Mr. Hume in his Hiſtory, vol. vi. p. 52. He repreſents him as "a man univerſally admired for the greatneſs of his genius, and beloved for the courteouſneſs and humanity of his behaviour. He was the great ornament of his age and nation; and nought was wanting to render him the ornament of human nature itſelf, but that ſtrength of mind which might check his intemperate deſire of preferment that could add nothing to his dignity, and reſtrain his profuſe inclination to expence that could be requiſite neither for his honour nor entertainment. His want of œconomy, and his indulgence to ſervants, had involved him in neceſſities; and, in order to ſupply his prodigality, he had been tempted to take bribes, and that in a very open manner, from ſuitors in chancery." "If we conſider," ſays he, "the variety of talents diſplayed by this man; as a public ſpeaker, a man of buſineſs, a wit, a courtier, a companion, an author, and a philoſopher, he is juſtly the object of great admiration." He adds; "if we conſider him merely as an author and philoſopher, the light in which we view him at preſent, though very eſtimable, he was yet inferior to his cotemporary Galileo, perhaps even to Kepler." "The national ſpirit," adds Hume, "which prevails among the Engliſh, and which forms their great happineſs, is the cauſe why they beſtow on all their eminent writers, and on Bacon among the reſt, ſuch praiſes and acclamations as may often appear partial and exceſſive." In anſwer to theſe ſtrictures it has been juſtly obſerved (Brit. Biog. vol. iv. p. 154.) that "Galileo was undoubtedly an illuſtrious man, and Kepler an admirable aſtronomer; but though we admit their ſuperiority in aſtronomy, mechanics, and ſome particular branches of phyſical knowledge, it does by no means follow that either of them was a greater philoſopher than Bacon. The praiſe of Bacon is founded not upon his ſkill in this or that particular branch of knowledge, but on his great and comprehenſive underſtanding, which took in almoſt the whole extent of univerſal ſcience. And he was ſo little indebted to the partiality of his countrymen, that his writings appear, for ſome time at leaſt, to have been more eſteemed and admired in foreign countries than in England."

Mrs. Macaulay expreſſes in very ſtrong terms her abhorrence of his character, when ſhe ſays (vol. i. p. 157.), that "philoſophy itſelf was degraded by a conjunction with his mean ſoul." But with reſpect to the ſtrength and extent of his genius, this female writer ſays, "his precious bequeſts to poſterity paint them ſtronger than can any other pen." It muſt however be confeſſed, that it was ſome diſcredit to Bacon, that he could not perceive the reaſonableneſs of the ſyſtem of Copernicus; but perhaps he underſtood leſs of aſtronomy, and was leſs ſenſible of its deficiencies, than of any other part of ſcience and philoſophy. With confidence in the merit of his own productions, and aſſuring himſelf of poſthumous fame, lord Bacon introduces in his laſt will this remarkable paſſage:—"My name and memory I leave to foreign nations; and to mine own countrymen, after ſome time is paſſed over." Upon the ſuperſtructure that has been raiſed on the foundation of experimental philo-

loſophy which he has eſtabliſhed, this inſcription will be read, ſays one of his biographers, by diſtant poſterity, "BACON, THE FATHER OF EXPERIMENTAL PHILOSOPHY."

Upon the whole, in contemplating the character of Bacon, excluſively of his inconteſtible merit as a philoſopher, notwithſtanding all the allowances that are made in his favour, from the ſpirit of the times, from his own peculiar circumſtances, and from other conſiderations, yet, when we call to mind his ſlaviſh ſubmiſſion in general to the will of the crown, and eſpecially his ingratitude to Eſſex, and his corruption as a judge, we are conſtrained, though not without great regret, to acquieſce in the juſtice of the deſcription given of him by Mr. Pope, (Eſſ. on Man, ep. iv. v. 277.)

"If parts allure thee, think how Bacon ſhin'd,
The wiſeſt, brighteſt, meaneſt of mankind."

Acknowledging the propriety of this repreſentation, we may infer from it the infinite ſuperiority of the purſuits of intellect above thoſe of ambition. "Had Bacon contented himſelf with being a philoſopher, without aſpiring after the honours of a ſtateſman and a courtier, he would have been a greater and a happier man." Mallet's Life of lord Bacon, prefixed to the edition of his works, 1753. Brucker's Hiſt. Phil. by Enfield, vol. ii. p. 520, &c. Biog. Brit. Gen. Biog.

Though not a practical muſician, nor a writer *ex profeſſo* on the muſical art or ſcience, yet it is ſo manifeſt by his Nat. Hiſt. cento ii. that he had done muſic the honour to beſtow much meditation on the theory of ſound, we are proud to devote to him an article among muſic's benefactors.

He treats of the philoſophy or production of ſound, not by calculation, but by obſervation and experiments on Nature herſelf. He does not call octaves *replicates* (which is a Galliciſm), but a recurrency. He thinks (and thinks rightly), that our not cultivating quarter tones, or enharmonic, is from their not being capable of harmony; and it ſeems a proof, among others, that the ancient Greeks had no harmony, or muſic in parts.

He ſpeaks of ſliding from one ſound to another by ſmall degrees, which are delightful. This we uſed to think a refinement of late times.

The *clavecin oculaire*, or ocular harpſichord of Pere Caſtel, was certainly ſuggeſted to him by the experiment, N° 3, ſecond cent.

The powers of ſound on the ſpirits and affections; that ſound depends on motion; that the incloſure of ſound increaſes its force; that the tone of voice at the ſame pitch is of a different quality in a room, and in the open air, and in different rooms, are his diſcoveries. He denies, indeed, what was afterwards proved by the air-pump, that ſound cannot be produced in an exhauſted receiver.

Sound is carried along a wall better than in open ſpace; and better on the ſmooth ſurface of a river or piece of water, than on land.

Dr. Holder, in his Elements of Speech, has but ingeniouſly extended one of ſir Francis Bacon's experiments.

Derham's experiments on the propagation and motion of ſound, were pointed out by the 201ſt experiment of ſir Francis.

The late honourable Daines Barrington's experiments on birds, their power of imitation, and of teaching each other, ſeem to have ſprung from ſir Francis's experiments on the imitation of ſound, cent. iii.

Conſent of viſibles and inviſibles, advances ſomewhat further towards an ocular harpſichord.

The *ſons harmoniques*, which Galileo and father Merſennus were obſerving about this time, had not eſcaped the penetrating and active mind of our great philoſopher; and the *acouſticon*, or ear-trumpet, is here firſt pointed out, N° 285.

His reflection at the end of N° 290, ſhall cloſe this article.

"We have laboured, as may appear in this diſquiſition of ſounds, diligently; both becauſe ſound is one of the moſt hidden portions of nature, and becauſe it is of a virtue that may be called incorporeal and immateriate; whereof there be in nature but few. Beſides, we were willing, now in theſe our firſt centuries, to make a pattern or precedent of an exact inquiſition, and we ſhall do the like hereafter on ſome other ſubjects that require it. For we deſire that men ſhould learn and perceive, how ſevere a thing the true diſquiſition of nature is; and ſhould accuſtom themſelves by the light of particulars to enlarge their minds to the amplitude of the world, and not reduce the world to the narrowneſs of their minds."

BACON, in *Geography*, a town of Perſia, in the province of Segeſtan; 90 miles N. N. E. of Zareng.

BACONE, a town of Italy, in the duchy of Tuſcany, 28 miles N. E. of Florence.

BACONTHORP, or BACON, JOHN, in *Biography*, an Engliſh monk of the thirteenth century, was born at Baconthorp, a village in Norfolk, and aſſumed the monaſtic habit in the convent of Blackney in the ſame county. He received his education at Oxford and Paris; and in his youth was attached to the philoſophy of Averroes, who taught that one intelligent principle animates all human beings. At a general aſſembly of the order of Engliſh carmelites held in London in 1329, he was choſen one of their provincials. Being invited to Rome about four years afterwards, he gave offence by allowing, in public diſputation, too much latitude in the marriage of perſons mutually related. But he afterwards maintained, that in degrees of conſanguinity prohibited by the divine law, the pope has no diſpenſing power. His ſtature was ſmall; hut his mind was eminently vigorous and active. He was diſtinguiſhed through life by the appellation of the "Reſolute Doctor;" and after his death he was celebrated both in proſe and verſe, as a zealous defender of the Catholic faith againſt Jews, Turks, and Heretics. Some few of the many books which he wrote were printed; among theſe were "Commentaries, or Queſtions on the four books of Sentences," Milan, 1510, and 1611; and "A Compendium of the Law of Chriſt," Venice, 1527. He died at London in 1346. Cave, H. L. vol. ii. Appendix, p. 27. Biog. Brit.

BACOPA, in *Botany*. Lin. gen. Schreb. n. 266. Aubl. 49. Juſſ. 313. Claſs, *pentandria monogynia*. Nat. Ord. *ſucculentæ: portulaceæ*, Juſſ. Gen. Char. *Cal.* perianth one-leafed, five parted; two of the parts oblong, concave, acute; the two inferior deflex, ovate, acute; the ſingle ſuperior one broader, roundiſh, undulated. *Cor.* one-petalled; tube ſhort, towards the orifice a little enlarged; border five-parted; parts ovate, oblong, obtuſe, equal, ſpreading. *Stam.* filaments five, inſerted into the tube of the corolla; anthers ſagittate. *Piſt.* germ ovate, compreſſed, below incruſted by the calyx growing to it; ſtyle ſhort; ſtigma headed. *Per.* capſule one-celled. *Seeds* many, extremely ſmall.

Eſſ. Gen. Char *Cor.* with a ſhort tube, ſpreading at the top. *Stam.* inſerted into the tube of the corolla; ſtigma headed, capſ. one-celled.

Species, 1. B. *aquatica*. Aubl. Guian. 129. t. 49. This plant puts forth ſeveral cylindric, ſucculent, knotty ſtems; leaves oppoſite, ſtem claſping or rather connate, thick, oblong, concave, ſharp, ſmooth; flowers ſolitary, peduncled, alternate from the axillæ; below the calyx there ſtands a pair of fleſhy bractes on the long peduncle; corolla blue,

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It puts forth roots from the knots, both as it runs along the ground, and as it lies on the ſurface of the water. A native of Cayenne, on the borders of rivulets, flowering in December. The inhabitants of the iſland call it *herbe aux brulures*, on account of its being uſed for curing burns.

BACQUERE, Benedict, in *Biography*. Of this writer, who lived towards the end of the ſeventeenth century, but of whoſe life no memorials have come to us, we have a much eſteemed work, "Salvator Senum," publiſhed 1672; and, if it is not the ſame work, "Senum Medicus, præſcribens obſervanda, ut ſine magna moleſtia ſenectus protrahatur." Colon. 1673, and 1683, 8vo. Haller Bib. Med. Pract. Monſ. Carrera ſays, that Bacquere was profeſſor of theology, and prior of the abbey of Dunes, which Eloy obſerves is very probable, as at the end of the directions for the preſervation of the health of aged perſons, is another work intitled, "Salvator Senus, remedia ſuggerans pro Senum ſalute eterna." Eloy. Diction. Hiſt. De la Med. v. i. p. 242.

BACQUET, John, a learned French lawyer, was advocate to the king, and flouriſhed at the cloſe of the ſixteenth century. He wrote many excellent law-tracts, which were publiſhed with notes by Ferriere at Lyons, in 2 vols. folio, in 1744. He died in 1597. Nouv. Dict. Hiſtor.

BACTISHUA, or Bokt Jesu, *Servants of Jeſus*, a Chriſtian family famed in the Eaſt for their knowledge of phyſic.

Bactishua, George, the firſt of the family of whom we have any account, who beſides his ſkill in medicine, was eminent for his proficiency in the Perſian and Arabian languages, received his education at Jondiſabur, or Niſabur, the capital of Koraſan. Sapores king of the Perſians is ſaid to have built this city, A. C. 272, in honour of his queen, the daughter of the emperor Aurelian, who ſent with her ſeveral Greek phyſicians. Theſe men, ſettling there, received and propagated the doctrines of Hippocrates, in the eaſt, and hence, Freind conjectures, it happened, that moſt of the celebrated Arabian phyſicians, Rhazes, Haly Abbas, Avicenna, were educated in the more eaſtern parts of Aſia. George, being ſent for to Bagdad, by Almanzor, the ſecond caliph of the houſe of Abbas, to relieve him of a complaint of his ſtomach, in which he was ſucceſsful, was detained there, and at the deſire of the caliph, tranſlated ſeveral books of phyſic; and when, on account of his ill health, he deſired leave to return to his country, Almanzor ſent him home with great honour, and a reward of 10,000 aurei. Rhazes and Serapion have recorded in their works many of the maxims and medicines of George. The anſwer was remarkable which he made to Almanzor, who had condeſcended to ſolicit his converſion from Chriſtianity to Mahometaniſm, and offered to inſure him a place in paradiſe upon his compliance. "No," replied the doctor, "I am very well contented to go wherſoever my forefathers have gone, be it to heaven or to hell." Ruſſel's Aleppo, vol. ii. Append. p. 5.

Gabriel, the ſon of *George*, was in equal eſtimation with the caliph Haroun Al Raſchid, whom he cured of an apoplexy, by directing him to be blooded, which was performed, though contrary to the opinion of the other phyſicians. Freind annexed to his Hiſtory of Phyſic, the life of Gabriel, tranſlated into Latin, from the Arabic of Abi-Oſbai. The tranſlation was performed at the expence of Dr. Mead. The work is principally remarkable for the extravagant praiſes beſtowed on Gabriel, and the account of the high honours and prodigious wealth heaped by the caliphs on their phyſicians. Freind's Hiſtory of Phyſic, vol. ii. Haller. Bib. Med. Pract. For an account of others of this family, which in ſucceſſion ſupplied the caliphs with phyſicians for above two centuries; ſee Ruſſel's Aleppo (ubi ſupra).

BACTRIA, or Bactriana, in *Ancient Geography*, a country of Aſia, was bounded on the weſt by Margiana and Aria, on the north by the river Oxus, which ſeparated it from Sogdiana, on the ſouth by the mountains called Paropamiſus, which covered the north of India, and on the eaſt by mountains which ſeparated it from Aſiatic Scythia and the country of the Maſſagetæ. It comprehended the preſent provinces of Balk and Gaur, and probably, ſays major Rennell, part of Koraſan. It was a large, fruitful, and well-peopled country, and contained, according to Ammianus Marcellinus (l. xxiii.), a great number of cities mentioned by the ancients; but the metropolis was *Bactra*, called alſo Zariaſpa, and now Balk, from which, or from the river Bactrus, the country derived its name. Quintus Curtius (l. vii. c. 4.) deduces the name both of the city and country from the river Bactrus, which watered the environs of the capital. Pliny (l. vi. c. 15, 16.) places Bactra on the river Zariaſpe; and Curtius, on the Bactrus, at the foot of mount Paropamiſus; but Ptolemy deſcribes it as ſituated on the river Dargidus, in the heart of the country, at a great diſtance from this mountain, which was the ſouthern boundary. The chief rivers of Bactria, with regard to the names of which there is conſiderable confuſion, were the Oxus, the Ochus, the Orgomenes, or as Ptolemy calls it, Dargomenes, which, uniting with the Ochus, fell into the Oxus; the Zariaſpa, or Zariaſpes; the Artemis; and the Dargidus. That part of Bactria, which was watered by the river Oxus, is deſcribed by the ancients as a very fruitful country, abounding with paſtures, and well ſtocked with cattle of a very large ſize; but the ſouthern parts were ſandy deſerts, through which travellers journeyed only in the night, being under a neceſſity of guiding themſelves by the ſtars, as if they were at ſea, and expoſed to the danger of being buried in the ſand. The country was inhabited by the following nations: the Salatræ and Zariaſpæ; the Chomari, or Comarians, placed by Ptolemy near the ſources of the Jaxartes, toward the eaſtern boundaries of Sogdiana; the Comi; the Acinacæ; the Tambazæ, or Tambyzi; the Thocaræ, or Tochari, who were mountaineers on the declivity which regards Bactriana, whence the modern Tokareſtan; the Maryeani; the Scordæ; the Varni; the Aradæ; the Orſippi; the Amariſpii, and ſome others. The Bactrians in general were reckoned good ſoldiers, and were always at war, either among themſelves, or with the neighbouring nations. Herodotus ſays they were archers, and uſed bows made of their country reed or cane, and had ſhort darts. In other reſpects they were accoutred, like the Medes, who wore tiaras, tunics, and breeches, with a dagger at their girdles. They were enemies to every kind of luxury. Pliny informs us, that they uſed to expoſe their old people after a certain age, to be devoured by fierce maſtiffs, which they kept for that purpoſe, and called ſepulchral dogs. He adds, that they allowed their daughters to aſſociate with any whom they liked, and that incontinence was not diſreputable even to the women.

The early hiſtory of Bactria is, like that of other ancient nations, involved in conſiderable obſcurity and uncertainty. According to Diodorus, the Bactrian government, in the earlier ages, was monarchical. Zoroaſter is ſaid by Euſebius (in Chron.) to have reigned in Bactria, and to have been contemporary with Ninus, who made war upon him, and ſubdued his country. But Cteſias, followed by Diodorus, mentions one Oxyartes, who reigned in Bactria, when that country was reduced by Ninus, and he ſays that Zoroaſter was contemporary with Cyrus the Great. But the hiſtory of this Perſian lawgiver is loſt in remote antiquity. It has been aſſerted by ſome writers, that Ninus ſubdued all Aſia, except India and Bactriana. However this be, all authors

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are agreed, that Bactria was ſubdued, firſt by the Aſſyrians, and afterwards by the Perſians under Cyrus the Great. After the overthrow of the Perſian empire by Alexander (B. C. 328.), it fell under the power of the Macedonians, and was held by the ſucceſſors of Seleucus Nicator, till the reign of Antiochus Theos, when Theodotus, about the year B.C. 249, from being governor of that province, became king, and ſtrengthened himſelf ſo effectually in his new kingdom, while Antiochus was engaged in a war with Ptolemy Philadelphus, king of Egypt, that he could never afterwards diſpoſſeſs him of his acquiſitions. He was ſucceeded by his ſon Theodotus, who, ſtrengthening himſelf by an alliance with Arſaces, the founder of the Parthian monarchy, conſiderably enlarged his kingdom. Theodotus, being vanquiſhed by Euthydemus, was expelled the kingdom; and Euthydemus was ſucceeded by his brother Menander, who extended his conqueſts to ſeveral countries that were unknown to Alexander the Great. The poſſeſſions which Menander had reduced were retained by his nephew and ſucceſſor Demetrius, and enlarged by ſeveral new acquiſitions. Having left the kingdom of Bactria in a very flouriſhing condition, he was ſucceeded by his ſon Eucratides, who invaded India, and made himſelf maſter of all thoſe provinces which had been ſubjected by Alexander. During the reigns of theſe ſix princes, the commerce of Bactria with India was very conſiderable. The diſtrict near the mouth of the Indus, which Alexander had ſubdued, was recovered; and military operations were carried on in India, with ſuch ſucceſs, that the Bactrian kings penetrated far into the interior part of the country; and proud of the conqueſts which they had made, as well as of the extenſive dominions over which they reigned, ſome of them aſſumed the title of "Great King," which diſtinguiſhed the Perſian monarchs in the days of their higheſt ſplendour. Apollodorus, the Bactrian hiſtorian, aſſerts that Eucratides poſſeſſed one thouſand cities. The learned Bayer, in his intereſting hiſtory, advances many arguments to prove that the Greeks of Bactriana imparted the firſt lineaments of ſcience to the Hindoos. M. Pezron, in his "Antiquities of Nations," alleges, that there was a people in the upper regions of Aſia, beyond Media and mount Imaus, who in the firſt ages ſpread themſelves over Bactria and Margiana, and proceeding by Armenia and Cappadocia, at laſt paſſed over into Europe. Theſe people were called Sacæ. In the mean time, the Cimmerians, who were of the ſame family, went by the north; and having made various incurſions, at laſt ſettled above the Euxine ſea, near the Palus Mæotis. The learned Bryant is of opinion, that this account is not warranted by ſufficient authority on the part of the writers to whom M. Pezron appeals. Although ſuch people as the Cimmerians actually exiſted upon the Mæotis, yet that they came from Bactria, and fought their way through different countries; and that they were the brethren of the Scythians ſtyled Sacæ, and took the upper route, when the others were making their inroad below, are circumſtances which, ſays Bryant (Anal. Mythol. vol. iii. p. 131.), have not the leaſt ſhadow of evidence. Another writer of our own nation (ſee Wiſe's Hiſt. & Chron. of the Fabulous Ages, p. 119.) ſuppoſes, that all ſciences centered of old in Bactria, called Bochary, or "the land of books." (See Sacæ, and Scythia.) But to return from this digreſſion: Eucratides, king of Bactria, was treacherouſly murdered by his ſon of the ſame name, who uſurped the throne; but he was expelled by the united forces of the Scythians who attacked it on one ſide, and of the Parthians who attacked it on the other, and was ſoon after killed in attempting to recover it. The Greeks, ſays Strabo (l. xi. p. 779.), were deprived of Bactria by tribes or herds of Scythian Nomades, who came from the country beyond the Iaxartes, and were known by the names of Aſii, Paſiani, Tachari, and Sacarauli. This fact coincides with the relation of the Chineſe hiſtorians, cited by M. de Guignes (Mem. de Liter. t. xxv. Mem. p. 19.), and is confirmed by it. By them we are informed, that about 126 years before the Chriſtian æra, a powerful horde of Tartars, puſhed from their native ſeats on the confines of China, and obliged to move towards the weſt by the preſſure of a more numerous body that rolled on behind them, paſſed the Iaxartes, and pouring in upon Bactria, like an irreſiſtible torrent, overwhelmed that kingdom, and put an end to the dominion of the Greeks there, after it had been eſtabliſhed near 130 years. The kings, who reigned in Bactria in the times of the Roman emperors Adrian, Antoninus Pius, and Valerian, were all of Scythian extraction; but the Scythians were in their turn driven out by the Huns, who reigned in Bactria in the time of Ladiſlaus IV. king of Hungary.

BACTRIANI, in *Geography*, a town of Aſia, in the country of Georgia, 60 miles north of Teflis.

BACTRIANUS, in *Zoology*, a ſpecies of Camelus, having two bunches on the back. Linn. This differs very little in appearance from the common Arabian camel, except in being rather larger, and having two bunches on the back inſtead of one. It is an inhabitant of the weſtern and northern parts of India, and alſo of the deſerts bordering on China; the breeds of this kind are in more eſteem for their ſwiftneſs than the other. In Arabia, we are told, it is chiefly kept for the uſe of the great, being not a native of that country, but imported from India, &c. Of this animal, as well as of the Arabian kind, there are ſeveral races or varieties, differing like thoſe of horſes in ſtrength, ſize, ſwiftneſs, and elegance of form. A breed of peculiar ſwiftneſs is ſaid to be reared in China, where it is diſtinguiſhed by the expreſſive title of *Fong Kyo Fo*, or camels with feet of wind. A white variety occurs in ſome parts of Siberia; and laſtly, a hybrid or mixed breed is ſaid to be occaſionally obtained between the Bactrian and the Arabian camel. Shaw, &c.

BACTRIS, in *Botany* (απο του βακτρου, *a ſtaff*; canes being made of the ſtems). Lin. gen. Schreb. n. 1693. Jacqu. Amer. t. 171. Gærtn. 9. 139. Claſs, *monoecia hexandria*. Nat. Ord. *Palms*. Generic character; * Male flowers. *Cal.* ſpathe univerſal, one-leafed; ſpadix branched; perianth one-leafed, three-parted, ſmall; parts lanceolate, concave, coloured. *Cor.* one-petalled, three-cleft; tube ſhort; clefts ovate, acute, erect. *Stam.* filaments ſix, ſubulate, erect, of the length of the coroila, inſerted into the middle of the tube; anthers oblong, incumbent. * Female flowers few, in the ſame ſpadix, intermixed with the male ones. *Cal.* ſpathe the ſame as in the males; perianth one-leafed, bell-ſhaped, three-toothed, pointed, coloured, very ſmall, permanent. *Cor.* one-petalled, erect, three-toothed, permanent. *Piſt.* germ ovate, large; ſtyle very ſhort; ſtigma headed, obſcurely three-cleft. *Per.* drupe coriaceous, roundiſh, fibrous-ſucculent, ſharp-pointed with the ſtyle. *Seed*, nut roundiſh, depreſſed on each ſide; marked on the ſides with three holes; kernel ſolid.

Eſſ. Gen. Char. Male. *Cal.* three-parted. *Cor.* one-petalled, three-cleft. *Stam.* ſix. Female. *Cal.* one-leafed, three-toothed. *Cor.* one-petalled, three-toothed; ſtigma obſcurely three-cleft; drupe coriaceous.

Species, 1. B. *minor*. Jacqu. l. c. Ic. ſelect. t. 256. B. minima Gaertn. Fruct. 2. 269.—conf. B. globoſa minor. Ejuſd. 1. 22. quæ Cocos aculeata, Swartz & Hort. Kew Palma, 7. Brown Jam. 344. "Fruit roundiſh." Root creeping; trunk upright, armed with numerous prickles, about an inch in diameter, ſeldom more than twelve feet high. The flowers uſually appear as ſoon as it has attained the

the height of about four feet; leaves frondoſe, few, ſtem-claſping at the baſe, pinnate; the rib prickly; the leaflets enſiform, acuminate, ſhining, flat, ſerrate-prickly; ſpathes axillary, ſolitary, ſpreading, continuing long after the fruit is ripe; flowers without ſcent, very ſlightly tinged with yellow; fruit the colour and ſize of a common cherry, containing an acid juice of which the Americans make a ſort of wine. Canes are made of the ſtem; they are dark-coloured, ſhining, jointed, very light, and called by the French *Cannes de Tobago*. 2. B. *major*. Jacqu. l. c. "Fruit ovate." This reſembles the former, but grows to the height of twenty-five feet with a ſtem more than two inches in diameter. Leaves ſix feet long; leaflets nearly two feet, with the marginal prickles brown, and more conſpicuous than thoſe in the other ſpecies; ſpadix compreſſed, flat, reclining; fruit of the form and ſize of an egg, acuminate with the ſtyle, fibrous, ſucculent, covered with a dark purple coriaceous coat, of which the natives make a vinous liquor. The nut is large, of a dark colour, ovate-oblong, with an acuminate trifid apex, and three obſcure holes, two above the middle, and the third higher; kernel oblong, blunt at both ends, cartilaginous, ſolid. The fruits are called *Cocorotes*, and ſold in the market. Both theſe plants are natives of Carthagena in South America.

Bactris, in *Entomology*, a ſpecies of Bruchus that lives in the nuts of the American palms. It is cinereous; wing-caſes rather ſmooth; poſterior thighs ovate; ſhanks incurved. Linn. Amoen. Ac. Gmel. &c.

BACTROPERATA, alſo written *bactropereta*, compounded of *βακτρον*, *ſtaff*, and *πηρα*, *bag*, or *budget*, an ancient appellation given to philoſophers by way of contempt, denoting a man with a ſtaff and a budget.

BACUACHI, in *Geography*, a town of North America, in New Navarre, 135 miles ſouth of Caſa Grand.

BACULARES, a ſect of Anabaptists, ſo called, as holding it unlawful to bear a ſword, or any other arms beſides a ſtaff.

BACULARIUS, in *Writers of the Middle Age*, an eccleſiaſtical apparitor, or verger, who carries a ſtaff, *baculus*, in his hand, as an enſign of his office.

BACULE, in *Fortification*, a kind of portcullis, or gate, made like a pit-fall with a counterpoiſe, and ſupported by two great ſtakes. It is uſually made before the *corps du guard* advancing near the gate.

BACULI. See Bacilli.

Baculi, *Sancti Pauli*, or batoons of St. Paul, a kind of figured ſtones, of the ſame ſubſtance with thoſe reſembling the briſtles of ſome American *echini*, called by Dr. Plott *lapides Judaici*.

BACULOMETRY, the art of meaſuring acceſſible and inacceſſible diſtances, by the help of *baculi*, ſtaves or rods. Schwenter has explained this art in his "Geometria Practica;" the rules of it are alſo laid down by Wolfius in his Elements; Ozanam alſo gives an illuſtration of the principles of baculometry. See Distance, and Longimetry.

BACULOSUS Ecclesiasticus, in ſome *Ancient Laws*, is uſed for a biſhop or abbot, dignified with the paſtoral ſtaff, or crozier.

BACULUS Divinatorius, or *Virgula Divina*, a branch of hazle-tree, of a forked figure, uſed for the diſcovery of mines, ſprings, &c. See Virgula *Divina*.

BADA, in *Ancient Geography*, a town of Africa, according to Ortelius and St. Cyprian.—Alſo a river of Phœnicia, in the vicinity of the town of Paltos, near which was a tomb ſaid to be that of Memnon, ſon of Tithonus, and nephew of Priam, king of Troy. Strabo, l. xv.

Bada, or *Badas*, in *Zoology*. This is the name of the Rhinoceros among the negroes on the coaſt of Angola.

BADACUM, in *Ancient Geography*, a town of Norica, ſituate near the Danube. Ptolemy.

BADAGIS, in *Geography*, a town of Koraſan, on the ſouthern borders of the ancient deſert of Margiana. N. lat. 35° 20′. E. long. 59° 28′.

BADAGSHAN, or Badakshan, an ancient city of Independent Tartary, in Great Bucharia, ſeated on the north ſide of the river Amu, or Harrat, not far to the north of Anderab in Tokareſtan. In the laſt century, this city belonged to the khan of Great Bucharia, or rather of Samarcand; and being ſecluded in a branch of the Belar Alps, was uſed as a ſtate priſon for rivals or inſurgents. Badakſhan was ſmall, but well built and populous; and its inhabitants were enriched by the gold, ſilver, and rubies found in its neighbourhood; the grains of gold and ſilver abounding in the torrents which deſcend from the mountains, when the ſnow melts in the beginning of ſummer. Several Caravans for Little Bucharia and China paſs by this city. Ebn Haukal mentions that there were not only mines of rubies and lazulite near Badakſhan; but that there was abundance of muſk. It is ſituated above 100 miles from the ſource of the Amu, 230 from Balk, and 210 from Anghien in the province of Samarcand. N. lat. 36° 15′. E. long. 68° 45′.

BADAGRY, a town of Africa, in the country of Benin.

BADAJOZ, Pax Augusta, a conſiderable town of Spain, being the capital of Eſtremadura, and a frontier fortreſs towards Portugal. It is ſeated near the river Guadiana, on a gentle riſe, which on one ſide is covered with olive-trees, and on the other ſide of the river are ſome fortified hills. Over the river is a handſome ſtone bridge, built, as it has been ſaid, by the Romans, but as the inſcription on it ſtates, by Philip II. The ſtreets are clean, and partly ſtraight, and well-paved; and there are a few large houſes, with ſome handſome churches and towers. The fortifications are not very ſtrong; but it has ſuſtained two ſieges, one by the Portugueſe in 1658; and another by the Engliſh and Dutch, aided by the Portugueſe, in 1705. N. lat. 38° 43′. W. long. 6° 19.

BADANATHA, in *Ancient Geography*, a town of Arabia Felix, in the country of the Thamudæi. Pliny.

BADARA, a town of Aſia, in Gedroſia.—Alſo, a town of Aſia, in Caramania. Ptolemy.

BADASKA, in *Geography*, a town of Siberia, on the ſide of the Angara; 80 miles N.N.W of Tekutſch.

BADATIUM, in *Ancient Geography*, a town of the Taurie Cherſoneſus. Ptolemy.

BADAUSA, a town of Aſia, in Meſopotamia. Ptolemy.

BADDAMMY, in *Geography*, a town of Hindoſtan, in the country of the Viſiapour, eighty miles ſouth of Viſiapour. N. lat. 16° 10′. E. long. 75° 4′.

BADELONA, Badalona, or Betula, an ancient town of Spain, in Catalonia, ſeated on the coaſt of the Mediterranean, about ſix miles north-eaſt of Barcelona.

BADELU, or Badibou, a country of Africa, on the borders of the river Gambia.

BADELUNDSAHS, a long narrow ſandy tract of land in Sweden, in the province of Weſtmannland, where the Danes were totally defeated in 1521.

BADEN, a diſtrict or county of Swiſſerland, lying on both ſides of the river Limmatt, and bounded on the weſt by the river Aar, on the north by the Rhine, and on the ſouth by the Reuſs, became a bailliage of the eight ancient cantons in 1415, when the canton of Zurich took poſſeſſion of the town and county, and ſo continued till the year 1712. A civil war breaking out at that time between the

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Proteſtant and Catholic cantons, Baden was beſieged and taken by the troops of Zuric and Bern; and at the peace of Arau, it was ceded to thoſe two cantons and Glarus, which, on account of its neutrality, preſerved its right of joint ſovereignty. Until 1712, the diet aſſembled at Baden; but was afterwards transferred to Frauenfield. The three cantons alternately appointed a bailiff, who reſided in the caſtle. The inhabitants elected their own magiſtrates, and had their own judicial courts. In civil proceedings, an appeal lies to the bailiff, and from his decision to the ſyndicate, compoſed of the deputies of the three cantons, and in the laſt reſort to the three cantons themſelves. In penal cauſes, the criminal court condemns, and the bailiff enjoys the power of pardoning, or mitigating the ſentence. This bailliage comprehends about 138 ſquare geographical miles, and contains 24,000 perſons. In conſequence of the French revolution, a new diviſion took place in 1798; the county of Baden, the free bailliages, and a ſmall portion of the ſouth-weſtern part of Zuric, were conſtituted one of the 18 Swiſs departments or cantons, and Baden was its capital; but according to the conſtitution of the 29th of May 1801, Argovie, re-united with Baden and with the upper part of the Frickthal, was made one of the 17 departments or cantons of Swiſſerland; and ſix repreſentatives were appointed to be deputed by it to the diet. The ſoil of this diſtrict is fertile; in general it abounds with grain and fruit, and on the ſides of the Limmatt it produces wine. The mountains yield excellent free-ſtone, marble, and iron ore. The greater number of the inhabitants are Roman Catholics.

Baden, the capital of the above diſtrict or canton, is ſituated on the ſide of the river Limmatt, in a plain flanked by two hills, between which the river runs. It derived its name and its origin from the warm baths in its neighbourhood, which were famous before the Chriſtian æra, and are mentioned by the ancients under the name of *Aquæ* and *Thermæ Helveticæ*. It was a Roman fortreſs, erected to curb the Alemanni or Germans, and was raſed when the Helvetians, who ſupported Otho, were routed by Cæcina, general to Vitellius. Being rebuilt, it was taken by the Germans; fell afterwards under the dominion of the Franks, was in the tenth century incorporated in the German empire, and became ſucceſſively ſubject to the dukes of Zœringen, to the counts of Kyburgh, and to Rhodolph of Hapſburgh. When his deſcendant Frederic, duke of Auſtria, was put under the ban of the empire, in 1418, it came into the poſſeſſion of the canton of Zuric, which purchaſed it of the emperor Sigiſmond, and ſubjected it to the eight cantons. (See the preceding article.) Many monuments of antiquity have been found in this place; ſuch as ſtatues of ſeveral heathen gods, made of alabaſter; Roman coins, formed of bronze, of Auguſtus, Veſpaſian, Decius, &c.; and ſeveral medals of the Roman emperors, of gold, ſilver, copper, and bronze. There are two churches in this city; one collegiate, and the other a monaſtery of capuchins, near the town-houſe, in which the diet formerly aſſembled. Before the caſtle, which is the reſidence of the bailiff, there is a ſtone-pillar, erected in honour of the emperor Trajan, who paved in this country a road eighty-five Italian miles long. The inhabitants are rigid Roman Catholics, and were formerly inſolent in their behaviour towards the Proteſtants. The baths are ſeated on each ſide of the river, about a quarter of a league from the city. Adjacent to the ſmall baths is a village, and to the large, a town, ſeated on a hill of ſteep aſcent. The water of the baths is conveyed to inns and private houſes by means of pipes, of which there are about ſixty. And in the middle of the towns there are public baths, ſupplied by a ſpring in the ſtreet, where the poor may bathe gratis. All the baths are hot, and they are uſed for drinking as well as for bathing. They ſerve, like others of a ſimilar kind, to give relief in a variety of diſcaſes. (See Waters, *Medicinal.*) About a mile from Baden, at a place called Wettingen, where the Limmatt flows with the greateſt rapidity, there is a beautiful piece of mechaniſm, which is a wooden bridge, 240 feet long, and ſuſpended above twenty feet from the ſurface of the water. It was the laſt work of Grubenman, the ſelf-taught architect, and exceeds in elegance that of Schaffhauſen. Mr. Coxe (Trav. Swiſſ. vol. i. 137.) has given a geometrical elevation of it. Baden is diſtant 14½ miles from Zuric. N. lat. 47° 21′. E. long. 8° 12′.

Baden, a margravate of Germany, in the circle of Swabia, is divided into the upper and lower margravate. The upper, or the marquiſate of Baden-Baden, terminates weſtward on the Rhine, though a ſmall part of it lies weſt of that river, and is bounded on the north-weſt by the lower margravate of Baden-Durlach, on the eaſt by the duchy of Wurtemberg and the county of Eberſtein, and on the ſouth by the Ortenau and the Briſgau. The principal towns are Raſtadt, Baden, Etlingen, Steinbach, and Stolhoffen. The margrave is a ſovereign prince, and has a vote in the college of princes. The eſtabliſhed religion is Roman catholic. The lower margravate, or that of Baden-Durlach, is bounded on the weſt by the Rhine, on the ſouth by the upper margravate of Baden, on the eaſt by the duchy of Wurtemberg, and on the north by the biſhopric of Spire. The principal towns are Carlſruhe, Durlach, Pforzheim, Muhlburg, and Emmingen. This prince has two votes in the college of princes, one for Baden-Durlach, and the other for the margravate of Stockberg, which belongs to him, and lies in and along the Briſgau. The reigning family, and the country in general, profeſs Lutheraniſm, with a toleration of Proteſtants, Catholics, and Jews at Carlſruhe. The whole margravate of Baden is a populous and fertile country, abounding with corn, hemp, flax, bees-wax, wood, and wine. Veniſon and wild-fowl are ſo plentiful that they are the common diet of the peaſants. Their hogs, being fed with cheſnuts, furniſh excellent bacon. They have free-ſtone for building, marble of various colours, and ſome agate. Manufactures are much encouraged, and the country is in a flouriſhing condition. The territories of the margrave of Baden comprehend 832 ſquare miles, and 200 000 inhabitants. The annual revenue is eſtimated at 1,200,000 florins; and the military eſtabliſhment conſiſts of 3000 men, of whom 300 are cavalry.

Baden, a town of Germany, and capital of the upper margravate of Baden, is ſeated on the river Oalbach near the Rhine, among vineyards. It has a fine caſtle, on the top of a mountain, where the prince often reſides during the ſummer. It is famous for its hot baths, whence it derives its name: diſtant four miles ſouth from Raſtadt. N. lat. 48° 46′. E. long. 9° 24′.

Baden, a town of Germany, in the archduchy of Auſtria, ſeated on the river Schwocha, and much frequented on account of its baths. The town is walled, and has three churches; twelve miles S. S. W. from Vienna. N. lat. 48° 3′. E. long. 16° 12′.

BADENOCH, a diſtrict forming the eaſtern part of Inverneſs-ſhire, in Scotland, extending from eaſt to weſt about thirty-three miles, and in the broadeſt part twenty-ſeven miles from north-eaſt to ſouth-weſt. It is barren and hilly, and abounds with deer and game.

BADENS, Francis, in *Biography*, a painter of hiſtory and portraits, was born at Antwerp, in 1571, and acquired the firſt rudiments of the art from his father; and, by viſiting Rome and other parts of Italy, acquired a good taſte

in deſign, and a very pleaſing manner. Upon his return to his own country, his merit was ſo generally acknowledged, that he was diſtinguiſhed by the name of the Italian painter. His touch was light and ſpirited, and his colouring warm, ſo that he had the honour of being the firſt who introduced among his countrymen a good taſte for colouring. The news of his brother's aſſaſſination occaſioned his death in 1603, which was much regretted by every lover of the art. Pilkington.

BADENSIS, in *Entomology*, a ſpecies of Curculio, about the ſize of C. cerafi. It is black; legs pitchy. Gmelin. Blom. This inſect inhabits Germany; the thorax is rather ſmooth and ovate; wing-caſes obſoletely ſtriated; thighs clavated.

Badensis, in *Ornithology*, a ſpecies of Emberiza found in the neighbourhood of Baden. The colour is olive, ſtreaked with blackiſh, beneath paler; chin orange; breaſt ſtriated with blackiſh. Sander Naturf.

BADENUCHI, in *Geography*, a town of North America, in the province of New Navarre; 125 miles ſouth of Caſa Grand.

BADENWEILER, a town of Germany, in the circle of Swabia, and margravate of Baden-Baden. N. lat. 47° 55′. E. long. 7° 50′.

BADERA, in *Ancient Geography*, *Baſiege*, a place of Gaul, belonging to the Volſcæ Tectoſages, in the Narbonenſis prima, on the rout from Touloufe to Narbonne, and ſouth-eaſt of the firſt of theſe towns.

BADESSUS, a town of Aſia, placed by Ptolemy in Caria.

BADEY, in *Geography*, a town of Perſia, in the province of Koraſan; 140 miles north-weſt of Herat.

BADGE, in *Naval Architecture*, ſignifies a ſort of ornament placed on the outſide of ſmall ſhips very near the ſtern, containing either a window, for the convenience of the cabin, or a repreſentation of it. It is commonly decorated with marine figures, martial inſtruments, or ſuch like emblems.

Badge, in *Heraldry*. See Device.

BADGER, *Common*, in *Zoology*, *urſus meles* of Linn. and Gmel. See Ursus Meles. The badger's ſkin is of ſome uſe in commerce. Their fat is ſold by the druggiſts, as a remedy againſt diſorders of the kidneys and the ſciatica; and their hair, for the making pencils for painters and gilders.

Badger, from *bajulo*, *I carry*, or from the Fr. *baggage*, *a bundle*; whence *bagagier*, *a carrier of goods*; a licenſed huckſter, or perſon privileged to buy corn, or other proviſions, and to carry them from one place to another to make profit of them, without being reputed an engroſſer. In the ſtatutes he is alſo called a *kidder*, or *lader of corn*, 5 & 6 Ed. VI. c. 14. 5 Eliz. c. 12.—We alſo read of badgers, or retailers of ſalt, 9 W. III. c. 6. If any perſon ſhall act as a badger without licence, which continues in force one year, he ſhall forfeit five pounds, one moiety to the king, and the other to the proprietor. 13 Eliz. c. 25. § 20.

Badger-*hunting*. See Hunting.

BADIA, in *Conchology*, a ſpecies of Cypræa, having an oblong gibbous ſhell, above bay-colour, dotted with brown and white. Gmelin, &c. Its native place is unknown.

Badia, a ſpecies of Helix, called by Born *helix angulina*; it is about an inch in height, and rather more than an inch and a half in length; and of a chefnut colour. The ſhell is umbilicated, ſubgloboſe, ſmooth, depreſſed above; aperture lunar. Gmelin.

Badia, a ſpecies of Patella, the ſhell of which is ſomewhat convex, brown, bay-colour within; with twelve larger rays, each ſurrounded by a row; and ſmaller rays. The varieties of this kind are numerous, and no leſs than ſixteen of them are deſcribed by Schroet. Eml. in Conch. n. Litterat. &c. This ſhell is uſually about two inches and three quarters long; ... ſome ſpecimens, and ... dotted with green, but ſlightly; and in others the upper ſurface is ... kind occur in which green or brown is diſpoſed in rays, or in ... or ſpotted with yellow or black, or liver-colour. The crown is often variegated with rays, and not unfrequently with five rows of ... ſpot in the bottom, ſurrounded by a ſingle or double band, which is more or leſs pale, and of different colours in different ſhells; ... low, liver-colour, or hoary-grey.

Badia, in *Ancient Geography*, a town of Spain, in Bætica, ſuppoſed to be the preſent Badajoz.

Badia, in *Geography*, a town of Italy, in the duchy of Tuſcany, ſeventeen miles north of Florence.—Alſo, a town in the ſame duchy, fifteen miles weſt of Volterra.

BADIAGA, in the *Materia Medica*, the name of a ſort of ſpungy ſubſtance, common in the ſhops in Moſcow, and ſome other northern kingdoms: uſed for taking away the livid marks from blows and bruiſes, which the powder of it is ſaid to do in a night's time.

We owe the knowledge of this medicine, and its hiſtory, to the accurate Buxbaum. He obſerves, that the ſubſtance is always found under water, and is of a very ſingular and peculiar nature. It ſomewhat reſembles the *alcyoniums*, and ſomewhat the ſpunges, but differs greatly from both, in that it is full of ſmall round granules, reſembling ſeeds. It is of a looſe, light, and ſpungy ſtructure, and is made up of a number of fibres of an herbaceous matter, and is dry, rigid, and friable between the fingers. This may ſerve as the generical character of the badiaga, of which this accurate obſerver has found three different ſpecies. Linnæus makes it a ſpecies of ſpunge.

BADIAN, or Badiana, the ſeed of the aniſe-tree, or of a tree reſembling it, that grows in China: and ſometimes uſed by the Chineſe, and alſo by the Dutch, to give an aromatic taſte to their tea.

BADIATH, in *Ancient Geography*, a town of Africa, in Libya interior.

BADIGEON, a mixture of plaiſter and free-ſtone, well ground together, and ſifted; uſed by ſtatuaries to fill up the little holes, and repair the defects in ſtones, whereof they make their ſtatues and other work.

The ſame term is alſo uſed by joiners, for ſaw-duſt mixed with ſtrong glue, wherewith they fill up the chaps, and other defects in wood, after it is wrought.

BADILE, Antonio, in *Biography*, a painter of hiſtory and portrait, was born at Verona in 1480, and by aſſiduous application excelled his predeceſſors in an acquaintance with the true principles of his art. He was allowed to be a very eminent artiſt; and he had the honour of having for his diſciples, Paolo Veroneſe, and Baptiſta Zelotti. His colouring was admirable; his carnations beautiful; and his portraits preſerved the perfect reſemblance of fleſh and real life. He died in 1560. Pilkington.

BADILETTERS, a name given to a race of horſemen reſident in the mountains, in the vicinity of Circaſſia, and of the Nogai Tartars, who in ſome meaſure retain their independence.

BADINGEN, in *Geography*, a town of Germany, in the circle

circle of Upper Saxony, and old mark of Brandenburg, ſeven miles weſt of Stendal.

BADJOURA, a large village of Egypt, on the weſtern ſhore of the Nile, not far from Furſhout, in N. lat. 26° 3′ 16″.

BADIS, in *Ancient Geography*, a town of Carmania, ſeated on the coaſt of the Perſian gulf, near the promontory of Carpella. Nearchus's Periplus.—Alſo, an epiſcopal town of Africa, according to Ortelius, who cites St. Auguſtin.

BADIS, in *Geography*, a fortreſs of Livonia, on the ſouth ſide of the gulf of Finland, about ſeven leagues eaſt from Revel, in N. lat. 59° 15′. and E. long. 24° 36′.

BADIUS, in *Entomology*, a ſpecies of CERAMBYX (*Stenocorus*) that inhabits Siberia. It is of a bay colour, with the thorax and wing-caſes briſtled. Laſpeyh. It.

BADIUS, in *Ornithology*, a ſpecies of FALCO, about thirteen inches in length; a native of Ceylon; and deſcribed in Brown's illuſtrations under the name of the *brown hawk*. The legs are pale; head and body above brown, beneath white with yellow lunar ſpots; tail pale brown, with four duſky lines. Gmelin, &c.

BADKIS, in *Geography*, a town of Perſia, in the province of Koraſan, thirty-ſix miles north of Herat. N. lat. 35° 26′. E. long. 60° 35′.

BADOGI, a town of Ruſſia, on the north coaſt of lake Bielo, in the government of Novogorod, 196 miles north-eaſt of Novogorod.

BADOUCE, in *Natural Hiſtory*, the Eaſt Indian name of a fruit very common in that part of the world. It is round, and of the ſize of one of our common apples; it is yellow on the outſide, and white within. It reſembles the *mangouſtan*, but its pulp is more tranſparent; its taſte is very agreeable, and has ſome reſemblance to that of our gooſeberries.

BADRACHILLUM, in *Geography*, a town of Hindoſtan, in the Moodajee Boomſla country, 72 miles N. E. of Rajamundry, and 50 eaſt of Beareem.

BADRAI, a town of European Turkey, in Moldavia, ten miles north of Stephanowze.

BADRINUS, in *Ancient Geography*, *Faſſato Grande*, a river of Italy, in the territory of the Baii.

BADRIS, a town of Africa, in Marmorica. Anton. Itin.

BADUCCA, in *Botany*. See CAPPARIS.

BADUEL, CLAUD, in *Biography*, a proteſtant divine of the ſixteenth century, was a native of Niſmes, and under the patronage of the queen of Navarre was appointed rector of the univerſity in that city. In 1557 he became the paſtor of a church in the neighbourhood of Geneva, and and taught mathematics and philoſophy till his death in 1561. He tranſlated into Latin, the ſermons and ſome other works, of Calvin, publiſhed at Geneva in 1557, 8vo. He alſo wrote "De ratione vitæ ſtudioſæ ac literatæ in Matrimonio collocandæ ac degendæ," 4to. printed at Lyons in 1544, and tranſlated into Latin in 1548; "De Collegio et Univerſitate Nemauſenſi," printed at Lyons in 1054; "Acta Martyrum noſtri ſæculi," Genev. 1556; and alſo Latin orations and epiſtles. His Latinity is commended; and he was much eſteemed for his learning and piety. Gen. Dict.

BADUENNÆ LUCUS, or BADUHENNA, in *Ancient Geography*, the name of a foreſt in Germany, mentioned by Tacitus. Its ſituation is not aſcertained. This was the place where Civilis formed his conſpiracy againſt the Romans.

BADULATO, in *Geography*, a town of Italy, in the kingdom of Naples, and province of Calabria Ultra, four miles S. S. E. of Squillace.

BADY, a river and an adjacent place of Peloponneſus in the territory of Elis, mentioned by Pauſanias. After a war which depopulated the country, the women, it is ſaid, preſented their ſupplications to Minerva, that they might ſupply the waſte by a new progeny in conſequence of their firſt intercourſe with their huſbands; their petitions were granted; and they erected a temple in honour of the goddeſs, and hence the name *Bady* or *Badu*, Βαδὺ, or in the Dorian dialect Ἀδύ, i. e. pleaſant or agreeable.

BÆA, the name of a mountain in the iſland of Cephalonia.

BÆBE, a ſmall town of Aſia, in Caria. Steph. Byz.

BÆBARZANA, or BABARNANA, a town of Aſia, in Aria.

BÆBRO, the name of a town of Spain, mentioned by Pliny.

BÆCKIA, in *Botany* (named in honour of Dr. Baeck phyſician to the king of Sweden). Linn. g. 391. Schreb. 570. Juſſ. 321. Claſs *icoſandria monogynia*. Nat. Ord. *calycanthemæ*. Gingins. Juſſ. Gen. Char. *Cal.* perianth one-leaved, funnel-form, five-toothed, permanent. *Cor.* petals five, roundiſh, patulous, inſerted into the calyx. *Stam.* filaments eight, of which ſix are equal, two ſolitary, very ſhort, bent in; anthers ſubovate, ſmall. *Piſt.* germ roundiſh; ſtyle filiform, ſhorter than the corolla; ſtigma capitate. *Per.* capſule globular, crowned, four-celled, four-valved. *Seeds* roundiſh, angular on one ſide.

Eſſ. Gen. Char. *Cal.* funnel-form, five-toothed. *Cor.* five-petalled; capſ. globular, four-celled, crowned.

Species, B. *fruteſcens*. Reich. 2. 200. Oſb. It. 231. t. 1. This ſhrub has the habit of ſouthernwood, with wand-like branches, and oppoſite ſhort ſimple twigs; leaves oppoſite, linear, ſharp, ſmooth, entire; flowers axillary, ſolitary, on a naked peduncle the length of the flower, much ſhorter than the leaves. A native of China, where it is called Tiongina.

BÆCOLICUM, or BIACOLICOS, in *Ancient Geography*, a mountain of Africa, in the Pentapolis. Ptolemy.

BÆCOR, a place of Spain, in Bætica, where Viriates wintered after having been defeated by Fabius Maximus Æmilianus. Appian.

BÆCULA, a town of Hiſpania Tarragonenſis, in the territory, or at leaſt in the vicinity of the Authetani. Ptolemy.

BÆDOO, in *Geography*, a diſtrict of Africa, to the weſt of the river Niger, mentioned by Mr. Park in the narrative of his journey.

BÆLAMA (*Clupea Bælama*), in *Ichthyology*, the name of a fiſh found in the Red Sea, and deſcribed by Forſk. Fn. Arab.—It is *clupea ſetiroſtris* of Gmelin.

BÆLON, in *Ancient Geography*, a town of Spain, north-weſt of Mellaria, upon the ſtraits of Gades, which carried on a conſiderable commerce in ſalt with Tingis, on the oppoſite ſhore.

BAEN, in *Geography*, a town of European Turkey, in Moldavia, ſixteen miles miles N. N. W. of Niemecz.

BÆNUM, in *Ancient Gegraphy*, a town of Arabia Felix. Ptolemy.

BÆOBOTRYS, in *Botany*, (from Βαιος, *ſmall*, and Βοτρυς, *a raceme*, the fructifications being in thin racemes). Lin. gen. Schreb. 318. Forſter, Gen. 11. Claſs, *pentandria monogynia*. Gen. Char. *Cal.* perianth double; exterior three-leaved; leaflets roundiſh, concave, ſmaller; inferior one-leafed, bell-ſhaped, ſhort, five-cleft, growing to the germ; clefts ovate, permanent, converging after flowering, and crowning the fruit. *Cor.* one-petalled, tubular; tube very ſhort; border five cleft, erect; clefts rounded, very ſhort.

ſhort. *Stam.* filaments five, very ſhort, in the middle of the tube; anthers heart-ſhaped. *Piſt.* germ globoſe, half-ſuperior; ſtyle cylindric, very ſhort, permanent; ſtigma obtuſe, tuberculated. *Per.* berry globoſe, ſomewhat dry, one-celled, growing to the calyx. *Seeds* ſeveral, angular, affixed to a columnar receptacle in the bottom of the berry.

Species, *bæobotrys nemoralis*. Forſt. Flor. Auſt. 97. A native of the iſle of Tanna, in the South Seas.

BÆONES, in *Geography*, the name given by Arrian to an iſland in the Indian ocean, on the other ſide of the river Indus.

BAER, and Weisse Baer, in *Zoology*, the names of the *Ursus fusc.* and *Ursus lear.* in "Pallas's Animals."

BÆRENBEISSER, the Bull Dog, Ridinger. *Canis molossus*. Gmel.

BÆRSIUS, or Verenstil, Henry, in *Biography*, a mathematician, flouriſhed in the beginning of the ſixteenth century. He was a printer at Louvain, and the author of the following curious mathematical treatiſes; "Tabulæ perpetuæ Longitudinum ac Latitudinum Planetarum," 15—; "De compoſitione et uſu Decretori Planetarum," 15—; "De compoſitione et uſu Quadrantis," 1557. Moreri.

BÆRSTRAT, a painter of ſea-ports, ſea-ſhores, and fiſh, was an eminent maſter, whoſe works were much eſteemed, though the place and time of his nativity are unknown. His pictures are eaſily diſtinguiſhed by a general brightneſs diffuſed through the whole, and particularly in his ſkies. His drawing was correct, and his perſpective true; he copied every object from nature, and was exact in his repreſentations of ſea-ports, ſhips of war, and veſſels of a ſmaller ſize, which he diſtributed with judgment, ſo as to produce a very pleaſing effect. His pencil is light and clean, his touch ſpirited, and his colouring always tranſparent; and he generally finiſhed his pictures very neatly. He died in 1687. Pilkington.

BÆRUS, in *Ancient Geography*, a town of Macedonia. Ptolemy.

BÆSAMPSA, a town ſituated in the Arabian gulf, ſuppoſed by ſome interpreters to be the ſame with the Beth-Shemeſh, or the houſe of the ſun, mentioned by Joſhua.

BÆSIPPO, a town of Spain, ſituate about twelve miles from Baelon, and at a ſmall diſtance eaſtward from the promontory of Juno. Anton. Itin.

BÆTANA, a town of India, on this ſide the Ganges, ſeated on the river Manaſſena, and ſaid by Ptolemy to be the capital and reſidence of the Siropolemii.

BÆTERRÆ, Beziers, a town, which was a Roman colony, ſituate in Narbonnenſis Prima, a ſouthern province of Gaul, at a ſmall diſtance north-eaſt from Narbo. It was the ſtation of the veterans of the ſeventh legion, who built two temples, one dedicated to Auguſtus, and another to his daughter Julia. Tiberius alſo adorned this city; and in the fourth century it was one of the moſt conſiderable in Gaul. But in the fifth century it was taken by the Viſigoths, who demoliſhed its ſplendid edifices. It was afterwards re-eſtabliſhed; but taken poſſeſſion of by the Saracens in 736. In the next year Charles expelled them, and deſtroyed the city, ſo that they might not be able to re-fortify it.

BÆTHAUTA, a town of Aſia, in Meſopotamia. Ptolemy.

BÆTICA, a province comprehending the ſouthern part of Spain, and correſponding to the preſent Andaluſia and Grenada. This was one of the three provinces into which Auguſtus divided Spain; the other two being Luſitania and Tarraconenſis. It derived its name from the river Bætis, ſince called Tarteſſus, and now Guadalquivir, or the great river; and was bounded on the weſt by Luſitania, on the ſouth by the Mediterranean and gulf of Gades, and on the north by the Cantabric ſea, now the ſea of Biſcay. Its limits towards the north-eaſt were fluctuating, and cannot be eaſily aſcertained. The Bætis divided this province into two parts; on the one ſide of which, towards the Anas, were ſituate the Turdetani, whence the kingdom was called Turdetania, but it was more commonly by the name of Bæturia. On the other ſide were ſituated the Bastuli, Basti, and Celtici, among the Pyrenean mountains. It was the richeſt and beſt cultivated province of Spain. It was famous for its wool; and its fertility was ſuch, that its produce, according to Pliny (l. xviii. c. 12), was ſometimes fifty fold. It is alſo ſaid that the Phœnicians were long ago eſtabliſhed on theſe coaſts, and that the Carthaginians had ſettlements in this country. Polybius ſpeaks highly of the wealth of Turdetania, and of the magnificence of the court of one of its ſovereigns. Bætica, according to this author, contained 175 cities; of which eight were colonies, eight municipal, twenty-nine enjoyed the jus Latii, four were allied, ſix free, and 120 ſuperintended by Roman prætors. The moſt conſiderable were Marianus, now Sierra Morena, and Oroſpeda being a part of the preſent Sierra Nevada. The principal rivers were the Anas and Bætis; and the chief towns were Baſti, Acci, Eliberis, Caſtulo, Corduba, Aſtigi, Hiſpalis, and Gades.

BÆTIS, now Guadalquivir, a river of Spain, in Bætica, which had its ſource, according to Pliny, in the mountains called Saltus Fugienſis; or to the north-eaſt of Oroſpeda, purſued its courſe towards the weſt, waſhing Caſtulo, Corduba, and Hiſpalis, and diſcharged itſelf by many outlets or mouths into the ſea. The inhabitants of the country called it Cirtium and Certis, and the Arabs Ciritus, derived, according to Mariana, from the oriental term *kiriath*, a town, and denoting the river of towns, on account of the number of thoſe which it watered. See Guadalquivir.

BÆTIUM, the name of a town of Macedonia.

BÆTIUS, a river of Arabia Felix.—Alſo, a mountain of Aſia, in Drangiana. Ptolemy.

BÆTULO, a town of Spain, belonging to the Laletani, at a ſmall diſtance ſouth-eaſt from Barcino; now Barcelona.

BÆTULLA. See Bætica.

BÆTUS, in *Ichthyology*, a name given by Ariſtotle and other of the ancient Greeks, to the fiſh called by ſome Latin writers *cottus*; and particularly to one kind ſuppoſed to be that deſcribed by Linnæus under the name of *gobio*; and called the *bull-head*, or *miller's thumb*, in England.

BÆTYLOS, or Bætylion, in *Antiquity*, a kind of ſtones worſhipped among the Greeks, Phrygians, and other nations of the Eaſt; ſuppoſed by ſome modern naturaliſts to be the ſame with our ceraunia, or thunder-ſtone.

The prieſts of Cybele carried a bætylos on their breaſt, repreſenting the mother of the gods.

According to Damaſcius, cited by Photius, they had many of theſe bætylæ, which were conſecrated to different gods, as Saturn, Jupiter, the ſun, &c. Bochart (Chanaan. l. ii. c. 2. vol. i. p. 708.) derives the origin of this ſuperſtitious practice from the ſtone which Jacob conſecrated at Bethel. Whenceſoever the practice was deduced, it was very extenſive and prevalent; for in the eaſtern countries no idol was more common than oblong ſtones, which were denominated by the Greeks βαιτυλοι, pillars. In ſome parts of Egypt, they were planted on both ſides of their roads. In the temple of Heliogabalus, in Syria, there was one which they

pretended to have fallen from heaven: and a black ſtone of this kind was fetched from Pergea, with great ceremony, together with the prieſts that belonged to it, by a Roman embaſſy, at the head of which was Scipio Naſica.

BÆZA, in *Geography*, a town of Spain, in the province of Andaluſia, and country of Jaen, ſeated on a high hill three miles from the river Guadalquivir. It was anciently the ſee of a biſhop, which was removed to Jaen in 1249, and a kind of univerſity founded by John d'Avila. It was taken by the Moors about the end of the fifteenth century. N. lat. 37° 45′. E. long. 3° 15′.

BÆZA, a town of South America, the capital of the government of Quixos, in the province of Quito, in Peru, was founded by Gil Ramirez D'Avalos in the year 1559. Bæza, though the firſt built town in this country, has remained very ſmall, which is owing to the building of the two cities of Avila, and Archidona, which became the chief objects of the attention of the ſettlers. But theſe places have not increaſed to the title of cities, which was given them, when they were founded; becauſe the country is much inferior to Quito with regard to its air and fertility, and the other enjoyments of life. Bæza is much declined, and conſiſts only of eight or nine thatched houſes, with about twenty inhabitants of all ages; ſo that from being the capital as it once was, it is now annexed to the parith of Papallacta, in which town reſides the prieſt, who has alſo under his care another town called Maſpu. This decay was the unavoidable conſequence of the removal of the governor, who has of late reſided at Archidona. See QUITO.

BÆZILLO, a town of Spain, in Old Caſtile, three leagues from Valladolid.

BAFETAS, or BAFTAS, a cloth made entirely of coarſe white cotton thread, which comes from the Eaſt Indies. Thoſe of Surat are the beſt.

BAFFA, or BOFO, in *Geography*, a neat village of Africa, on the Grain coaſt, about a mile eaſt of Sanguin; which ſupplies ſhips with ivory and pepper. It is eaſily diſtinguiſhed by a long ſandy point, ſurrounded with rocks, that project into the ſea. The language ſpoken in this place is a kind of corrupt Portugueſe, or rather a mixed language.

BAFFA, *Cape*, is the ſouth-weſt point of the iſland of Cyprus in the Mediterranean, in N. lat. 34° 37′. E. long. 32° 18′. Near this harbour ſtood the ancient Paphos, where was a temple conſecrated to Venus (ſee PAPHOS); it is now ſucceeded by ruins, a village, a mean caſtle, and equally mean houſes, and a few Greek churches of the ſame deſcription; and the name Paphos is converted into Baffa or Baffo. In the rocks is found a very fine rock-cryſtal, which is called the Baffa diamond, becauſe it is procured from the environs of Baffa.

BAFFIN'S BAY, is the largeſt gulf or bay of North America, and was called from William Baffin, who, accompanied by captain Robert Bylot, attempted, in 1616, to find a paſſage through Davis's ſtraits. In a large ſenſe it extends nearly north and north-weſt from cape Farewel in Weſt Greenland, as far as Whale ſound, paſſing through the part of it called Davis's ſtraits, and reaches from the parallel of 60° to that of 80° N. lat. In a more confined ſenſe it comprehends from 70° to 80°, being bounded on the north by the Arctic continent or lands approaching towards the north pole, on the eaſt by Greenland, on the ſouth by Davis's ſtraits, the ocean, and ſeveral iſlands which lie between this gulf and Hudſon's bay, and on the weſt by a part of North America. Baffin ſeems to have reſtricted this appellation to the ſea between 72° and 78° N. lat. and ſays that he traded with the Greenlanders at Horn ſound, in the ſeventy-third degree, but in the ſeventy-fourth degree he found no natives, but ſeveral plains where tents had been ſet up, from which he concluded, that at certain ſeaſons of the ſummer people reſided there. The ſea was full of ſeals and unicorn fiſh; and in ſir Thomas Smith's ſound, in the ſeventy-eighth degree, he found the largeſt whales. See Crantz's Hiſt. of Greenland, vol. i. p. 16. In our maps it opens into the Atlantic ocean through Baffin's and Davis's ſtraits, between the broken land on the American coaſt, and that weſt of New Greenland, and between cape Chidley on the Labrador coaſt and cape Farewel on that of Weſt Greenland; and on the ſouth-weſt of Davis's ſtraits it has a communication with Hudſon's bay, through a cluſter of iſlands. Some maps ſhew a communication with Hudſon's bay, in the 70th degree of N. lat. and in the 70th of W. long. Baffin's bay is laid down as extending from 46° W. long. to 94°, which allowing only ſixteen geographical miles for the degree, would give a length of 768 geographical miles; and the breadth on the weſt ſide is repreſented as little inferior. But the extent and limits of this ſea have not yet been accurately aſcertained: nor has the weſt coaſt of Greenland been explored beyond N. lat. 72° or Sanderſon's Hope, and an old Daniſh ſettlement called Opernerig. In the midſt of Baffin's bay many maps preſent a large tract called James iſland, which ſome have imagined to be a promontory paſſing from Greenland; or it is probably a large iſle in the north of Hudſon's bay, laid down from erroneous obſervations. This bay has been ſometimes called Bylot's bay.

BAFFIN'S *Strait* is a paſſage between James iſland and the moſt eaſtern of Cumberland iſlands, from the gulf of the ocean into Baffin's bay. This, and Davis's ſtrait on the eaſt of James iſland, and Cumberland ſtrait on the ſouth-weſt between the Cumberland iſlands, ſeem to ſhew that the proper boundary of Baffin's bay does not reach ſo far ſouth as to cape Farewel.

BAFING, or BLACK, *River*, a principal branch of the Senegal river in Africa. Mr. Park, in his "Travels in the Interior Diſtricts of Africa," deſcribes a ſingular bridge erected by the Iallonkas over this river. It conſiſts of two tall trees, which when tied together by the tops, reach from one ſide of the river to the other; the roots reſting upon the rocks, and the tops floating in the water. When a few trees have been placed in this direction, they are covered with dry bamboos, ſo as to form a floating bridge, with a ſloping gangway at each end, where the trees reſt upon the rocks. In the rainy ſeaſon this bridge is carried away by the ſwelling of the river.

BAFWEN LAKE lies in that part of Sweden called Sudermanland; it is extenſive, and contains many iſlands.

BAG, in *Commerce*, a term uſed to ſignify different quantities of certain commodities: a bag of almonds, for inſtance, is about 3 cwt.; of aniſeeds, from 3 to 4 cwt.; of pepper, from 1¼ to 3 cwt.; of goats-hair, from 2 to 4 cwt.; of cotton-yarn, from 2½ to 4½ cwt. &c.

BAG, *Sacculus*, in *Medicine* and *Pharmacy*, denotes a kind of fomentation, prepared of proper ingredients, incloſed in a bag, to be applied externally to a part diſeaſed for preſent relief. Diſpenſatory writers deſcribe cordial bags, uſed in deliquiums; bags for the ſide, for the ſtomach, in weakneſſes of the ſtomach; anodyne bags to eaſe pain in any part. Wines and ales are frequently medicated by putting into them bags full of proper ingredients.

Sweet bags are compoſitions of perfumes, ſcented powders, and the like, incloſed in bags, to give a fragrancy to clothes, &c.

BAG, in *Farriery*. See CHEWING-BALLS.

BAG, *Oil.* See OIL.

BAG, *Petty.* See PETTY.

BAGS, *Sand.* See SAND.

BAG, or *Bagg Point*, in *Geography*, is a noted promontory among ſeamen on the north coaſt of Devon, at the north-weſt point of the entrance into Barnſtaple bay. N. lat. 51° 10'. W. long. 4° 32'.

BAGA, in *Ancient Geography*, a town of Africa Propria, being one of thoſe which were re-eſtabliſhed by the emperor Juſtinian, according to Procopius.

BAGA, or *Baga*, a town of Aſia, in Piſidia.

BAGADA, a town of Ethiopia, near Egypt. Pliny.—Alſo, a ſmall town of Aſia, in Sogdiana. Dict. Sc.

BAGADANIA, a large plain of Aſia, in Cappadocia, placed by Strabo between mount Taurus and mount Argæus, about 3 or 400 ſtadia more ſoutherly than the Euxine ſea.

BAGADAT, a name by which ſome call the carrier pigeon, the *columba tabellaria* of Moore. This name is probably a corruption of the word Bagdat, the name of a city from whence they are ſometimes brought to Europe; being originally brought thither from Perſia.

BAGAHDUCA POINT, in *Geography*, a headland of America, within Penobſcot bay, in the diſtrict of Maine.

BAGAGNANA, in *Ancient Geography*, a mountain of Aſia, in Armenia, where they obtained, according to the ancient phyſician Ætius, the Armenian bole.

BAGAN, in *Geography*, a town of Servia, twenty miles north from Niſſa.

BAGANZA, a river of Italy, which joins the river Parma, at the city of Parma.

BAGANZOLA, a town of Italy, in the duchy of Parma, four miles north of Parma.—Alſo, another town in the ſame duchy four miles ſouth of Parma.

BAGARACA, in *Ancient Geography*, a town of Thrace, Anton. Itin.

BAGARD, CHARLES, in *Biography*, born at Nanci, in Jan. 1696, was early initiated into the practice of phyſic by his father Anthony, who had acquired conſiderable reputation in that art. To the influence our phyſician had with Staniſlaus the firſt titular king of Poland, and duke of Lorraine, we are indebted for the botanic garden and the college of medicine at Nanci, of which he was the firſt preſident. He died of apoplexy in December 1772. Beſides numerous diſſertations on medical and philoſophical ſubjects, we have the following, by the author: "Diſcours ſur l'Hiſtoire de la Therraque," publiſhed 1755; "Diſpenſatorium Pharmac. Chymicum," Paris, 1771, fol.; "Pharm. Materiæ Medicæ," &c. 1771. 8vo. "Diſcours ſur les Monſtres du Regne Vegetal, Nancy, 1778, 8vo. Eloy. Diction. Hiſt. Haller. Biblioth. Botan.

BAGARDA, in *Ancient Geography*, a town of Aſia, in Paropamiſus. Ptolemy.

BAGASÆ, a town of Africa, in Libya Interior. Ptolemy.

BAGASIS, *Baggai*, a town of Africa, ſituated on a river at the foot and to the eaſt of mount Arabus.

BAGAT, in *Geography*, a town of France, one league weſt from Paris.

BAGATHUSA, CAPE, lies on the ſouth-eaſt coaſt of Arabia, fifteen leagues eaſt from Shahar. Under the lee of this cape there is good anchorage: but the ſea rages on this coaſt from April to July to ſuch a degree that no ſhip can live in it.

BAGATINS, or COURIERS, a name given to the pigeon-carriers.

BAGAUDÆ, or BACAUDÆ, in *Hiſtory*, an ancient faction of peaſants, or malecontents, who ravaged Gaul, and aſſumed the name *Bagaudæ*, which, according to ſome authors, ſignified, in the Gothic language, *forced rebels*; according to others, *traitors*; according to others, *robbers*; which laſt ſignification others allow the word had, but then it was only after the time of the *bagaudæ*, and doubtleſs took its riſe from them. Du-Cange.

The bagaudæ were a numerous troop of plowmen and ſhepherds, whom the grievous weight of their taxes induced to take up arms under the reign of Claudius II., about A. D. 269, in order to [illegible] of tyranny which ſeemed to them worſe than death. Irritated by oppreſſion, they reſembled by their ravages the fury of the barbarians, and laid waſte the countries which they ought to have cultivated. At this time their ſtrength muſt have been conſiderable, as they laid a ſiege of ſeven months to the city of Autun, and at length took it by force. Under Aurelian and Probus no mention of them occurs, becauſe it is probable that the valour and activity of theſe warlike princes kept them in awe. But under the reign of Diocleſian, about the year 286, exaſperated by the injuſtice, violence, and cruelty of Carinus, they renewed their revolt, and they were commanded by two men, whoſe names were Ælianus and Amandus, each of whom had the boldneſs to aſſume the title of Auguſtus. Maximian, who was admitted by Diocleſian as a colleague in the government, A. D. 286, ſubdued the bagaudæ partly by clemency and partly by force. It does not appear what became of the two chiefs of the rebels; but Sandius [illegible] that the name and the faction of the bagaudæ were revived in the fifth century. Crevier's Hiſt. Emp. vol. ix. p. 282.

BAGAZZE, is the name which is given, in the Antilles iſlands, to the ſugar-canes after they have paſſed through the mill. They are dried, and uſed for boiling the ſugar.

BAGDAD, in *Geography*, a large and populous city of Aſiatic Turkey, in that diviſion of Diarbeck called Irak-Arabi, is ſeated on the eaſtern banks of the Tigris, N. lat. 33° 22'. E. long. 44° 21'. It has been erroneouſly ſuppoſed by ſeveral geographers to be the old Babylon, though it be at a diſtance from the ruins of this ancient metropolis. It is computed to be about 1500 paces in length, 7 or 800 in breadth, and 3000 in circumference. Mr. Jackſon, in his "Journey from India to England" in 1797, ſays, that it extends three miles along the eaſtern bank of the river; and the length of the walls from the river being about two miles, it has the form of an oblong ſquare. Its walls are all of brick, with terraces and large towers at proper diſtances, in form of baſtions, and defended by about 60 pieces of cannon. The caſtle is large, and flanked by ſome ſmall towers with cannon; and its garriſon uſually conſiſts of [illegible] foot, 2000 horſe, and 60 gunners. The number of inhabitants, if we may credit the accounts of the Arabian writers, was formerly very conſiderable; but it is now reduced to fifteen or twenty thouſand, including thoſe who live in a ſuburb on the other ſide of the Tigris, at the end of the bridge of boats, which are ſeparated every night to prevent ſurpriſe. But notwithſtanding this number of inhabitants, the town has ſtill many empty ſpaces within its walls, and it is for the moſt part but indifferently built. Many of the public buildings, however, ſuch as the moſques, [illegible] and [illegible] are conſtructed of hewn ſtone, and make a very handſome appearance. Here is alſo an extenſive bazar, which is well ſupplied with a variety of articles. Several of theſe buildings are arched, in order to guard againſt the exceſſive heat of the ſun; and as ſcorpions, tarantulas, and other noxious inſects, are numerous, perſons, in order to avoid them, in the ſummer ſeaſon, ſleep on the tops of their houſes. The environs of Bagdad to the weſt

weſt and north are altogether barren; to the eaſt there are excellent gardens; and the oppoſite bank of the river ſupplies a great variety of fruit and vegetables. The city itſelf, though much reduced in extent, magnificence, and wealth, as well as population, is now ſuppoſed to contain more treaſure than any other city of equal ſize in the world; and the immenſe quantity of ſpecie and bullion, ſays Johnſon (ubi ſupra), found in the coffers of the late Kya, or prime miniſter, amounting to upwards of three millions ſterling, ſeems to warrant ſuch a conjecture.

This city, which was for many ages the capital of the Saracen empire and the ſtated reſidence of the caliphs, was founded by Al-Manſor, the ſecond of the family of the Abaſſides, in the 145th year of the Hegira, A. D. 762. The Rawandians having attempted to aſſaſſinate him in the city of Al Hathemiyah, he determined to build a new city; and he ſelected for the ſite of it, a ſpot, ſufficiently diſtant from Cufa, the inhabitants of which were treacherous and inconſtant in their attachment, ſecure againſt the attacks of thoſe who might wiſh to diſpute the caliphate with him, and ſituate in the middle of a tract which would furniſh an ample ſupply of proviſions by means of the rivers to which it gave eaſy acceſs. Having conſulted his aſtrologers and engaged ſkilful workmen, he commenced his undertaking. As to the name by which it was to be diſtinguiſhed, ſome have derived it from the Perſian *Baghdod*, which ſignifies the *gift or preſent of Bagh*, pretending that the plain on which it ſtood was given by Choſru, named Anuſhirwan, to one of his wives, and that ſhe had there erected a chapel or oratory dedicated to her favourite idol called *Bagh*. In proceſs of time this chapel became the choſen reſidence of a venerable hermit, who reported to Al-Manſor a tradition that a city was to be built in this place: but it is needleſs to recite any further particulars. Others ſay, that the verdant plain on which this city was built, had been the cell of a Chriſtian monk, called Baghdad; and others ſay, that this monk was called Dad, and that he poſſeſſed a beautiful and extenſive garden, whence the place where the city was founded received the appellation of Baghdad, or "the garden of Dad." The new metropolis was alſo denominated Medinat Al Salam "the city of peace," either in alluſion to the name of Jeruſalem, or becauſe, at the time when it was finiſhed, all the commotions in the empire were appeaſed, and almoſt every nation in Aſia had ſubmitted, or was become tributary. The firſt city erected by Al-Manſor was ſituated on the weſtern bank of the Tigris; but the Perſians taking offence at the erection of a city ſo near their frontiers, a new city was afterwards built on the eaſtern banks of the river called "the camp, or fortreſs of Al Mohdi;" and both theſe cities being united, formed the ancient Bagdad. The caliph had a ſuperb and magnificent palace in each portion of the new city. Bagdad was erected on the ruins of Seleucia, the remains of which, as well as of Cteſiphon, furniſhed the materials; and it ſeems to have been divided by the Tigris, as ancient Babylon was by the Euphrates. In the 149th year of the Hegira, A. D. 766, this famous capital of the Muſſulman empire was finiſhed. It was of a circular form, incloſed by a double wall, and flanked with a conſiderable number of towers. The caſtle, or citadel, was in the middle of it, and commanded every part of the town. Between the eaſtern and weſtern parts of the city a bridge was conſtructed in order to facilitate a communication between them. Beſides ſeveral public buildings erected by the caliph Al Manſor at Bagdad, there was a famous college founded by this prince, which has been extolled by Abulpharagius, on account of the beauty and elegance of its ſtructure, the number of ſtudents it contained, as well as the learned men it produced, and the ample revenues ſettled upon it, and ſuperior in his time to every other houſe of learning in the known world. Among the ſtudents there were 300 who devoted themſelves entirely to the ſtudy of the Mahometan law, according to the deciſions of the four chief ſects of the Sonnites, each of which ſects had a profeſſor in this college. For ſeveral ages Bagdad, beſides being the ſeat of power, abounded more with learned men than any other place in the Mahometan dominions, except Mecca and Medina. It was alſo extremely populous, and contained ſeveral forts and caſtles, capable of making a tolerable defence, and deriving their reſpective names from their founders. The language ſpoken in this city was one of the moſt polite and elegant dialects of the Arabic, as there was a greater concourſe of nobility and learned men, who excelled in many branches of literature, for ſeveral ages, in this city than in almoſt any other of the eaſt. The city had alſo a mint, in which were coined a great number of dirhems and dinars. Bagdad continued to be the ſeat of the caliphs of the race of Al Abbas for 500 years; but at length, in the year of the Hegira 656, A.D. 1258, the conqueſt of Iran, or Perſia, was atchieved by Holagou Khan, the grandſon of Zingis, the brother and lieutenant of the two ſucceſſive emperors Mangou and Cublai. After a ſiege of two months, it was ſtormed and ſacked by the Moguls; and their ſavage commander pronounced the death of the caliph Moſtaſem, the laſt of the temporal ſucceſſors of Mahomet; and thus the family of the Abaſſides was extinguiſhed. The Tartars or Moguls having plundered and ſet it on fire, and maſſacred many of the inhabitants, enriched themſelves by its ſpoil, as it was then reckoned one of the moſt conſiderable cities in the world; and they remained poſſeſſors of it till the year of the Hegira 795, A.D. 1392, when it was taken by Tamerlane, for the firſt time, from ſultan Ahmed, the ſon of Avis, who conveyed his baggage beyond the Tigris, and abandoned the capital to the conqueror; and it was taken a ſecond time in the year of the Hegira 803, A. D. 1403, from the ſame ſultan, who had recovered poſſeſſion of it. After this capture, it was reſtored by Tamerlane to the ſultan; but in the year 815, A.D. 1412, the ſultan was finally expelled by the Turcoman Cara Joſef. The deſcendants and ſucceſſors of Tamerlane remained maſters of Bagdad till the year of the Hegira 875. A.D. 1470, when they were expelled by Haſſan, ſurnamed Uzun, or Uſun-Caſſan. The princes of this family poſſeſſed it till the year of the Hegira 914, A.D. 1508, when Shah Iſmael, ſurnamed Sofi, the firſt prince of the race which afterwards reigned in Perſia, made himſelf maſter of it. From that time it was an object of conteſt in the wars between the Perſians and the Turks, for 100 years. The Turks took it under ſultan Soliman, and the Perſians retook it under Shah Abbas the Great, king of Perſia; but being at length beſieged by a formidable army under Amurath III. it was ſurrendered to him by Shah Sofi, king of Perſia, A. D. 1638; and from this time it has remained in the poſſeſſion of the Turks. Herbelot Bib. Or. p. 154. From this diſaſtrous period the trade of the place has conſiderably decayed, as the ſultan rifled all the rich merchants. However, though it is now at preſent under the Turkiſh yoke, Bagdad is a celebrated emporium and frontier of the Ottoman empire, on the ſide of Perſia, to which not only many merchants, but likewiſe an incredible number of paſſengers, travelling from Natolia, Syria, Paleſtine, and Egypt, into Perſia, continually reſort. Its ſituation on the banks of the Tigris renders it convenient for trade; but the heat of the climate is ſo exceſſive, that the inhabitants are obliged to keep their markets in the night during the ſummer, and to ſleep, as we have already ſaid,

on their terraces. The military government is under a pacha or baſha, who uſes various deſpotic methods to extort money from the inhabitants, and particularly from the Jews and Chriſtians, who are the principal merchants of the city, and who have been in a great meaſure driven from it by the oppreſſion they have ſuffered. The civil adminiſtration is exerciſed by a cadi, who acts as judge, president, and mufti, with a teſterdar or treaſurer under him. [illegible] of the grand ſignior. The pilgrims that viſit Meſhed by land are obliged to paſs through Bagdad, and [illegible] pays a tribute or toll, equivalent to four piaſtres, to the baſhaw, which branch of the revenue is annually a conſiderable ſum to the grand ſignior. The [illegible] are computed at 125 lacks of piaſtres, amounting to [illegible] ſterling; but of theſe, not more than [illegible] collected, by reaſon of the inſolence of the Turks. The baſhaw lives in all the ſplendor of a ſovereign prince, and maintains a very large army, he has recourſe to great injuſtice and oppreſſion, in order to obtain the neceſſary ſupply. The inhabitants of this city are chiefly Perſians, Armenians, Turks, Arabs, and Jews, and of theſe the laſt are moſtly bankers, or bankers, to the merchants. The Jews, notwithſtanding the ſeverity with which they are treated, are [illegible] here from a reverence to the prophet Ezekiel, whoſe mauſoleum they pretend is a day's journey from the city. Many of them likewiſe annually reſort hither from other parts to viſit the prophet's tomb. Two chapels are allowed for thoſe of the Romiſh and Greek perſuaſion. In this city there are ſeveral beautiful moſques, into which Chriſtians are not ſuffered to enter, for fear of their being defiled. The Mahometan women are very richly dreſſed, wearing bracelets on their arms and jewels in their ears. The Arabian women wear rings in the partition between their noſtrils, which are bored for this purpoſe.

The ruins of ancient Babylon are ſituated about fifteen leagues to the ſouth of Bagdad. See BABYLON.

BAGDEDIN, MAHOMET, in *Biography*, an Arabian mathematician, lived in the tenth century and is reported to be the author of ſeveral treatiſes in geometry, among which is one "On the diviſion of ſuperficies," tranſlated into Latin by John Dee of London, and by Frederic Commandini of Urbino, who publiſhed this treatiſe at Peſaro in 1570. Some have ſuppoſed that Bagdedin was merely the tranſlator of this work from Greek into Arabic, and that it was written by Euclid, or ſome other ancient mathematician. Moreri.

BAGENBON HEAD, in *Geography*, a cape of Ireland, in the Atlantic ocean, on the coaſt of Wexford. N. lat. 52° 9'. W. long. 6° 48'.

BAGGAGE, is particularly uſed, in the *Military Art*, for the neceſſaries, utenſils, apparel, &c. of the officers and ſoldiers. The baggage includes alſo women, children, ſuttlers, &c.

The baggage is well called by the Roman writers, *impedimenta*, on account of the great trouble and expence attending it. Unleſs ſtrict diſcipline be kept, great inconveniences may ariſe from it; whence ſeveral military laws and ordinances relating to the baggage.

The baggage-waggons, before a march, are appointed a rendezvous, where they are marſhalled by the waggon-maſter-general, according to the rank the ſeveral regiments bear in the army. On a march, they are ſometimes ordered to follow the reſpective columns of the army, ſometimes to follow the march of the artillery, and ſometimes to make a column of themſelves. The general's baggage is generally firſt. If the army march from the right, the baggage of that wing has the van; if from the left, the baggage of the left has the van. Each waggon has a diſtinguiſhing flag, to ſhew to what regiment it belongs.

BAGGAGE, *Packing up the, caſa colligere*, was a term among the Romans, for preparing to go to war, or to be ready for an expedition.

The formula by which the ſoldiers declared they were in [illegible] was [illegible].

The Romans [illegible] two kinds of baggage, a *grauis* [illegible] the [illegible] carried by the ſoldiers on their backs, [illegible] conſiſting of the things neceſſary to life, and which he could not do without. Hence *colligere ſarcinas*, packing up the baggage, is uſed for decamping, [illegible]. The great and heavier was carried on [illegible], and called *impedimenta*. Hence *impedimenta* [illegible] *impedire*. The baggage-horſes were denominated *veredi*, *veredi equi*.

The Roman ſoldiers in their marches were heavy laden, inſomuch that they were called, by way of jeſt, *mulli muniti*, [illegible]. They had four ſorts of baggage, which they never went without, viz. corn, or *buccellatum*, utenſils, *valli*, and arms.—Cicero obſerves, that they uſed to carry with them above half a month's proviſions; and we have inſtances in Livy, where they carried proviſions for a whole month. Their utenſils comprehended thoſe proper for gathering fuel, dreſſing their meat, and even for fortification, or intrenchment; and what is more, a chain for binding captives.

For arms, the foot carried a ſpear, ſhield, ſaw, baſket, *rutrum*, hatchet, *lorum*, *falx*, &c. Alſo ſtakes or pales, *valli*, for the ſudden fortifying a camp; ſometimes ſeven, or even twelve of theſe pales were carried by each man, though generally, as Polybius tells us, only three or four. On the Trajan column we ſee ſoldiers repreſented with this fardle of corn, utenſils, pales, &c. gathered into a bundle, and laid on their ſhoulders.

Thus inured to labour, they grew ſtrong, and able to undergo any fatigue in battle; the greateſt part of which never tired them, or put them out of breath. In after-times, when diſcipline declined, this luggage was thrown on carriages, and porters' ſhoulders.

The Macedonians were not leſs inured to hardſhip than the Romans; when Philip firſt formed an army, he forbid all uſe of carriages; yet with all their load, they would march in a ſummer's day, twenty miles in military rank.

BAGGER, JOHN, in *Biography*, a Daniſh divine, and biſhop of Copenhagen, was born at Lunden in 1646. After proſecuting his ſtudies under the ableſt maſters in Germany, the Netherlands, and England, he ſettled in his native place, and was appointed profeſſor of the oriental languages. At the age of twenty-nine years, he was advanced to the epiſcopal ſee of Copenhagen, and diſcharged the duties of his office with diſtinguiſhed approbation. He reviſed the ritual of public worſhip eſtabliſhed by Chriſtiern IV., and publiſhed ſeveral learned and eloquent diſcourſes in Latin and Daniſh. He died at the early age of forty-ſeven. A logical treatiſe of Bagger, under the title of "De principiis perfectivis Syllogiſmorum," was printed in 4to. at Copenhagen in 1665. Moreri.

BAGGING *of Hops*. See HOPS.

BAGHYRETTY, in *Geography*, a river of India, ſuppoſed by major Rennell, to be the true head of the Ganges, which joins the Alucknundra river, the former proceeding from the north, and the latter from the north-eaſt, at Deuprag, or the middle Gangoutra, i. e. the fall or caſcade of the Ganga, or Ganges, at a few miles diſtance below Sirinagur; and then they form the proper Ganges of Hindoſtan, which after-

afterwards iſſues through mount Sewalick, at Hurdwar, the lower Gangoutra. Of theſe two ſtreams Alucknundra is the largeſt; and at Srinagur, ſeated on its banks, being confined in a channel 100 yards wide, it runs with aſtoniſhing rapidity, and is croſſed by means of rope bridges of ſingular conſtruction. This river has its ſource in the ſnowy mountains of Thibet; and it is probably the ſame river which Du-Halde mentions under the name of Manchou. The Baghyretty river has its ſource far more remote; but the direction of its courſe above the upper Gangoutra is unknown. According to the information of Mr. Daniel, the Baghyretty river ſeparates, at a conſiderable diſtance below the Cow's Mouth, into two branches; the eaſternmoſt of which is ſaid to be the Alucknundra. But this depends upon a vague report of travellers, which, ſays major Rennell, cannot be depended upon. Rennell's Memoir, p. 371.

BAGIA, in *Ancient Geography*, a promontory of Caramania, near which was a rock conſecrated to the ſun. Ptolemy.

Bagia, in *Geography*, a town of Perſia, in the province of Farſiſtan, 120 miles north-eaſt of Schiras.

BAGIENNA, in *Ancient Geography*, a town of Aſia, in Armenia Major. Ptolemy.

BAGIEU, Jacques, in *Biography*, ſurgeon to a regiment of cavalry, in the middle of the laſt century, and author of ſeveral valuable works on chirurgical ſubjects, particularly on the method of treating gun-ſhot wounds. He oppoſes the frequent amputation of limbs, ſo common in France, and reduces the caſes, rendering that operation neceſſary, to a very ſmall number. He defends experience, as more valuable than theory; no courſe of reading, or ſtudy, being competent to ſupply the place of practice, the light or knowledge obtained from which is often incommunicable. He commends Amb. Parey's practice in gun-ſhot wounds, of firſt uſing emollient applications, and then making large openings for diſcharging the confined matter. He does not admit the efficacy of the Peruvian bark in checking the progreſs of gangrene, which he thinks has its boundaries affixed by nature. He is ſuppoſed, by Portal, to be the author of "Lettre de M. Chirurgien de Province, a M. Chirurgien de Paris," 8vo. 1740.—Alſo, "Deux Lettres d'un Chirurgien de l'Armèe, l'une ſur pluſiures chapitres du tr. de la gangrene de M. Queſnai, l'autre ſur le tr. des armes a feu, de M. Deſportes;" Paris, 1750, 12mo. "Nouvelle Lettre de M. Bagieu, &c." 1751, 12mo. "Examen du Pluſieurs parties de la Chirurgie, &c." 2 vol. 1756. Haller Bib. Chirurg.

BAGISARA, in *Ancient Geography*, a port of Carmania. Arrian.

BAGISTANA, a town of Aſia, in Upper Media, at the foot of the mountains in which are the ſources of the river Gyndes; ſouth-weſt of Ecbatana.

BAGISTANUS, a mountain of Aſia, between Babylonia and Media, conſecrated to Jupiter. Diod. Sicul.

BAGITAN, in *Geography*, a town of Perſia, in the province of Segeſtan, 110 miles north of Zareng.

BAGIURA, a town of Egypt, twenty-five miles ſouth of Girgé.

BAGLAFECHTE, in *Ornithology*, the name of Gmelin's *loxia philippina*, var. β, in Buffon's hiſtory of birds.

BAGLANA, or Buglaneh, in *Geography*, a province of the Mogul empire, in the peninſula of India, encompaſſed by Guzerat, Dowlatabad, and Candeiſh. It is included within a ridge of the Gauts, and is exceedingly mountainous, but contains alſo many fertile and pleaſant tracts. Few countries poſſeſs greater advantages, with regard to natural ſtrength; and theſe are augmented by no fewer than nine ſtrong fortreſſes, ſeated on the ſummits of rocks, of which Salheir and Mulheir are accounted impregnable. According to Abdul Humeed, Baglana extended from the ſea-coaſt near Surat, which was its weſtern boundary, to the borders of Dowlatabad (or Aurungabad) eaſtward; being in length 100 common coſſes, and in breadth, from Naderbar and Sultenpur on the north, to Naſſuck Trimbuck on the ſouth, 70 coſſes. Shahnawaz, though he agrees with Abdul Humeed, with reſpect to the length, allows about 30 for the breadth; and major Rennell ſays, that it certainly is not 70 coſſes, and yet much more than 30, in diſtance between the aſſigned limits on the north and ſouth. It has owed its independence, not merely to its natural ſtrength, but to the addreſs of its rajahs, who courted the princes of the kingdoms of Guzerat, Dowlatabad, and Candeiſh, by which it was ſurrounded. Whenever the conqueſt of it was attempted by any one of theſe princes, the other two armed in its defence. When the ſurrounding kingdoms ſucceſſively fell under the Mogul power, the rajah, for the firſt time, acknowledged a ſuperior, and viſited the court of Acbar. But even then the Moguls contented themſelves merely with a tribute, until the rapid progreſs of Aureng Zebe's conqueſts and power in the Deccan. Its revenue, previouſly to the Mogul conqueſt, was about 80,000l. Rennell's Mem. p. 259.

BAGLIONE, Costanza, in *Biography*, a moſt pleaſing ſinger, and excellent actreſs, in the comic opera at Milan, in 1770, at the head of a Bologneſe muſical family, of which ſix ſiſters were all ſingers, doubling the number of our Abrams's, but not the merit. Three of theſe ſiſters went afterwards to Paris, "who pleaſed there ſo much (ſays M. La Borde), as to make us wiſh to hear the reſt." Eſſai ſur la Muſique.

BAGLIVI, George, born, Haller ſays, in Raguſa, a city in Dalmatia, in the year 1668, applied himſelf early to the ſtudy of medicine. After attending the leſſons of the profeſſors at Naples and at Padua, at which latter place he graduated, to improve himſelf further, he travelled over Italy, and ſettling at length at Rome, viz. in 1692, was advanced to the chair of profeſſor of the theory of medicine and of anatomy, by pope Innocent XII. to whom he dedicated his firſt work, "De Praxi Medica, ad priſcam obſervandi rationem revocanda;" lib. iv. printed in 1696, 8vo.

In this work the author laments the degraded ſtate of medicine in his time, which he attributes to the neglect of obſervation and experiment, and of the ſtudy of the writings of the ancient Greek phyſicians, particularly of Hippocrates, joined to an inordinate paſſion for ſpeculative reaſoning. He acknowledges, however, the improvements that had been made in anatomy and phyſiology, and that the theory of the moderns, founded on theſe improvements, far excelled the hypothetical reaſoning of the ancients; and thence conjectures, that when we ſhall ſedulouſly bend our minds to practical obſervations, we ſhall as far excel the ancients in our knowledge of the true method of treating diſeaſes, as we then excelled them in theory.

Examining the queſtion, whether theory or practice conduce moſt to a knowledge of the method of curing diſeaſes, he determines in favour of practice, but recommends both; "Quæcumque," he ſays (Opera omnia, 4to. p. 127.), "de medicina meditatus fueris, pro veris non habeas, niſi prius ad lydeum praxeos lapidem revocaveris; quod ſi repetita experientia inveneris vera, pro veris ſemper habeto. De bono, aut malo vino, judicare non poteris, niſi guſtaveris; perfectus muſicus non erit, niſi cecinerit; nec miles ſtrenuus, niſi bella geſſerit." Baglivi is accuſed of plagiariſm, and

of

of being himſelf too much addicted to theory; his credulity is alſo cenſured, for ſuffering himſelf to be impoſed on by vagabonds, pretending to labour under various nervous affections, in conſequence of having been bitten by a tarantula, a ſpecies of ſpider common in ſome parts of Italy, and that they could only be cured by certain muſical ſounds. But we ſhall be diſpoſed to moderate our cenſure of Baglivi, when we find our countryman Dr. Mead (who, though born about the ſame time, lived nearly fifty years after him) attempting to account for theſe extraordinary effects of the bite of the inſect, attributing them to the temperature of the climate, and of the inhabitants of Apulia, where the ſpider is moſt frequent, and explaining, on philoſophical principles, the manner in which muſic operates in allaying the tumult in the conſtitution occaſioned by the poiſon. Mead ſeems to think it not improbable that Pythagoras firſt introduced this mode of practice, in curing the effects of the bite of the tarantula. See his Medical Works, 4to. p. 66, &c. The ſame year, viz. 1696, Baglivi publiſhed his diſſertation "De Anatome, morſu, et effectibus Tarantulæ;" then followed his treatiſe "De Fibra motrice et morboſa." In this work is contained the author's theory, borrowed from Pachioni (to whom, however, he ſays, Op. Om. p. 258, he communicated his lucubrations), of the origin of the motion of the ſolids; which he attributes, cap. iv. to a conſent between the heart and the dura mater. In 1704 he publiſhed at Rome "De Medicina ſolidorum ad rectum ſtatices uſum Canones:" and in 1705, "De propriſſima Terræ motus." Theſe, with various other diſſertations, have been collected and publiſhed under the title of "Opera Omnia," which has paſſed through numerous editions; and though his theory has long ſince given place to others, in their turn to yield to theories perhaps equally fallible, the work will always deſerve the attention of the medical ſtudents, for the numerous and valuable obſervations with which it abounds. Baglivi died in the year 1707, aged only 38 years. Heller. Bib. Med. Pract. and Bib. Anatom.

BAGNA, in *Geography*, a town of Servia, twenty miles north-eaſt of Pocutin.

BAGNACAVALLO, a town of Italy, in the ſtate of the church and duchy of Ferrara, on the river Senio, forty miles weſt of Ravenna.

BAGNAGAR. See Hyderabad.

BAGNALET, a town of France, one league eaſt of Paris.

BAGNARA, a ſea-port town of Italy, in the kingdom of Naples, and province of Calabria Ultra, deſtroyed by an earthquake in the year 1783; fourteen miles weſt of Oppido. N. lat. 38° 15'. E. long. 16° 5'.

BAGNAREJA, a town of Italy, in the ſtate of the church, and province of Patrimonio, with a biſhop's ſee; ſix miles ſouth of Orvieto. N. lat. 42° 36'. E. long. 12° 10'.

BAGNERES *De Luchon*, a town of France, in the department of the Upper Garonne, and chief place of a canton in the diſtrict of St. Gaudens, near the ſource of the river Garonne, at the foot of the Pyrenees, and filled ſome medicinal ſprings; ſeven leagues ſouth of St. Gaudens.

BAGNERES *en Bigore*, a town of France, and principal place of a diſtrict in the department of the Higher Pyrenées, ſeated on the Adour; celebrated for its baths, which are much frequented in ſpring and autumn; a ſmall but neat town; ten miles ſouth of Tarbes. N. lat. 43° 3'. E. long. 0° 12'.

BAGNEUX, a town of France, 1½ league S.S.W. of Paris.

BAGNI, a town of European Turkey, in Romania, forty miles weſt of Filippopoli.—Alſo, a town of Italy, in the kingdom of Naples, and country of Lavoro, eight miles ſouth of Sezza.—Alſo, a town of European Turkey, in the province of Macedonia, on the river Vardar, forty-four miles N.N.E. of Akrida.

BAGNIALACK, a town of European Turkey, in the province of Boſnia. N. lat. 44°. E. long. 18° 10'.

BAGNIO, an Italian term ſignifying a *bath*, is uſed by us for a houſe with conveniences for bathing, ſweating, and otherwiſe cleanſing the body; and ſometimes for worſe purpoſes.

Bagnio is alſo become a general name in Turkey for the priſons where their ſlaves are incloſed; it being uſual in thoſe priſons to have baths.

BAGNOLENSES, or Bagnolians, in *Eccleſiaſtical Hiſtory*, a ſect in the eighth century, who were thought Manichees, though they denied their errors.—They rejected the Old Teſtament, and part of the New; held the world to be eternal; and affirmed, that God did not create the ſoul when he infuſed it into the body.

They derive their name from *Bagnols*, a city in Languedoc, where they were chiefly found.

BAGNOLS, in *Geography*, a town of France, in the department of the Gard, and chief place of a canton in the diſtrict of Pont St. Eſprit, two leagues ſouth of Pont St Eſprit.

Bagnols, *les Bains*, a town of France, in the department of the Lozerre, and chief place of a canton in the diſtrict of Mende, eight miles eaſt of Mende.

BAGNUOLO, a town of Italy, in the kingdom of Naples, and Principato Ultra, twelve miles weſt of Conza.

BAGOI, among the ancient Perſians, were the ſame with thoſe called by the Latins, *ſpadones*, viz. a ſpecies of eunuchs, in whom the canal of the penis was ſo contorted by a tight vinculum, that they could not emit the ſemen.

BAGORODITZ, in *Geography*, one of the twelve diſtricts of the government of Tula, in Ruſſia, ſeated on the river Upa.

BAGOUS, in *Ancient Geography*, a name given to a ridge of mountains which were part of mount Imaus, towards the ſource of the river Indus.

BAGPIPE, a muſical inſtrument of the wind kind, chiefly uſed in country places, eſpecially in the North.—It conſiſts of two principal parts: the firſt a leathern bag, which is blown up like a foot-ball, by means of a port vent, or little tube, fitted to it, and ſtopped by a valve.

The other part conſiſts of three pipes or flutes; the firſt, called the great pipe, or drone; and the ſecond, the little one, which paſſes the wind only out at the bottom; the third has a reed, and is played on by compreſſing the bag under the arm when full, and opening or ſtopping the holes, which are eight, with the fingers. The little pipe is ordinarily a foot long, that played on thirteen inches, and the port vent ſix.

The bagpipe takes in the compaſs of three octaves.

This inſtrument was not unknown to the ancients. It was called by the Greeks ασκαυλος; by the Romans *tibia utricularis*. The Italians call it *piva, cornamuſa*; the French *muſette* and *chabrette*. In the firſt volume of the French Encyclopedie, there is a curious and elaborate deſcription of the inſtrument, its conſtruction, ſcale, &c. By the ornaments mentioned, it muſt have been admitted into good company.

The invention of it is derived by ſome from Tubal; others aſcribe it to Pan; others to Mercury, to Faunus, to Maſ-

ſyas, and to the young Sicilian ſhepherd Daphnis, who firſt compoſed paſtorals.

An anonymous French author has publiſhed a treatiſe of the bagpipe, "Traité de la Muſette," with a new method of learning to play on it without a maſter. Fol. Par. 1672.

Bagpipe *the Mizen*, in *Sea Language*, is to lay it aback, by bringing the ſheet to the mizen-ſhrouds.

BAGRADA, or Bragada, now *Mejerda*, in *Ancient Geography*, a river of Africa Propria, the ſource of which Ptolemy fixes in mount Mampſarus, erroneouſly repreſenting its courſe to have been from north to ſouth; whereas it flows in a direction from weſt to eaſt. It is equal, ſays Dr. Shaw (Travels, p. 77.), to the Iſis united with the Cherwell, and continues winding, through its whole courſe, along a rich and fertile country, with the ſoil of which it becomes ſo well ſaturated, that it is of the ſame colour with the Nile, and has the ſame property of making encroachments on the ſea. To this circumſtance may be aſcribed the many changes which appear to have been made at one time or other in the channel of it; and to this alſo it is owing that an open creek of the ſea, into which the Mejerda about a century ago diſcharged itſelf, is now circumſcribed by the mud, and become a large navigable pond, the anti-harbour, as Dr. Shaw calls it, to port Farina. The ſituation of Utica and of Carthage, with reſpect to this river, are materially altered. (See Carthage, and Utica.) Bochart (l. i. c. 24.) deduces the name Bagrada, from ברכה or ברכתא *barakta*, a pond, agreeably to the deſcription of Silius Italicus, l. vi. 140:—

"Turbidus arentes lento pede ſulcat harenas
Bagrada, non ullo Libycis in finibus amne
Victus limoſas extendere latius undas,
Et ſtagnante vado patulos involvere campos."

BAGRADAS, a river which flowed on the confines of Perſia and Carmania, and diſcharged itſelf into the Perſian gulf. Ptolemy.

BAGRE, in *Ichthyology*, a ſpecies of Silurus that inhabits South America. The poſterior dorſal fin is fat or fleſhy; firſt ray of the dorſal and pectoral fin ſetaceous; beards four. Gmel.

BAG-REEF, in *Sea Language*, denotes a fourth or lower reef of ſail, ſometimes uſed in the royal navy.

BAGSZELAR, in *Geography*, a town of European Turkey, in the province of Bulgaria, 20 miles north-eaſt of Ternova.

BAGUETTE, in *Architecture*, a little round moulding, leſs than an aſtragal; ſometimes carved and enriched with foliages, pearls, ribbands, laurels, &c. According to M. Le Clerc, when the baguette is enriched with ornaments, it changes its name, and is called *chaplet*; and unornamented, it is a *bead*.

BAHAMA Islands, in *Geography*, a name commonly applied by the Engliſh geographers to that cluſter of ſmall iſlands, reefs, and rocks of ſand, which ſtretch in a north-weſterly direction for the ſpace of near 300 leagues from the northern coaſt of Hiſpaniola to the Bahama ſtrait, oppoſite to the Florida ſhore; or from about 20° to 28° N. lat. and from about 70° to 80° W. long. This whole group is called by the Spaniards *Lucayos*. The iſland of Bahama, which gives name to the reſt, N. lat. 26° 45′. W. long. 78° 35′, is about 25 leagues diſtant from the continent of Florida; it is about 50 miles long, and ſcarcely any where 16 broad. The number of theſe iſlands is ſaid to be about 500, of which, however, ſome are merely rocks. Though their number is conſiderable, and ſome of them are of a large ſize, our knowledge of them is very imperfect. They were firſt diſcovered by Columbus, A.D. 1492; and the firſt land he diſcovered was that of Guanahani, on which he landed to return thanks for his ſucceſs, and to erect a croſs; and he denominated the iſland San Salvadore, taking poſſeſſion of it in the name of his Catholic majeſty. This iſland, in the vicinity of Providence iſland, is known to the Engliſh navigators by the name of Cat iſland. Columbus, however, made no ſettlement in theſe iſlands. About the year 1629, it is ſaid (ſee Anderſon's Comm. vol. ii. p. 37.), the Engliſh began to plant on the iſland of Providence, which till then was uninhabited; and after the concluſion of peace with Spain, king Charles I. renewed his grant of this and the other Bahama iſlands. In the year 1666, captain Sayle, an Engliſhman, was forced in his paſſage to Carolina, by ſtreſs of weather, to land upon one of theſe iſlands; and upon his return to England, he made ſo favourable a report of them, that ſix of the proprietaries of Carolina ſolicited, and obtained a grant of them. Captain Sayle, in a ſecond viſit to the iſland of Providence, which was one of them, diſcovered the advantage which England might derive from it; and he made the government of England ſo ſenſible of it, that about the yeat 1672 they ſent thither a governor and a colony. But the ſettlement was diſturbed by Spaniſh pirates; and the iſland of Providence, and the other Bahamas, were abandoned. The chief town of Providence, called Naſſau, conſiſted at this time of 150 houſes. The iſland afterwards became a neſt of pirates, who interrupted the American navigation; and on this account, an order was iſſued by his majeſty king George I. on the concluſion of a peace with Spain in 1721, to fortify and ſettle the iſland, and to diſlodge theſe outlaws. The Engliſh in the Bahama iſlands have been computed at three or four thouſand; half being ſettled in Providence, where is the fort called Naſſau; and a ſmall harbour. But the natural barrenneſs of the ſoil, and the narrow length of theſe iſles, which expoſes them to the heat and to the winds, account for their comparative inſignificance in this grand commercial archipelago. Of their preſent ſtate, little ſatisfactory information has been obtained even by the lords of the committee of council for the affairs of trade and plantations. To the inquiries of their lordſhips in 1789, as to the extent of territory in theſe iſlands, the quantity of land in cultivation, the number of white inhabitants, productions, and exports, &c. the only anſwer that could be obtained from the governor was this, "that it was at that time impoſſible to aſcertain any of thoſe particulars." It appears, however, from the teſtimony of other perſons, that theſe iſlands in general are rocky and barren; that the only article cultivated for exportation is cotton, of which the medium export is 1500 bags of two hundred weight; that the inhabitants, who in 1773 conſiſted of 2052 whites and 2241 blacks, have been of late years conſiderably augmented by emigrants from North America; but of their preſent number no preciſe account is given. Edwards's Hiſt. of the Weſt Indies, vol. i. p. 470.

Bahama *Straits*, called the *gulf of Florida*, the narrow ſea between the coaſt of America and the Bahama iſlands, about 45 leagues long, and 16 broad.

Bahama *Bank, Great*, a bank of ſand extending from near the iſland of Cuba, N. lat. 22° 20′, to the Bahama iſlands, N. lat. 26° 15′. The ſand which lies to the north of the iſland Bahama is called *Little Bahama Bank*.

BAHAR, or Barr, in *Commerce*, a weight uſed at Ternate, Moca, in the Moluccas, Achem, and divers other parts of the Eaſt Indies. There are two kinds, the great, with which ſpice is weighed, equal to 524 lb. 9 oz. avoirdupois The little bahar ſerved for the weighing quickſil-

ver,

ver, vermilion, ivory, ſilk, muſk, and other precious wares, equal to 437 lb. 9 oz. avoirdupois weight.

Bahar, in *Geography*, one of the eleven ſoubahs, or provinces, into which Acbar divided Hindoſtan proper; bounded on the eaſt by Bengal, on the north by Napaul and Bootan, on the ſouth by Oriſſa, and on the weſt by Oude, Benares, and Allehabad. It has been eſtimated at 250 miles from north to ſouth, and at 200 miles from weſt to eaſt. It produces wheat, rice, peas, &c.; but the principal article of export is ſaltpetre; moſt of that which is imported by the Eaſt India company being manufactured within this province. The capital is Patna. Mr. Fraſer, in his "Life of Nadir-Shah," ſtates the revenues of this province, under Aureng-Zebe, at 101½ lacks of rupees. The greateſt part of Bahar is poſſeſſed by the Britiſh nation; but there are ſeveral purgunnahs, or hundreds, on the ſouth-weſt of Little Nagpour, that were formerly claſſed as belonging to Bahar, which are now in the poſſeſſion of the Mahrattas.

Bahar, a town of Hindoſtan, in the province of the ſame name; remarkable for its number of funeral monuments; 30 miles ſouth-eaſt of Patna, and 220 north-weſt of Calcutta. N. lat. 25° 14′. E. long. 85° 45′.

Bahar, or *Bazen*, a town of Perſia, in the province of Kerman; 40 miles ſouth-eaſt of Sirgian.

BAHARITES, derived from the Arabian *bahar*, or *ſea*, and denoting *maritime*, in *Hiſtory*, the denomination of a claſs of perſons in Egypt, who having aſſaſſinated Touran Chah, the laſt of the family of the Aioubites, reigned over Egypt and Syria for 136 years, and had 27 kings. The Baharites were of Turkiſh origin. Nejm Eddin purchaſed them of the Syrian merchants. They were dethroned in their turn by the Mamalukes or Circaſſian ſlaves, in the year 784 of the Hegira, A. D. 1382; who formed a new dynaſty which kept poſſeſſion of Egypt until the conqueſt of Selim, emperor of the Ottomans, in the year 923 of the Hegira, A. D. 1517.

BAHARNAGASH, a country of Abyſſinia, adjoining to the province of Tigré, and ſituate between the river Aſtuſaſpes and the Arabian gulf. Its capital is Dobarwa, in N. lat. 15° 22′. E. long. 39°.

BAHAS, in *Geography*, a town of Arabia, ſixteen miles N.N.W. of Loheia.

BAHBELGONG, a town of Hindoſtan, in the country of Baglana; 65 miles weſt of Aurungabad. N. lat. 20° 45′. E. long. 74° 51′ 30″.

BAHI, a province of the iſland of Luçon or Manilla, one of the Philippine iſlands. It produces excellent betel, which the Spaniards are continually chewing; and it is the place where moſt of the ſhips are built. The province is about 30 leagues in circuit, and contains about 6000 tributary natives.

BAHIA, De Todos Los Sanctos, a province of Braſil, in South America, and the richeſt in the whole country; but the air and climate do not correſpond with other natural advantages. The province is ſo fertile in ſugar and other articles of commerce, that the Portugueſe reſort in great numbers to it, as the ſeat of affluence, and alſo of pleaſure and grandeur. The capital called *St. Salvador*, or *Cividad de Bachia*, is populous and magnificent, and by far the moſt gay and opulent city in Braſil. It ſtands in a bay in S. lat. 12° 11′; it is naturally ſtrong, and is alſo well fortified and defended by a numerous garriſon. See All Saints, and St. Salvador.

BAHIR, in *Literary Hiſtory*, denotes *famous* and *illuſtrious*, and is particularly uſed for a book of the Jews, treating of the profound myſteries of the cabbala; being the moſt ancient of the Rabbinical works.

BAHIRA, or Rif, in *Geography*, the northern diſtrict of Egypt, extending from the diviſion of the Nile to its eaſt and weſt branches, on both ſides to the Mediterranean. The principal towns are Alexandria, Roſetta, Damietta, Menuf, Manſoura, Tineh, Catieh, and Foueh.

Bahira, among the *Ancient Arabs*, a name given to one of the four kinds of camels or ſheep, which, for ſome reaſons of their religion, were turned out at liberty with an ear-mark, no longer to be uſed for ſervice like other cattle.

The bahira, with the *ſabai*, *waſita*, and *hami*, were aboliſhed by Mahomet as no ordinance of God.

Authors are not agreed as to the characters of the bahira.

BAHRAITCH, in *Geography*, a town of Hindoſtan, in the province of Oude, 55 miles N.N.E. of Lucknow. N. lat. 27° 30′. E. long. 81° 57′.

BAHRDT, Charles Frederic, in *Biography*, a theological and ſatirical writer, was born at Biſchofswerda, Aug. 25th, 1741. Having commenced his education, without much improvement, under private tuition at Leipſic, where his father lived, he was removed to a public ſchool, and afterwards to the grammar ſchool at Pforte. From hence he returned to Leipſic, where after receiving ſome private inſtruction in the Greek and Latin from Erneſti, he was entered in the univerſity, and quitting it after two years, he commenced preacher in the vicinity of Leipſic. In 1761, he was admitted to the degree of maſter of arts, and ſome years after he was appointed extraordinary profeſſor of ſacred philoſophy. In 1763, he publiſhed a work, intitled, "The true Chriſtian in Solitude;" and alſo his "Commentary on Malachi," in which he endeavoured to diſplay his talents in biblical criticiſm, and his knowledge of oriental literature. An intrigue, which rendered him a father, defeated all his expectations at Leipſic, and obliged him to retire to Halle; and he was appointed profeſſor of biblical antiquities at Erfurt. Having no ſalary, but ſupplied with money by his father, he found his ſituation agreeable; however he introduced ſome remarks of a theological kind, which were not thought orthodox; and complaints were preferred againſt him by Schmidt and Vogel, two clergymen of that city. In order the more ſucceſsfully to repel the accuſation of his antagoniſts, he purchaſed the degree of doctor in theology from the univerſity of Erlangen, which gave him a right to read public lectures in divinity; and in 1769, he publiſhed in his defence the firſt part of his "Eſſay towards a Syſtem of the Doctrines contained in the Bible." About this period he alſo publiſhed "The earneſt Wiſhes of a dumb Patriot," in which he attacked the weakeſt proofs of the fundamental truths of the theological ſyſtem, and endeavoured to raiſe ſuſpicions againſt profeſſor Schmidt of being a Jeſuitical ſectarian. His conduct in this reſpect was reprobated by the faculty of divines at Wittenberg, and thoſe of Gottingen recommended reconciliation. In 1770, Bahrdt publiſhed at Eiſenach his "Syſtem of Moral Theology," which was favourably received, and he embarked, from a deſire of fame and love of money, in ſome other projects and undertakings. The approbation generally beſtowed on his critical performances induced him to undertake an edition of the Old Teſtament ſimilar to that announced by Dr. Kennicott; but neither his knowledge nor ſituation promiſed ſucceſs, and his intentions were never fulfilled. He afterwards thought of improving his finances by marriage, and eſpouſed a young widow of Mulhauſen with a fortune of 6000 dollars. In 1771, he entered on the office of fourth profeſſor of philoſophy at Giehen in Heſſe; and here, in the ſpace of four years, he publiſhed two "Collections of Sermons," a "Book

of Homilies," his "Apparatus Criticus Veteris Teſtamenti," "A general Theological Repoſitory," "Outlines of an Eccleſiaſtical Hiſtory of the New Teſtament," "Propoſals for explaining the Doctrines of the Church," "A Critical Examination of Michaelis's Tranſlation of the Bible," and "The pureſt Revelation of God," i. e. a tranſlation of the New Teſtament with notes. The heterodoxy of his opinions raiſed a violent ſtorm againſt him at Gieſſen; but he eſcaped it by a removal to the office of director of the philanthropinum of Von Salis at Marſchlinz, in Switzerland, with a ſalary of 2000 florins. He ſoon however changed his ſituation, and in 1776 removed to Durkheim, and eſtabliſhed a ſeminary of education at Heideſheim. His philanthropinum was opened in 1777, and for ſome time it proſpered; but he involved himſelf in debt, and being under a neceſſity of removing, he determined to viſit Holland and England for the purpoſe of procuring pupils in thoſe countries. On his return to Heideſheim with 13 pupils, he was informed that he had been ſuſpended from all his employments by a conclaſion of the inſpectoral general. Bahrdt had now no other reſource beſides that of quitting the empire, and ſeeking refuge in Pruſſia. Accordingly, in 1779, he retired with his family to Halle; and had again recourſe to his pen. Here he publiſhed extracts from the ſacred ſcriptures, under the title of "The Bible in Miniature," which was printed in 1780; and he delivered private lectures on philoſophy, humanity, and rhetoric; and he alſo read lectures on Tacitus and Juvenal. Upon his firſt arrival at Halle, he acknowledges, in his life, that there were ſome latent ſparks of religion in his mind; but that they were ſoon totally extinguiſhed by his intercourſe with deiſts. In the works, therefore, which he now publiſhed, he endeavoured to teach the doctrine and hiſtory of Chriſtianity ſeparate from every thing ſupernatural, accommodated to reaſon, and agreeable to his own ideas of its original ſimplicity. But his health declining, he was under the neceſſity of altering his mode of life, and he purchaſed a vineyard with a ſmall farm attached to it in the neighbourhood of Halle. Part of his manſion was fitted up as a tavern and coffee houſe; and in this ſituation Bahrdt acquitted himſelf as a landlord and a pleaſant companion. But his affection and confidence being directed towards a maid ſervant who managed his houſe, he obliged his wife, by the moſt cruel treatment, to leave him; and when ſhe afterwards returned to him, ſhe became a victim to ſtill greater barbarities.

Bahrdt, whilſt he was in England, had been initiated in maſonry; and in the year 1781, upon the peruſal of Stark's book on the myſteries, he adopted the notion that Jeſus Chriſt muſt have intended, by eſtabliſhing a ſecret ſociety, to preſerve and diffuſe among mankind truth almoſt baniſhed from the world by prieſts. This idea he propagated in his "Accompliſhment of the Plan and Object of Jeſus," and in the third edition of his "Tranſlation of the New Teſtament." In the year 1784 or 1785, a ſociety of twenty-two united maſons was eſtabliſhed in Germany, with a view of improving the arts and ſciences, commerce, and above all, religion, among the common people. Bahrdt became a member of this ſociety, and propoſed that it ſhould engroſs the buſineſs of book-ſelling, partly with a view to gain money, and partly for obtaining the complete ſovereignty of the republic of letters in Germany. This plan, however, not being approved, failed. In 1785 or 1786, he formed another project, which was that of making himſelf the founder of an avowed deiſtical ſect in Pruſſia; but it does not appear that he ever ſeriouſly attempted it. In 1787, he exerted himſelf with zeal in ſupporting the union, and aſſembled the members; but after a ſecond meeting, he received notice to diſcontinue theſe aſſemblies. But his own activity was unintermitting, and he continued to propagate his ideas by an epiſtolary correſpondence during the whole of the year 1788. He alſo publiſhed ſeveral works calculated to promote his views, and relating to the union, ſuch as "Obſervations on the Liberty of the Preſs and its Boundaries," and "Zamoor, or the Man of the Moon," in which he delineates free-maſonry in Germany, as corrupted by the wildeſt fanaticiſm and the darkneſs of popery. There alſo appeared about this time a comedy, called "The Edict of Religion," univerſally aſcribed to him, on account of which he was arreſted, and confined at Halle; and during his imprisonment, he wrote "Morality for the People," which has been repreſented as the beſt finiſhed and moſt valuable of his works, though he completed it in the courſe of three weeks. Upon his trial, he was acquitted with regard to the charge that related to the union, but declared guilty of having written the comedy, and ſentenced to two years imprisonment in the fortreſs of Magdeburg, which term was mitigated by the king to half that period. During his confinement, his leiſure moments were employed in writing the "Hiſtory of his own Life." After his releaſe, he returned to his vineyard, and renewed his barbarities towards his wife, who abandoned him, and left him at liberty to take home his maid-ſervant and her children. Here he continued his former life as landlord and writer. Being attacked by a diſorder in his throat, he recurred to the too liberal uſe of mercury, and a fever enſuing, he expired on the 23d of April 1792. His works on morality and religion, beſides thoſe already mentioned, were very numerous. His ſatirical pieces, being of a temporary nature, have ſunk into merited oblivion. The genius of Bahrdt was comprehenſive and verſatile; but his principles and his conduct were licentious; and his hiſtory exhibits the perverſion of talents, which properly employed and accompanied with integrity, might have rendered him reſpectable and uſeful. Gen. Biog.

BAHREIN, Bahhrein, or Bahrin, a fortified town of Arabia, ſituate on an iſland of the ſame name, called alſo Aval; which ſee. The name is extended to a group of ſmall iſlands adjacent to one another, the largeſt of which is Bahrein. Bahrein once belonged to the Portugueſe. When they were driven out of the Perſian gulf, it fell into the hands of the ſcheik of Lachſa; but was taken from him by the Perſians. The imam of Oman then made himſelf maſter of it; but gave it up again to the Perſian monarch for a ſum of money. It afterwards changed its owners; but in 1765 it reverted into the poſſeſſion of the ſcheik of Abu Schæhhr, and he was then ſole monarch of the iſland. It is famous for its pearl fiſhery. (See Pearl.) N. lat. 26°. E. long. 49°.

Bahrein is an appellation ſometimes given to the province of *Lachſa*; which ſee.

BAHR EL ABIAD, or the White River, a name given to the real Nile, near its firſt origin; the ſources of which in the African Alps of Kumri remain to be explored.

BAHR EL AZREK, Blue River, or *Abyſſinian Nile*, has its chief ſpring in a ſmall hillock, ſituated in a marſh, and joins the Bahr el Abiad, or true Nile, about N. lat. 16°; the latter is tinged, the former is clear. The Bahr el Azrek was miſtaken for the real Nile, by the Portugueſe writers, Alvarez, Tellez, &c. probably miſled by the vain glory of the Abyſſinians; though it was well known to the ancients as quite a diſtinct river, being the Aſtapus flowing into the Nile from the Coloe Palus, now the lake of Dembea. Mr. Bruce has adopted the ſame miſtake; and it is ſaid, that when M. d'Anville ſhewed him his miſtake, he reſolved to expunge the White river from his map, though

though he acknowledges in his work that it is the largeſt ſtream. The Bahr el Azrek is ſtyled Abawi by the Abyſſinians. The ſources of this river were accurately deſcribed in the ſeventeenth century by Payz, a Portugueſe miſſionary, whoſe account was publiſhed by Kircher and Iſaac Voſſius; and has been not long ago minutely copied by Bruce, as Hartman has ſhewn by printing the two accounts in parallel columns. Pinkerton's Mod. Geog. vol. ii. p. 725.

BAHRENBURG, in *Geography*, a town of Germany, in the circle of Weſtphalia, and county of Hoya, on the river Suhlingen, four miles S.S.W. of Hoya.

BAHUS, in *Geography*, a river of France, which runs into the Adour, about a league above the Sever.

Bahus. See Bohus.

BAJA, in *Entomology*, a ſpecies of Phalæna (Noctua), of the middle ſize, that inhabits Europe. The wings are ferruginous, with a ſmall black ſpot at the baſe, and a double one at the apex. This is produced from a variegated grey and brown caterpillar, having three dorſal white lines, and yellowiſh ſides. Feeds on the deadly nightſhade. Gmel. Fabr.

Baja, in *Ancient Geography*. See Bajæ.

Baja, in *Geography*, a town of Hungary, on the river Danube, 50 miles N. N. W. of Peterwaradin. N. lat. 46° 40'. E. long. 19° 50'.

Baia, a ſea-port town of Italy, in the kingdom of Naples, and country of Lavora, eleven miles weſt of Naples. See Baiæ.

BAIABAD, a town of Aſiatic Turkey, in the province of Caramania, 28 miles ſouth-eaſt of Kaſtamoni.

BAJAD, in *Ichthyology*, a ſpecies of Silurus, having the poſterior dorſal fin fleſhy or fat; twelve rays in the anal fin; and beards of the mouth eight. Forſk. Fn. Arab. Inhabits the Nile; colour glaucous; length one foot or more.

BAJADOR, or Bagadore, *Cape*, in *Geography*, a cape on the weſt coaſt of Africa, in the Atlantic ocean; 120 leagues diſtant from cape Geer. N. lat. 26° 29'. W. long. 14° 36'.—*Bajador* is alſo a cape at the north-weſtern extremity of the iſland of Luçon, one of the Philippine iſlands.

BAIÆ, in *Ancient Geography*, now Baia, an ancient village of Campania, in Italy, ſituate between the promontory of Miſenum and Puteoli, on the Sinus Baianus; famous for its hot baths, which ſerved the Romans for the purpoſes both of medicine and pleaſure. The hot ſprings and medicinal vapours that abounded in the environs of this place muſt, at a very early period, have excited the attention of valetudinarians, as bathing was the conſtant amuſement and refreſhment of the Greeks while in health, and their remedy when diſeaſed; but Baiæ does not ſeem to have attained a degree of celebrity ſuperior to that of other baths, till the Roman commonwealth began to decline. As ſoon as the plunder of a conquered world was transferred from works of public uſe and ornament to objects of private luxury, the tranſcendent advantages which Baiæ offered to Roman voluptuaries, flying from the capital in ſearch of health and pleaſure, became an object of peculiar attention. The variety of its natural baths, the ſoftneſs of its climate, and the beauties of its landſcape, captivated the minds of thoſe whoſe paſſion for bathing knew no bounds. The ablutions which they might wiſh to practiſe at Rome required an enormous expence in aqueducts, ſtoves, and attendants; but here they found a place, moſt delightfully ſeated, where waters naturally heated to any degree of neceſſary warmth bubbled ſpontaneouſly out of the ground; and its eaſy communication with Rome was alſo a circumſtance that recommended it. Hither the nobility of the empire retired at firſt for a temporary relaxation, after the fatigue of bloody campaigns and civil conteſts. Their habitations were ſmall and mean; but [illegible] place to [illegible] for the [illegible] limits, as Horace expreſſes it:

"[illegible]
Summovere littora."

[illegible] as much a miracle of art as it was before of nature. Its [illegible] taſte. It flouriſhed in full glory to the days of Theodoric the Goth; but the deſtruction of the [illegible] ſoon followed the irruption of the northern conquerors, who overturned the Roman ſyſtem, ſacked and burnt all before them, and deſtroyed or diſperſed the whole race of nobility. [illegible] beſides [illegible] and buttreſſes were torn aſunder and waſhed away; whole promontories, with the ſacred towers that once covered their brows, were undermined and tumbled headlong into the deep, where, many feet below the ſurface, pavements of ſtreets, foundations of houſes, and maſſes of walls, may be diſcovered. Internal commotions of the earth contributed alſo in a great degree to this general devaſtation. Mephitic vapours and ſtagnated waters have converted this favourite ſeat of health into the den of peſtilence, at leaſt during the ſummer heats; and yet Baiæ in its ruined ſtate, and ſtripped of its ornaments, ſtill preſents many beautiful and ſtriking ſubjects for the pencil of the artiſt. N. lat. 41° 6'. E. long. 14° 45'. Swinb. Trav. vol. iii. p. 42, &c.

BAJANA, in *Conchology*, a ſpecies of Venus found on the ſhores of Braſil. The colour is ochraceous, varied with black; and the ſhell is ſpecifically diſtinguiſhed by being fragile, glabrous, and marked tranſverſely with a few tranſverſe ſtriæ. Figured by Bonnani.

BAJANUS Sinus, in *Ancient Geography*, a bay of Italy in the kingdom of Naples, ſo called from [illegible] *arum* of Pliny, which was enlarged by Auguſtus, by giving entrance to the ſea into the Lacus Lucrinus, and Averni, ordering it to be called [illegible] Suetonius. We alſo read in Tacitus of *Baianus Lucus*, which ſome have interpreted *Lucrinus*. This gulf is denominated *Crater* by Strabo; and he places it between the cape of Minerva and that of Miſenum. The modern name [illegible]. From the higheſt point that forms the bay, a large caſtle commands the road, where foreign ſhips of war uſually ride at anchor, the harbour of Naples not being ſufficiently ſpacious for the reception of a fleet; here they enjoy good ſhelter, watering, and victualling; but in ſummer, riſk the health of their crews, on account of the unwholeſomneſs of the air. At the bottom of the bay, and at the foot of the ſteep rocks which ſerve as a foundation to the ruins called "Nero's houſe," are ſome dark caves of great depth, leading to the hotteſt of all vapour baths. Theſe baths are thirty in number; and they are ſaid to have been adorned with Greek inſcriptions and ſtatues denoting, by their expreſſions and attitudes, what particular part of the human frame was affected and relieved from its pains by each particular bath. The ſprings at the bottom of the grotto are ſo hot as to boil an egg hard almoſt inſtantaneouſly. Theſe caverns ſeem to be the ſpot where Nature has opened the [illegible] acceſs

acceſs to the focus of a volcano, which has been within the two laſt centuries moſt outrageous in its operations; for to them muſt be attributed the overturning of the adjacent country, and the total alteration of its ſurface by the birth of Monte Nuovo, which now blocks up the valley of Averno. Swinb. Trav. vol. iii. p. 48.

BAJAZET I., in *Biography*, ſultan of the Turks, was the ſon and ſucceſſor of Amurath I., and denominated "Ilderim," or lightning, on account of the fiery energy of his ſoul, and the rapidity of his deſtructive march. He ſucceeded Amurath in the year 1389, being then about 44 years of age; and having ſecured his authority at home by the execution of his younger brother, who attempted to excite a revolt againſt him, he proſecuted the ambitious deſigns of his father. During the fourteen years of his reign, he inceſſantly moved, at the head of his armies, from Bourſa to Adrianople, from the Danube to the Euphrates; and though he ſtrenuouſly laboured for the propagation of the law, he invaded, with impartial ambition, the Chriſtian and Mahometan princes of Europe and Aſia. Having reduced to his obedience the northern regions of Anatolia, made himſelf maſter of Caramania, and impoſed a regular form of ſervitude on the Servians and Bulgarians, he paſſed the Danube to ſeek new enemies and new ſubjects in the heart of Moldavia. Whatever yet adhered to the Greek empire in Thrace, Macedonia, and Theſſaly, acknowledged a Turkiſh maſter, and he was led through the gates of Thermopylæ into Greece by an obſequious biſhop. The Turkiſh communication between Europe and Aſia had been dangerous and doubtful, till he ſtationed at Gallipoli a fleet of gallies to command the Helleſpont, and intercept the Latin ſuccours of Conſtantinople. While the monarch indulged his paſſions in a boundleſs range of injuſtice and cruelty, he impoſed on his ſoldiers the moſt rigid laws of modeſty and abſtinence; and the harveſt was peaceably reaped and ſold within the precincts of his camp. Having obtained the title of ſultan from the caliphs who ſerved in Egypt under the yoke of the Mamalukes, he was ambitious of deſerving this title; and accordingly he turned his arms againſt the kingdom of Hungary, the principal theatre of the Turkiſh victories and defeats. At Nicopolis, near the Danube, he defeated, in 1396, a confederate army of an hundred thouſand Chriſtians, headed by Sigiſmund, the Hungarian king; moſt of whom were ſlain or driven into the Danube: and Sigiſmund, eſcaping to Conſtantinople by the river and Black ſea, returned after a long circuit to his exhauſted kingdom. Among the captives was a body of French cruſaders, and in this number were John count of Nevers, the ſon of the duke of Burgundy, and ſome of the nobleſt lords in France. In the pride of victory, Bajazet threatened that he would beſiege Buda, that he would ſubdue the adjacent countries of Germany and Italy, and that he would feed his horſe with a buſhel of oats on the altar of St. Peter at Rome. Whilſt the military talents of Bajazet, manifeſted on this occaſion by the ſpeed and ſecrecy of his march, and alſo by the order and evolutions of the battle, have been acknowledged even by his enemies, he has juſtly been accuſed of cruelty in the uſe of victory. The French captives, who ſurvived the ſlaughter of the day (the count of Nevers and twenty-four lords excepted, who were afterwards ranſomed for two hundred thouſand ducats) were led before his throne; and as they refuſed to abjure their faith, they were ſucceſſively beheaded in his preſence. So abſolute was his authority, that his word, pronounced either by way of mercy or deſtruction, was irrevocable. In the treaty, after the battle of Nicopolis, it was ſtipulated, that the French captives ſhould ſwear never to bear arms againſt the perſon of their conqueror; but this ungenerous reſtraint was aboliſhed by Bajazet himſelf. "I deſpiſe," ſaid he to the heir of Burgundy, "thy oaths and thy arms. Thou art young, and mayeſt be ambitious of effacing the diſgrace or misfortune of thy firſt chivalry. Aſſemble thy powers, proclaim thy deſign, and be aſſured that Bajazet will rejoice to meet thee a ſecond time in the field of battle." The progreſs of Bajazet, notwithſtanding his threats, was checked by a long and painful fit of the gout. Before he directed his arms againſt the feeble remains of the Eaſtern empire, he rendered the emperor, Manuel Palæologus, tributary, and impoſed upon him the humiliating condition of having a Turkiſh cadi and a moſch in his capital. He next threatened and actually inveſted Conſtantinople; but he was called away by the menaces of a more formidable tyrant than himſelf. This was the great Timour, or Tamerlane, who, in the year 1400, began his march from Georgia towards Aſia Minor. In his firſt expedition, Timour was ſatisfied with the ſiege and deſtruction of Siwas, or Sebaſti, a ſtrong city on the borders of Anatolia; and with cauſing 4000 Armenians, who formed the garriſon, to be buried alive for the brave and faithful diſcharge of their duty. He then turned aſide to the invaſion of Syria and Egypt, ſacked and deſtroyed Aleppo and Damaſcus, and took poſſeſſion of Damaſcus. To Bajazet he offered peace on moderate terms; but the ſultan, confiding in his ſtrength, employed the interval in collecting all the forces of his empire, and theſe two potentates met on the plains that ſurrounded the city of Angora, in July, A. D. 1402, to a memorable conflict, which has immortalized the glory of Timour, and the ſhame of Bajazet. Such was the event of this ſevere conteſt, in which two very numerous and powerful hoſts were engaged, that the Turks were entirely broken with dreadful ſlaughter; and Bajazet, afflicted with the gout in his hands and feet, was tranſported from the field on the fleeteſt of his horſes. He was purſued and taken, and at ſun-ſet brought to the tent of Timour. Bajazet, by the mild expoſtulation of the conqueror, who, with a ſoothing pity for his rank and misfortune, mingled juſt reproaches for his pride and obſtinacy, was ſoftened into humiliation. "Had you vanquiſhed," ſaid Timour, "I am not ignorant of the fate which you reſerved for myſelf and my troops; but I diſdain to retaliate; your life and honour are ſecure, and I ſhall expreſs my gratitude to God by my clemency to man." The "iron cage," in which Bajazet is ſaid to have been impriſoned by Tamerlane, ſo long and ſo often repeated as a moral leſſon, is now rejected as a fable by the modern writers, who ſmile at the vulgar credulity. It has been ſuggeſted, indeed, that Timour might diſplay an oſtentatious magnificence and liberality, towards Bajazet; while, with a view to ſecurity, he kept his important prize in a "moveable apartment guarded with bars," and indulged his own pride in carrying him about in triumph. "In the feaſt of victory," ſays Gibbon, "to which Bajazet was invited, the Mogul emperor placed a crown on his head, and a ſceptre in his hand, with a ſolemn aſſurance of reſtoring him with an increaſe of glory to the throne of his anceſtors. But the effect of this promiſe was diſappointed by the ſultan's untimely death; amidſt the care of the moſt ſkilful phyſicians, he expired of an apoplexy at Akſhehr, the Antioch of Piſidia, about nine months after his defeat," A. D. 1403, in the fifteenth year his reign, and fifty-eighth of his life. "The victor dropped a tear over his grave; his body, with royal pomp, was conveyed to the mauſoleum which he had erected at Bourſa; and his ſon Mouſa, after receiving a rich preſent of gold and jewels, of horſes and arms, was inveſted by a patent in red ink with the kingdom of Anatolia."

The character of Bajazet was that of a deſpot with violent

lent paſſions, but not habitually cruel; a lover of juſtice in the rough ſummary way practiſed by arbitrary princes; inſatiably ambitious, and much addicted to the erection of pompous edifices for uſe or oſtentation. Anc. Un. Hiſt. vol. xv. p. 202. Gibbon's Hiſt. vol. xi. p. 321. vol. xii. 17. 28. 30.

Bajazet II., ſultan of the Turks, ſucceeded his father Mahomet II. in 1481. After being freed from the competition of his brother Zizim, or Jem, he engaged, like his predeceſſors, in wars, and made conqueſts in Moldavia and Caramania; and he manifeſted the ferocity of his own diſpoſition by putting to death, at an entertainment in his palace, his famous general Achmet. His war with the ſultan of Egypt terminated in the ruin of the latter power; but at its commencement Bajazet loſt a great number of troops in an invaſion of Syria. He afterwards overran Circaſſia, and carried many of its inhabitants into captivity. On the expulſion of the Moors from Spain, Bajazet, at the head of the Mahometan religion, was ſolicited to revenge their cauſe; and he ſent a fleet into the Mediterranean, which defeated the Chriſtian navy, and ravaged the coaſts. He afterwards reduced Croatia and Boſnia. In compliance with the requeſt of Sforza, duke of Milan, he declared war againſt the Venetians, and invaded and plundered Friuli. Marching in perſon into the Morea, he took Lepanto, Moden, and Durazzo; but in 1503, peace took place between him and the Venetians, who had taken poſſeſſion of Cephalonia. Beſides theſe foreign wars, Bajazet encountered many civil commotions, occaſioned by the rebellion of his ſon Selim. The iſſue of theſe conteſts was the reſignation of the crown to his ſon, upon which Bajazet, wiſhing to live in peace and retirement at Demotica, ſet out on a journey thither, attended by a few friends. His progreſs was ſlow, and his ſon ſuſpected that he was waiting for ſome favourable turn in his affairs; and therefore his death, after he had proceeded to the diſtance of about forty miles from Conſtantinople, was not without reaſon aſcribed to poiſon adminiſtered by a Jewiſh phyſician. He died in 1512, at the age of 62, after a reign of 32 years. He was active and vigorous in body and mind, a patron of the learned, himſelf a proficient in literature, and well verſed in the philoſophy of Averrhoes, and a punctual obſerver of the rites of his religion. At the ſame time he had the fierceneſs common to the Ottoman princes, and ſhed blood without remorſe. He is commendable for his attention to the improvement and decoration of his dominions by many edifices of grandeur and utility. Mod. Un. Hiſt. Gen. Biog.

BAIBACHTA, in *Geography*, a town of Siberia, on the river Irtiſch, 72 miles N. W. of Tara.

BAIBAZAR, a town of Aſiatic Turkey, in the province of Caramania, 48 miles weſt of Angura.

BAIBOUL, a town of Armenia, 45 miles ſouth of Trebizond.

BAICHA, two rivers of Siberia, which run into the Turuchan; one 32, and the other 56 miles N.W. of Turuchanſk.

BAIDARS, the name of a kind of ſmall canoes, uſed among the natives of the Kurilly iſlands, and of the northweſtern coaſt of America. In Sauer's "Account of a geographical and aſtronomical Expedition to the northern Parts of Ruſſia, by Billings, in the Years 1785 to 1794," we have the following account of their conſtruction. The keel is eighteen feet long, four inches thick on the top, and not three inches deep, or ſomewhat leſs, at the bottom. Two upper frames, one on each ſide, about 1½ inch ſquare, and ſixteen feet long, join to a ſharp flat board at the head, and are about ſixteen inches ſhorter than the ſtern, connected by a thwart which keeps them about twelve inches aſunder. Two ſmaller frames are placed near the bottom of the boat, ſix inches below the upper ones, about one inch ſquare. Round ſticks, thin, and about ſix inches diſtant from each other, are tied to theſe frames, and project from the ſides; and for the top thwarts are uſed very ſtrong ſticks, nearly as thick as the upper frames, curved, ſo as to raiſe the middle of the boat about two inches higher than the ſides. Of theſe thwarts or beams there are thirteen; one of them is placed ſeven feet from the ſtern; another is twenty inches nearer the head; and a hoop is faſtened between them, in which the rower is ſeated. This is made ſtrong, and grooved for faſtening an open ſkin, which is tied round the body, ſo as to prevent any water from getting into the boat, although it were ſunk. The frame is covered with the ſkin of the ſea-lion, drawn and ſewed over it like a caſe. The whole is ſo extremely light, even when ſodden with water, that it may be carried with eaſe in one hand. The head of the boat is double the lower part, ſharp, and the upper part is flat, reſembling the open mouth of a fiſh, but thus contrived to keep the head from ſinking too deep in the water; and a ſtick is tied from one end to the other, to prevent its entangling with the ſea-weeds. They are eaſily rowed in a ſea, moderately ſmooth, about ten miles in the hour, and they keep the ſea in a freſh gale of wind. The paddles which they uſe, and which ſerve for oars and rudders, are double, ſeven or eight feet long, and are cut in the ſhape of a peal. If the baidar runs aground, the ſavage eaſily ſets it afloat again. Theſe baidars are uſed in the fiſhery for whales, in the capture of ſea-otters, and for other purpoſes.

BAIDSCHEN, in *Geography*, a town of Pruſſia, in the province of Lithuania, on the north ſide of the Piſſa, four miles eaſt of Gumbinnen.

BAIER, John James, in *Biography*, born at Iena, in Upper Saxony, in 1677, applied himſelf early to the ſtudy of medicine, and was admitted to the degree of doctor there in the year 1700. In 1704, he was made profeſſor of phyſiology at Altdorf; and in 1730, preſident of the academy Naturæ Curioſorum. Beſides numerous diſſertations on various branches of medicine, he publiſhed, "Adagiorum Medicorum Centuria," Altd. 4to. 1718. "Hiſtoria Horti Medici Altdorfii," 4to. 1727. "Orationum Varii Argumenti Faſciculus," 4to. 1727. "Biographiæ Profeſſorum Medicinæ qui in Academia Altdorf unquam vixerunt," 4to. 1728. Nurenb. cum Iconibus, Nummis, et Scriptorum Cenſu. His ſon Ferdinand James was in conſiderable eſteem as phyſician at Nuremburg, at the time of his death, which happened in 1735. Haller Bib. Med. Pract. et Botan.

BAIEU, in *Zoology*, the name of Cervus Mexicanus or Mexican ſtag, in Bancroft's Guiana, &c.

BAIF, John Anthony, in *Biography*, was born at Venice, 1532, where he probably acquired and cheriſhed his paſſion for muſic. He was the natural ſon of the French ambaſſador to that republic; had been a fellow ſtudent with the poet Ronſard, and was cloſely united to him by friendſhip and kindred arts. *Baif*, like our ſir Philip Sidney, wiſhed to introduce the feet and cadence of the dead languages into the living, and with the like ſucceſs. He ſet his own verſes to muſic; not to ſuch muſic as might be expected from a man of letters, or a *dilettante*, conſiſting of a ſingle melody, but to counterpoint, or muſic in different parts. Of this kind he publiſhed, in 1561, twelve hymns, or ſpiritual ſongs; and, in 1578, ſeveral books of ſongs, all in four parts, of which both the words and the muſic were his own. When men of learning condeſcend to ſtudy muſic *à fond*, profeſſors think the art highly honoured by their notice; but poets are very unwilling to return the compliment, and ſeldom allow a mu-

fician to mount Parnaſſus, or ſet his foot within the precincts of their dominions. *Baif*, however, was allowed to be as good a muſician as poet; and what entitles him to the more notice here, is the having eſtabliſhed an academy, or concert at his houſe, in the ſuburbs of Paris, where the performance was frequently honoured with the preſence of Charles IX. Henry III. and the principal perſonages of the court.

Merſennus, in Geneſ. p. 1683, has given a particular account of this eſtabliſhment, the firſt in France of which we have met with any record. In this academy or concert, dignified by a royal charter, in which voices, viols, and flutes were employed (*ſcribus, fidibus, et fiſtulis conſtaret*), it was expected to recover the three *genera* of the Greeks, and all the miraculous powers of their ancient muſic.

BAIKAL, *Lake, or Sea of*, in *Geography*. In the ſteepeſt part of the Sayane mountains (the eaſtern continuation of the Altay), at the extremity of the chain where the country changes to a level plain, ſeeming itſelf only a lower mountain between the [illegible] ſummits, lies a monument of one of the greateſt revolutions that the ſurface of our earth has ever undergone. A lake, not leſs remarkable for its internal conſtitution than for the ſpace which it occupies, heaves its billows within the craggy cliffs of mountains, through which it is to all appearance impoſſible that any ſtream can force its way to ſupply its enormous baſon. Nature, in the remoteſt periods of antiquity, ſeems here to have opened by ſome tremendous convulſion, an abyſs into which ſhe might pour her immenſe ſtores of water, and cauſe a part of it to flow over the weſtern level.

This lake extends from 52° N. lat. to 55° 41′, in a direction from ſouth-weſt to north and north-north-eaſt. Its moſt common appellation is Baikal, in the maps mare Baikal; but in the ſurrounding regions it is generally called the Sea, without farther addition; or ſometimes the Holy ſea. Both theſe denominations are extremely natural in a country which to a vaſt diſtance round knows no larger maſs of waters, and in the mouths of people who ſo frequently experience the benefits it beſtows and the perils it threatens. It is therefore not at all ſurpriſing that Gmelin's pilot ſhould have aſcribed a ſudden ſtorm to the anger of the incenſed deity of the waters, who felt himſelf inſulted by the foreign infidel who called his venerable ſea a lake. Safe from the like danger, we ſhall however pay greater reſpect to geographical juſtice, by making uſe of the latter term.

The lake Baikal is 550 verſts in length; and in breadth, where it is the narroweſt, 30 verſts. To the north it widens to between 70 and 80 verſts. Its depth is very unequal; proceeding from 20 to 80 and 100 fathom (the fathom at ſeven foot). In ſome places, particularly near the iſle of Olchon, according to the affirmation of a fiſherman, even a ſounding-line of 200 fathom would not reach the bottom. A number of brooks and rivulets pour their waters into this baſon; on the map in Georgi's travels, we count fifty of them; many indeed very inconſiderable, though ſeveral others may be deemed large: for example, the Selenga and the Upper Angara, which purſues a courſe of more than 700 verſts. The lake has only one outlet; the Lower Angara, which flows into the Yeniſſey. Though its bed at the part where it comes from the Baikal is two verſts broad, and has a very rapid current, yet is it not by far capacious enough for carrying off all the water collected in that reſervoir. Notwithſtanding which, the lake never riſes more than three feet above its ordinary level, even in the ſpring ſeaſon; and therefore it probably may have ſome ſubterraneous drain. The bottom, at the ſhores, conſiſts of gradually rounded rocky fragments, piled on one another; in the middle, of gravelly ſand. The lake is extremely clear, ſo that in eight fathom water the bottom is diſtinctly ſeen; in five or ſix fathom the ſmalleſt objects are diſcernible. At a diſtance it appears of a greeniſh hue, owing to the verdant moſs with which the ſtony bottom is overgrown. It is pure, and very agreeable to the taſte; but in the month of July it gets into a ſort of fermentation, which is called its flowering, whence it becomes turbid as if mixed with a fine yellowiſh ſand, and loſes its good taſte. More danger is to be apprehended when keeping within ſhore, than out upon the main; for the Baikal is extremely ſubject to violent gales and ſtorms, which ſtrike and ſplit againſt the lofty mountains that ſurround it. The mariners know of no more than three winds, which they denominate after the promontories. The ſouth-weſt, which is the moſt conſtant, and the north-eaſt, are innoxious; the north is more formidable, by reaſon of its violence, and on account of the ſhallow ſhores to the ſouth. But the agitation of the water is out of all proportion to the wind; ſince in a very moderate breeze the lake frequently rages with great fury, whereas furious winds only juſt increaſe its agitation. There being no rocks or banks in the middle, the waves uſually ſwell ſeven feet high, almoſt always quite to the ſhore. Even when the violence of the ſtorm has abated, the turbulence of the water commonly laſts for ſeveral hours. The internal agitations of the lake are ſtill more alarming. With a bright ſky, and the ſurface of the water as ſmooth as a mirror, all at once the veſſel is toſſed about with ſuch violent ſhocks, that the people on board have much ado to ſave it. In like manner in a particular place a ſingle wave will ſuddenly ariſe, which at the ſame ſpot is followed by ſeveral others. Theſe curious phenomena are ſuppoſed to happen in conſequence of the contiguity in which the lake is ſituated below with clefts in the adjacent mountains, the drafts of wind iſſuing from which force up the water, though not always perceptible above to the ſame degree.

Thus continually reſtleſs, it is very comprehenſible that, notwithſtanding the ſeverity of the climate, the Baikal is not frozen over till the month of December or January. Ice-fields, ſometimes of ten verſts in dimenſion, firſt form in the bays, and then unite in places, which, previous to the freezing, are covered with a denſe cloud. The ſurface being at length thoroughly conſolidated, frequently preſents one vaſt plain of glaſſy ſmoothneſs, though ſometimes likewiſe extremely rough. Snow, on account of the winds, ſeldom adheres to it; and therefore, eſpecially to the firſt travellers, it is extremely laborious to the horſes. The furious guſts of winds at times project the people who run by the ſide of the ſledges, to the diſtance of ſeveral fathoms forwards; whereby they are in imminent danger of being frozen, or of falling into the chinks of the ice. Theſe chinks become wider and more frequent as the time of the breaking up draws on; boards are then laid acroſs them to facilitate the paſſage; and in caſes of neceſſity, when the apertures are become too wide to be remedied in that way, canoes are introduced. The ice uſually breaks up in May, and then it requires only a few days for diſſolving; in ſeveral of the bays, however, it lies the whole ſummer through.

The weather is generally inclement in the parts about the Baikal. The ſummer is ſhort, and ſcarcely ever paſſes without night froſts; the winter announces its approach ſo early as Auguſt, by falls of ſnow. On the ſandy coaſts, ſuch plants grow as are elſewhere only found on the coldeſt mountains. The cauſe of this inclemency of climate is principally to be attributed to the elevation of the whole region, the ſnowy ſummits and icy clefts of the huge mountains, and

and the want of ſufficient protection againſt the north winds.

In the Baikal are numerous iſlands; moſt of them, however, very ſmall. The largeſt is Olchon, in the northern part, ſeparated from the main land by a ſound, in which are eight fathom of water or thereabouts. Olchon is twenty-ſix in length, eight or ten broad, and terminates to the north in a promontory: the ſouth-eaſt is part is lower and [illegible] of foreſts; in the ſouth-weſtern grow pines, poplars, birch, and willows. The land is ſo favourable to the nurture of cattle, that the fine droves belonging to the inhabitants find paſture all the winter through, without any particular tending. The population conſiſts of two Buræt families, many of whom are owners of between four and five hundred head of ſheep. The natural propenſity to paſtoral life of this ſocial people here finds ſo much encouragement, that the Buræts paſs the greater part of the year in encamping.

Round the coaſt, a few [illegible] are [illegible] rateful. On the weſtern ſide, above Olchon, is a very beautiful country, ſkirted by majeſtic [illegible], with a fine view of the lake, are ſeveral ſprings, [illegible] cold. Among theſe is one of hot water, more remarkable than the reſt on account of its ſingular properties. A Ruſſian [illegible] belonging to the mines having obtained relief from it in ſome diſorder, reduced it to a conduit, which yields 582 gallons every hour; and it is found to be only neceſſary to dig in its vicinity for coming to hot water. The water is clear, but has ſomewhat of a fœtid taſte; the vapour ſmells like fired gunpowder, and occaſions [illegible]; birds are [illegible] it in twelve minutes, fiſh in ſeventeen minutes. No ſnow therefore remains [illegible] the ground; the lake likewiſe continues free from ice; and even the cold ſprings, where they run through the territory of the hot, are tepid. Theſe hot ſources are uſed for bathing as well as for drinking. Some years ago a large [illegible] were made by means of theſe waters; ſince his death, however, the Ruſſians are the only perſons who occaſionally reſort to them.

The Upper Angara flows through the northern margin into the lake, after having purſued a courſe of 800 verſts, down ſeveral precipices, forming ſtupendous cataracts, along a tract of near a hundred miles. Not far from its mouth, eaſtwards, is the Frolika lake, fifteen verſts long, and from one to five verſts acroſs, remarkable for its extraordinary depth, and for a cataract on its way to the Baikal. The river Frolika, between fifteen and twenty fathoms wide, forms this cataract by rolling over a ſucceſſion of rocks, extending half a verſt, and being twenty feet in perpendicular height. More to the ſouth is again a hot ſource, pellucid, and in taſte reſembling ſoap-water; in the morning the effluvia it caſts around is enough to make one ſick. The water iſſues in a copious ſtream, but is turned to no account.

On the Shamane promontory ſtands a curious luſus naturæ; namely, three rocks adjacent to each other, upwards of two hundred feet in height above the water's level. Their tops reſemble human heads, with caps on them. It may well be imagined that the particular features are not ſmall. Of the middlemoſt, which is the biggeſt, the noſe is in length ſeven feet, in the ſlit of the mouth two families of ſea-gulls are commodiouſly lodged; even the eyebrows are not wanting; only there is no trace of an ear. The Tunguſes revere theſe three rocks, as the ſea-god Dianda, with his two ſubordinate deities. He is able to ſave any Tunguſe from drowning, to cauſe a good draught of fiſh, &c.

The peninſula Burguſin, thirty verſts long and fifteen broad, is thickly wooded, but void of game and fiſh, conſequently cannot boaſt of a numerous population. Lower down to the ſouth is the Dukhovoi or Vapoury lake, five verſts [illegible] and three broad. [illegible] with a naſeous acid taſte; the whole diſtrict is charged with its [illegible] vapours. [illegible] various other ſorts of fiſh, which, however, often in winter, when the ice remains without apertures, are ſtifled in the putrifying water. Whence it may be, that the horrid ſtench of this region ariſes not ſo much from the lake itſelf, as from the prodigious quantity of fiſh that lie corrupting on the ſhore.

[illegible] according to its merits. It conſiſts of ſeven ſprings, ſome of [illegible] Buræts, labouring under diſorders, who generally find relief from it. The former, on their recovery, erect croſſes; the [illegible] wiſe on poles ſilk and cotton ſtuffs, as votive offerings to the deities; in the ſame view they alſo throw money into the water. Without waiting for any revealed authority from the Shamanian gods, the Ruſſians carefully convey away all [illegible] ten rubles in the year, a capital ſum for this part of the world! A little above the Turka is obtained naphtha, which the lake caſts aſhore in the ſpring, hanging to icicles, or incruſted with ice, in lumps often as big as one's fiſt. This dark brown clammy ſubſtance, which probably oozes up from the bottom of the lake, though tolerably viſcous, may however be kneaded, and is ſoluble in moderately warm water. It has rather a fragrant odour, and is uſed in healing wounds, particularly as a ſalve for running ſores. Theſe parts abound likewiſe in various ſpecies of alkaline ſalts, which have of late been collected for the uſe of the apothecaries.

Southwards from the Turka is the mouth of the Selenga, the largeſt river that diſembogues into the Baikal, and whereon the two cities Udinſk and Selengiſk are ſituate. In its mouth lie ſcattered a few iſlands. Lower down ſtands the monaſtery of [illegible], which is the [illegible] coming acroſs the Baikal from Irkutſk. The ſouth-weſtern mountainous border of the lake is called Kultuk.

We now proceed to the particularities of animated nature in [illegible] Ruſſians golomyanka, entirely peculiar to the Baikal. He [illegible] in a dying ſtate. This chiefly happens in ſummer, when it [illegible]

already conjectured; and if this be admitted, it is far from improbable, that, in heavy gales, the wind furiouſly ruſhing through theſe vents, may lift them from their holes into the upper water, where, unaccuſtomed to the outward air, they cannot long ſurvive this change of place. The ſhoals that are caſt aſhore are partly devoured by the ſea-fowls, and partly boiled to oil by the inhabitants of the ſtrand, which is ſaid to be very fine and well taſted; at leaſt it muſt be ſo to the Chineſe, who buy it in great quantities.

Another particularity, at leaſt to the Baikal, are the porpuſes. As they elſewhere only live in ſalt water, and never travel far up the rivers, it is the more ſurpriſing how they came into this freſh-water lake, which has no communication with the ſea, nor with any river that contains theſe animals. Though the firſt ſurmiſe may fall on the Yeniſſey and the Angara, yet in neither of thoſe rivers are any of them, now at leaſt, to be found, and it would be extremely difficult for them to ſhoot the cataracts on the paſſage from the Yeniſſey to the Baikal. Perhaps in ſome great inundation, the ſources of the Lena might have communicated with the rivers of the Baikal; and on that occaſion the primitive race of them might have ſtrayed hither. They are of the ſame ſpecies with thoſe of the Caſpian and the Baltic; excepting that ſcarcely any of them are of varied hues. They are particularly fond of the ice; and ſhew themſelves above water rather in the winter than in the ſummer; for which purpoſe they blow up of themſelves air-holes in the ice, which they have the art of keeping conſtantly open; and in the ſpring drop their young upon the ice, for whoſe accommodation they make little huts of ſnow. The ſeaſon for the chace of them laſts from the beginning of March to the breaking up of the ice at the latter end of May; the right of catching them is farmed out. They are ſhot with fire-arms or pierced with javelins; in both caſes from a concealment behind a ſcreen of white linen, which the animals miſtake for a piece of ice. The old ones are made to yield their blubber; but the young are chiefly ſought after becauſe the Chineſe are extremely partial to their ſilver grey ſkins. In the carrion, the Buræts ſhare with the crows. The annual capture is eſtimated at between 1500 and 2000 of theſe animals.

The omul (ſalmo migratorius) is a fiſh of great conſequence, in regard to its prodigious numbers, not only to the Baikal, but to all the country round. His ordinary length is from fourteen to ſixteen inches; ſeldom extending to two foot. His fleſh is white and tender, and ſo delicate that he dies as ſoon as taken out of the water, even though immediately thrown in again. In Auguſt, the omuls generally begin to advance in ſhoals of various bulk, in order to aſcend the rivers in which they ſpawn. In September they return, but in ſo emaciated a condition, that multitudes die upon the paſſage. They do not go up every river; thoſe on the weſtern ſide not at all, and even not every one on the eaſtern ſide of the lake. Each fiſh is wont to go to ſpawn in the place where itſelf received life. They are caught the whole ſummer long; but moſtly at the time of their ſhoaling in the rivers. With ſmall nets 2000 of them are taken at a draught. They are thrown together in great heaps upon the ſhore; but ere the fiſhermen have time to prepare them, the Tunguſes, the dogs, and the birds of prey, have devoured a good part of them. The omuls are ſalted, oil is obtained from them, and even ſome caviar, which however will keep only a very ſhort time. Beſides theſe, the Baikal produces many other ſorts of fiſh; ſuch as ſturgeon, quabs, carp, perch, tench, trouts, pike, &c. in great abundance.

One very ſingular natural phenomenon of the Baikal we have reſerved to the laſt, as being probably the original cauſe of the exiſtence of the lake itſelf; we mean the earthquakes that are very frequent in the parts adjacent. They are moſt uſual in the ſpring and autumn; generally once, ſometimes twice a year. The ſhocks are not violent, laſt a few minutes, and do ſcarcely any miſchief. At leaſt the utmoſt injury that attended any one of the ſixteen earthquakes deſcribed by profeſſor Georgi, was, that it gently waked him out of his ſleep, threw down the ſtove in the police-office at Selinginſk, and ſhook off ſome of the croſſes from the tops of the church-ſteeples. Nature ſeems to have exhauſted herſelf in forming the bed of the Baikal; for it is highly probable that it was the effect of ſome tremendous earthquake, attended by an extraordinary falling-in of the earth. We are naturally led to this hypotheſis by conſidering the ſtate of the circumjacent region, and of the bottom of the lake. This latter conſiſting of fragments of demoliſhed rocks, the largeſt of which thruſt up their tops as iſlands; the coaſt around is one amazing congeries of rent, broken, and ſplit rocks, to the height generally of forty fathoms; ſhattered portions of rocks lift their bare ſummits to the clouds, while the other parts of them lie rooted in the heart of the earth. On the craggy pinnacles of ſome of the ſnow-covered mountains lie broken tops of rocks in the ſhape of bee-hives, which only the powerful hand of nature could have projected thither; as it was ſhe who fenced the Baikal round with majeſtic cliffs, and fixed their baſes in unfathomable pits. But when?—Hiſtory is ſilent.—And how?—The naturaliſt can only conjecture; he has recourſe to an earthquake, and imagines, that here perhaps formerly the ſtreams of the Upper Angara flowed, the territory whereof is now ingulfed by the broad lake.

The country round the Baikal forms a part of the government of Irkutſk, and belongs chiefly to the province of Nertſhinſk. Irkutſk lies at the diſtance of about 50 miles weſtwards from the Baikal. The inhabitants of the confines of the lake are Tunguſes, Buræts, and Mongoles; the Ruſſians are leſs numerous, becauſe the land adjacent to it is not favourable to agriculture; though even on the eaſtern ſide winter-rye, oats, and barley thrive tolerably well. The whole of the population on the eaſtern ſide of the lake, from Turkal to the Upper Angara, amounted, in 1771, to not more than 5000 ſouls.

Beſides the numerous birds of prey that ſeek their food in the neighbouring foreſts, multitudes of winged gueſts are attracted hither by the exuberant ſtores of fiſh with which the lake abounds. Theſe conſiſt of the various tribes of mews and herns; but more numerous than all are the gulls, in ſize reſembling a full grown duck, but incomparably heavier. They come in the month of April, and take their departure in October. Every thing bears marks of their devaſtation; the very trees in which they rooſt periſh, partly by their corroſive dung, and partly in conſequence of their biting off the buds. They are ſaid to conſume more than one half of the omuls that go up the rivers. This may be thought ſurpriſing after what has been before obſerved of the prodigious quantities of theſe fiſh; not however ſo altogether incredible, when we are informed that theſe fowls hatch about ten young ones at a brood, and are extremely voracious. Not content with eating their fill, they overload themſelves in ſuch a manner, that beneath the rocks where they neſtle, the foxes, ermines, magpies, and crows conſtantly find a plentiful banquet. In many places the neſts of them are ſo numerous, that the people have much ado to paſs along the rocks. The iſles in the ſound between Olchon and the main land, being the principal haunt of theſe birds, take their name from them.

The foreſts are overrun with quadrupeds. Wolves and bears roam there in great abundance; but the latter at leaſt

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are by no means formidable. Nothing ſcares them ſo eaſily as ſinging; accordingly the Buræts are ſo conſiderate as to compoſe particular tunes for them. The louder the vocal performer pitches his notes, the faſter the ſtupid hearer ſcampers from him. The Buræts hunt them for the ſake of their fleſh. Stags, elks and roe-bucks are very numerous; rein-deer are far leſs frequent on the northern ſhore. The wild boars are ſilver grey, and ſcarce; both perhaps in conſequence of the cold climate. The race of ſables is not yet ſo thinned in theſe regions as in ſome others; thoſe taken here are eſteemed as eminently valuable; ſuch eſpecially as range about the Upper Angara, are praiſed for the blackneſs of their fur. Ermines are ſo prolific, that while M. Georgi was at Irkutſk, a contract for twenty thouſand ſkins to be delivered at St. Peterſburg might be completed in a couple of days. Not leſs numerous in winter are the white hares, of whoſe large and ſtout furs pelifſes are made, each at one and one and a half rubles. The Tunguſes pay their tribute in ſquirrel-ſkins; beſides theſe, many Ruſſian hunters collect a thouſand ſkins in one winter, and yet there is no perceptible diminution of the animals.

Baikal, *Mines of the.* In the region of the Baikal, 434 verſts from Irkutſk, on the Lena, extends a bed of copper ore, which ſeems to reach, for 900 verſts, to the river Kiren. The country of the latter river is far more hilly, conſiſting partly of lime-ſtone, whence ſeveral mineral ſources proceed. Nor are ſpecimens of copper wanting. Iron ores and ferruginous ſtones are every where met with in abundance. On the Lena here and there are ſides of argentiferous glatz galena, interſperſed with lime-ſtone, and at times appears in lumps of two or three pounds. It was firſt explored about ſixty years ago by Meſſrs. Make and Kutuzof. They keep four machines at work at the copper-flœtz, near the villages Botova and Shemanova. The ores are green-copper, brown-copper, copper-glaſs, fahlertz-ores and malaquite. The gangues are calcareous and ſandy. The narrower the gangue, the richer it is. The proportion is one fourth to forty per cent. copper, but ſcarcely a trace of ſilver. On an average one hundred pood of ore yields four pood of good copper.

Baikal, *Mountains of the.* This range of mountains takes nearly the ſame direction with the Baikal lake, acompanying it on both ſides from ſouth to north and north-eaſt, runs down to the weſt on the right of the Angara, where it flattens in a moraſſe ſteppe of prodigious extent: to the eaſt it advances from the origin of the Lena, on both ſides of that river, and here likewiſe dies away in a widely extended flœtzridge. In general it is a very craggy high-pitched mountain, partly conſiſting of granite, partly of flint-breccia and lime-ſtone. In the inferior regions of the Angara, and the Lena, its flœtz-mountain greatly declines, and frequently produces coal. From the upper Angarian ridge there runs, as it ſhould ſeem, a branch weſtward, through the region between the Podkamenaia, and the lower Tunguſka, away over the Yeniſſey, and conſiſts probably of mere flœtz-mountains. About the north-eaſtern part of the Baikal, the Upper Angara, the rivers Mama and Vitim, where lie the famous pits of muſcovy-glaſs, all the mountain is granitic. The mineral contents of theſe mountains are as yet by far not thoroughly known. The principal of what has been diſcovered in them, are coals, aſphaltus, ſulphur-ſources, native ſulphur, alum, common ſalt ſources, lapis lazuli, muſcovy-glaſs, carnelians, natural pruſſian blue, and ſpecimens of copper, iron, and lead.—Some tracts of mountains about the Baikal, for example, the Burgundu, and others, are ſo high that they are covered with never-melting ſnow. In the lake itſelf many lofty and ſteep cliffs aſcend above the water as ſhoals; ſome whereof conſiſt of ſolid white quartz.—The mountains are partly bare, but moſtly decked with forests. The moſt uſual kinds of trees are the pinus ſylveſtris and the birch; but here are likewiſe great numbers of larches and cedars. The principal rivers which hence derive their ſtreams, are the Selenga, the Angara, the Lena, the Vilui, and the Tunguſa. For farther particulars, ſee Tooke's View of the Ruſſian Empire, vol. i. p. 1 & 150.

BAIKALENSIS, in *Ichthyology*, a ſpecies of Cataphractus that inhabits the deep parts of the lake Baikal. It is about nine inches long, ſoft, ſlender, and rather compreſſed; and has ventral fins; firſt dorſal fin very ſmall; the ſecond with cirriferous rays. Pallas, Gmelin, &c.

BAIKALITE, in *Mineralogy*, a variety of Tremolite.

BAIKALOVA, in *Geography*, a town of Siberia, 112 miles S. S. E. of Abakanſk.

BAIL, Louis, in *Biography*, a French divine, born at Abbeville, flouriſhed in the ſevententh century, and wrote ſeveral voluminous works, among which are "A Summary of Councils," being a continuation of that by father Fr. Longus de Coriolan, printed in 2 large folio volumes, at Paris, in 1672; and an account of the moſt celebrated preachers in all ages, under the title of "Sapientia foris prædicans," or "Wiſdom uttering her voice in the ſtreets." Nouv. Dict. Hiſtor.

Bail, in *Law*, the ſetting at liberty one arreſted or impriſoned upon any action either civil or criminal, under ſureties taken for his appearance at a day and place aſſigned. It is called *bail*, becauſe hereby the party confined is *baillè*, from the Greek βαλλειν, delivered into the hands of thoſe who bind themſelves for his forthcoming: or from *bail*, uſed in the ſenſe of a guardian, into whoſe hands the party is put for ſecurity ſake: and the end of bail is to ſatisfy the condemnation and coſts, or render the defendant to priſon.

Manwood diſtinguiſhes between *bail* and *mainprize* thus: he that is mainpriſed is ſaid to be at large, and to go about at his liberty, without ward, till the time of appearance; whereas he who is let to *bail* to two or more men, is always accounted by law to be in their ward and cuſtody for the time: and they may, if they pleaſe, actually keep him in priſon.

With reſpect to bail in civil caſes, it is to be obſerved, that there is both *common* and *ſpecial* bail.

Common bail is that given in actions of ſmall prejudice, or ſlight proof; in which caſe any nominal ſureties are taken; as John Doe, and Richard Roe: this being no other than a form of appearance: whereas *ſpecial* bail is given in caſes of greater moment, where it is required that the ſureties be ſubſtantial men, and according to the value of the matter in queſtion.

It has been enacted that no perſons ſhould be held to ſpecial bail in any action brought for leſs than ten pounds. In order to which it is required by ſtat. 13 Car. II. ſt. 2. c. 2. that the true cauſe of action ſhould be expreſſed in the body of the writ or proceſs. Alſo no ſecurity can be taken in a greater ſum than 40 l. This is obſerved as to writs iſſued out of the courts of Weſtminſter-hall, and extended to all inferior courts by 19 Geo. III. c. 70.

The method of putting in bail to the ſheriff, is by entering into a bond or obligation, with one or more ſureties (not fictitious perſons, as in the caſe of common bail, but real, ſubſtantial, reſponſible bondſmen), which obligation is called the *bail-bond*. The ſheriff, if he pleaſes, may let the defendant go without any ſureties; but that is at his own peril: for, after once taking him, the ſheriff is bound to keep him ſafely, ſo as to be forth-coming in court; otherwiſe an action lies againſt him for an eſcape. But, on

the other hand, he is obliged, by ſtat. 23 Hen. VI. c. 10. to take, if it be tendered, a ſufficient bail-bond; and by ſtat. 12 Geo. I. c. 29. the ſheriff ſhall take bail for no other ſum than ſuch as is ſworn to by the plaintiff, and endorſed on the back of the writ. By rule M. 1654, no attorney ſhall be bail for a defendant in any action, nor his clerk. Cowper, 228. n. But an attorney may be admitted as bail in a criminal caſe. No ſheriff's officer, bailiff, or other perſon concerned in the execution of proceſs, ſhall be permitted to be bail in any action or ſuit depending in K. B. nor perſons outlawed after judgment, R. M. 14 Geo. II. Upon the return of the writ, or within four days after, the defendant muſt *appear* according to the exigency of the writ. This *appearance* is effected by putting in and juſtifying *bail to the action*; which is commonly called *bail above*. If this be not done, and the bail that were taken by the ſheriff *below* are reſponſible perſons, the plaintiff may take an aſſignment from the ſheriff of the bail-bond (under the ſtatute 4 & 5 Ann. c. 16.), and bring an action thereupon againſt the ſheriff's bail. But if the bail ſo accepted by the ſheriff be inſolvent perſons, the plaintiff may proceed againſt the ſheriff himſelf, by calling upon him, firſt to return the writ, if not already done, and afterwards to bring in the body of the defendant; and, if the ſheriff does not then cauſe ſufficient bail to be put in and perfected *above*, he will himſelf be reſponſible to the plaintiff.

The *bail above*, or *bail to the action*, muſt be put in, either in open court, or before one of the judges thereof; or elſe, in the country, before a commiſſioner appointed for that purpoſe by virtue of the ſtatute 4 W. & M. c. 4. which muſt be tranſmitted to the court. Theſe bail, who muſt be at leaſt two in number, muſt enter into a recognizance in court or before the judge or commiſſioner, in a ſum equal (or in ſome caſes double), to that which the plaintiff has ſworn to; whereby they do jointly and ſeverally undertake, that if the defendant be condemned in the action, he ſhall pay the coſts and condemnation, or render himſelf a priſoner, or that they will pay it for him: which recognizance is tranſmitted to the court in a ſlip of parchment entitled a *bail-piece*. And if excepted to, the bail muſt be *perfected*, that is, they muſt *juſtify* themſelves in court, or before the commiſſioner in the country, by ſwearing themſelves houſekeepers, and each of them to be worth the full ſum for which they are bail, after payment of all their debts. See SATISDATIO.

Special bail is required (as of courſe), only upon actions of debt, or actions on the caſe in trover, or for money due, where the plaintiff can ſwear that the cauſe of action amounts to ten pounds: but in actions where the damages are precarious, being to be aſſeſſed *ad libitum* by a jury, as in actions for words, ejectment, or treſpaſs, it is very ſeldom poſſible for a plaintiff to ſwear to the amount of his cauſe of action; and therefore no ſpecial bail is taken thereon, unleſs by a judge's order, or the particular directions of the court, in ſome peculiar ſpecies of injuries, as in caſes of mayhem or atrocious battery; or upon ſuch ſpecial circumſtances, as make it abſolutely neceſſary that the defendant ſhould be kept within the reach of juſtice. Alſo in actions againſt heirs, executors, and adminiſtrators, for debts of the deceaſed, ſpecial bail is demandable; for the action is not ſo properly againſt them in perſon, as againſt the effects of the deceaſed in their poſſeſſion. But ſpecial bail is required even of them, in actions for a *devaſtavit*, or waſting the goods of the deceaſed; that wrong being of their own committing.

In civil caſes every defendant is bailable; but in criminal matters it is otherwiſe. Bail may be taken either in court, or in ſome particular caſes by the ſheriff, coroner, or other magiſtrate; but moſt uſually by the juſtices of the peace. Regularly in all offences, either againſt the common law or act of parliament, that are below felony, the offender ought to be admitted to bail, unleſs it be prohibited by ſome ſpecial act of parliament. By the ancient common law before and ſince the conqueſt (2 Inſt. 189. Glanv. l. xiv. c. 1.), all felonies were bailable, till murder was excepted by ſtatute; ſo that perſons might be admitted to bail before conviction almoſt in every caſe. But the ſtatute Weſtm. 1. 3 Edward I. c. 15. takes away the power of bailing in treaſon, and in divers inſtances of felony. The ſtatutes 23 Hen. VI. c. 9. and 1 & 2 Ph. & Mar. c. 13. give further regulations in this matter; and upon the whole we may collect (2 Inſt. 186. 2 Hal. P. C. 129), that no juſtice of the peace can bail, upon an accuſation of treaſon, of murder, of manſlaughter, if the perſon be clearly the ſlayer, and not barely ſuſpected to be ſo, or if any indictment be found againſt him; ſuch, as being committed for felony, have broken priſon, becauſe it not only carries a preſumption of guilt, but is alſo ſuperadding one felony to another; perſons outlawed; ſuch as have abjured the realm; approvers, and perſons by them accuſed; perſons taken with the mainour, or in the fact of felony; perſons charged with arſon; and excommunicated perſons, taken by writ *de excommunicato capiendo*. Others are of a dubious nature, as thieves openly defamed and known; perſons charged with other felonies, or manifeſt and enormous offences, not being of good fame; and acceſſories to felony, that labour under the ſame want of reputation. Theſe ſeem to be in the diſcretion of the juſtices, whether bailable or not. Thoſe who muſt be bailed, on offering ſufficient ſecurity, are perſons of good fame, charged with a bare ſuſpicion of manſlaughter, or other inferior homicide; ſuch perſons, charged with petit larceny, or any felony, not before ſpecified; or with being acceſſory to any felony. Laſtly, it is agreed, that the court of king's bench, or any judge thereof in time of vacation, may bail for any crime whatſoever, be it treaſon, murder, or any other offence, according to the circumſtances of the caſe; ſuch perſons only excepted, who are committed by either houſe of parliament during the ſeſſion, or ſuch as are committed for contempts by any of the king's ſuperior courts of juſtice. The refuſal, or delay, of bail for any perſon bailable, is an offence againſt the liberty of the ſubject in any magiſtrate, by the common law, as well as by the ſtatute Weſtm. 1. 3. Edw. I. c. 15. and the *habeas-corpus* act, 31 Car. II. c. 2. And it is expreſsly declared by ſtatute 1 W. & M. ſt. 2. c. 1. that exceſſive bail ought not to be required; though it is left with the courts to determine, on conſidering the circumſtances of the caſe, what bail ſhall be called exceſſive. On the other hand, if the magiſtrate take inſufficient bail, he is liable to be fined, if the criminal doth not appear. Blackſt. Com. vol. iii. vol. iv. For ſeveral circumſtances and conſiderations with regard to bail in civil caſes and in criminal matters, ſee Jacob's Law Dict. by Tomlyns, vol. i. Art. *Bail*.

BAIL *above*, or BAIL *to the Action*, ſucceeds the return of the writ, or the appearance of the perſon bailed. See BAIL.

BAIL-*Bond* is a bond or obligation entered into by one or more ſureties, upon putting in bail to the ſheriff, inſuring the defendant's appearance at the return of the writ. See BAIL.

BAIL *in Error*, expreſſes the bail given by a perſon who brings a writ of error after verdict, or who is plaintiff in error.

BAIL-*Piece*, a ſmall ſquare ſlip of parchment, with the corners cut off at the bottom, on which is the recognizance of perſons who put in bail. See BAIL.

BAILS,

BAILS, *Clerk of the*, is an officer belonging to the court of king's bench. He files the bail-pieces taken in that court, and attends for that purpose.

BAILACAN, in *Geography*, a town of Armenia, 181 miles east of Erivan.

BAILAN, a town of Syria, ten miles south of Alexandretta.

BAILE, or BALE, in the *Sea Language*.—The seamen call baling or casting the water by hand out of a boat or ship's hold with buckets, cans, or the like, *bailing*.

When the water is thus *bailed* out, they say the *boat is freed*. They also call those hoops that bear up the tilt of the boat, its *bailes*.

BAILEMENT, in *Law*. See BAILMENT.

BAILIAGE is used for the office of a bailiff, for the place where he keeps his seat, and for the territory subject to his jurisdiction; which last is also denominated *bailiwick*.

BAILIAGE, *Water*, is an ancient duty received by the city of London, for all goods and merchandises brought into or carried out of the port. See BALLIAGE.

BAILIE, in *Scots Law*, a judge anciently appointed by the king over such lands not erected into a regality as happened to fall to the crown by forfeiture or otherwise; now abolished. It is also the name of a magistrate in royal boroughs, and of the judge appointed by a baron over lands erected into a barony.

BAILIES, WILLIAM, M.D. in *Biography*, practised medicine at London, and then at Bath, about the middle of the last century, but having a dispute with Drs. Oliver and Lucas, who had the greatest share of the business there, he soon quitted that city, and went to Prussia, and was made physician to Frederick the Great, to whom he was recommended as a person of great knowledge and experience in his profession. The king telling him, on his being introduced to him, he must certainly have killed a great number of persons in the course of acquiring his experience, the physician is said to have answered, "pas tant que votre majesté"—not so many as your majesty. The bon mot happened not to displease, and the doctor continued in favour with the king to the time of his death.

In 1757, Dr. Bailies published an essay on the Waters of Bath, with the view probably of making himself known there: also a narrative of facts, proving a conspiracy between the Drs. Oliver and Lucas, to exclude him from all consultations at Bath. Gen. Biog. Dict.

BAILIFF, in a *general sense*, denotes an officer appointed for the administration of justice within a certain district, called *bailiwick*.

The word is also written *baile*, *baily*, *bayly*, *baylie*, and *baillif*, in Latin *ballivus*.—It is formed from the French *baillif*, that is *præfectus provinciæ*, of *bail*, an old word denoting a guardian or governor of a youth, originally derived from the Latin *bajulus*, which signified the same.

Pasquier maintains, that bailiffs were originally a kind of commissioners, or judges delegate, sent into the provinces to examine whether or no justice were well distributed by the counts, who were then the ordinary judges. Loyseau, with more probability, refers the origin of bailiffs to the usurpation and idleness of the great lords, who, having got the administration of justice into their own hands, and being weary of the burden, turned it over to their deputies, whom they called bailiffs.

The bailiffs had, at first, the superintendence of arms, of justice, and of the finances; but abusing their power, they were by degrees stripped of it, and the greatest part of their authority transferred to their lieutenants, who were to be men of the long robe. In France, they assumed some prerogatives, as being reputed the heads of their respective districts; in their name justice was administered, contracts and other deeds passed, and to them was committed the command of the militia.

From these the English bailiffs originally took both their name and their office: for as the French had eight parliaments, which were supreme courts whence no appeal lay, within the precincts of the several parliaments or provinces, and in which justice was administered by bailiffs, at least by their lieutenants; so in England are several counties wherein justice was and is [illegible] administered by a viscount or sheriff, who appears likewise to have been called bailiff; and his district or county, bailiwick or *ballivia*. In the statute of magna charta, c. 28. and 14 Edw. III. c. 9. the word bailiff seems to comprehend as well sheriffs, as bailiffs of hundreds. Farther, the counties were again subdivided into hundreds; within which it is manifest, justice was anciently rendered by officers called bailiffs. And it appears by Bracton (l. 3. tract. 2. c. 34.), that bailiffs of hundreds might anciently hold plea of appeal and approvers. But those hundred-courts are now swallowed up by the county-courts, certain franchises alone excepted; and the bailiff's name and office grown into such contempt, at least these bailiffs of hundreds, that they are now no more than bare messengers, and mandatories within their liberties, to serve writs, and such mean offices. In other respects, the name is still in good esteem; for the chief magistrates in divers towns are called bailiffs; and sometimes the persons to whom the king's castles are committed are called bailiffs: as the bailiff of Dover castle, &c.

Of the ordinary bailiffs, there are several sorts; viz. bailiffs of liberties, sheriff's bailiffs, bailiffs of lords of manors; bailiffs of husbandry, &c.

BAILIFFS of *Liberties*, are those bailiffs who are appointed by every lord within his liberty, to execute process and perform such offices therein as the bailiff errant doth at large in the county; but bailiffs errant or itinerant, as they were formerly called, who went up and down the country to serve process, are now out of use.

Bailiffs of liberties and franchises are to be sworn to take distresses, impanel jurors, make returns by indenture between them and sheriffs, &c., and shall be punished for malicious distresses by fine and treble damages, by ancient statutes 12 Ed. II. st. 1. c. 5. 14 Ed. III. st. 1. c. 9. 20 Ed. III. c. 6. 1 Ed. III. st. 1. c. 5. 2 Ed. III. c. 4. 5 Ed. III. c. 4. 11 Hen. VII. c. 15. 27 Hen. VIII. c. 24. 3 Geo. I. c. 15. &c.

The bailiff of a liberty may make an inquisition and extent upon an *elegit*. Cro. Car. 319. These bailiffs of liberties cannot arrest a man without a warrant from the sheriff of the county; and yet the sheriff may not enter the liberty himself, at the [illegible] (unless it be on a pursuit, or *capias* [illegible], without a clause in the writ, [illegible] *præter alia loca hujusmodi*, &c. If the [illegible], &c. enter the liberty without such power, the lord of the liberty may have an action against him; [illegible] of the writ may stand good. 1 Vent. 92. 2 Lev. 103.

BAILIFFS of *Sheriffs*, are either bailiffs of hundreds, or special bailiffs. Bailiffs of hundreds are officers appointed over those respective districts by the sheriffs to collect fines therein; to summon juries; [illegible] at the assizes and quarter sessions; and also to execute writs and process in the several hundreds. But [illegible] generally plain men, and not thoroughly skilful in this latter part of their office, that of serving writs, and making arrests and executions, it is now usual to join special [illegible] with them;

them; who are generally mean perſons employed by the ſheriffs on account only of their adroitneſs and dexterity in hunting and ſeiſing their prey. A bailiff of a liberty is an officer which the court takes notice of; but a ſheriff's bailiff is not an officer of the court, but only the ſheriff himſelf. Parch. 23 Car. 1. B. R. The arreſt of the ſheriff's bailiff is the arreſt of the ſheriff himſelf, and if any reſcous be made of any perſon arreſted, it ſhall be adjudged done to the ſheriff: alſo, if the bailiff permit a priſoner to eſcape, action may be brought againſt the ſheriff. Co. Lit. 61. 168. Sheriffs are anſwerable for the miſdemeanor of their bailiffs, and are to have remedy againſt them. 2 Inſt. 19. The latter are therefore uſually bound in an obligation with ſureties for the execution of their office, and thence are called *bound-bailiffs*, which the common people have corrupted into a much more homely appellation.

There are thirty-ſix ſerjeants at mace in London, who may be termed bailiffs, and each of them gives ſecurity to the ſheriffs. By ſtat. 14 Ed. III. c. 9. ſheriffs ſhall appoint ſuch bailiffs for whom they will anſwer; and by ſtat. 1 Hen. V. c. 4. no ſheriff's bailiff ſhall be attorney in the king's court. R. M. 1654.

Bailiffs of *Lords of Manors*, are thoſe that collect their rents, and levy their fines and amercements; but ſuch a bailiff cannot diſtrain for an amercement without a ſpecial warrant from the lord or his ſteward. Cro. Eliz. 698. He cannot give licence to commit a treſpaſs, as to cut down trees, &c., though he may licenſe one to go over land, being a treſpaſs to the poſſeſſion only, the profits of which are at his diſpoſal. Cro. Jac. 337. 377. A bailiff may, by himſelf, or by command of another, take cattle damage-feaſant upon the land. 1 Dany. Abr. 685. Yet amends cannot be tendered to the bailiff, for he may not accept of amends, nor deliver the diſtreſs when once taken. 5 Rep. 76. Theſe bailiffs may do any thing for the benefit of their maſters; and it ſhall ſtand good till the maſter diſagrees: but they can do nothing to the prejudice of their maſters. Lit. Rep. 70.

Bailiffs of *Courts-Baron*, ſummon theſe courts, and execute the proceſs thereof; they preſent all pound-breaches, cattle ſtrayed, &c.

Bailiffs of *Huſbandry*, are ſuch as belong to private perſons of good eſtates, and have the diſpoſal of the inferior ſervants, with regard to their labour; they alſo fell trees, repair houſes, hedges, &c.; and collect the profits of the land for their lord and maſter, and they render account to him yearly, &c. Beſides theſe, there are alſo *bailiffs of the foreſt*, for which ſee Manwood, pt. 1. p. 113.

We alſo meet with divers other ſpecies and denominations of bailiffs in theſe and the neighbouring countries; as *provincial, royal, itinerant*, and *heritable, bailiffs; bailiffs* of France, of the empire, of boroughs, &c.

Bailiff, *Provincial, bailivus provincialis*, among the French, was an officer appointed to adminiſter juſtice in a certain province or county, with an authority ſomewhat like that of our juſtice of aſſize, inſtituted by the dukes and counts in their ſeveral territories, after they had procured the inheritance of them. Theſe acted in the name, and by authority, not of the king, as juſticiaries, but of the dukes or counts who appointed them, and whoſe deputies they were. Spelman takes them to be the ſame with what, among our Saxon anceſtors, were denominated *aldermen of counties*, and *graves* or *reves*, which afterwards became *vicecomites*, and ſheriffs.

Appeals lay from theſe to the bailiffs of France, *bailivi Franciæ*, who were thoſe appointed over the provinces originally belonging to the crown.

Bailiffs, *Royal, bailivi regii*, were thoſe over provinces afterwards annexed to the crown. Something like theſe ſtill ſubſiſts in Scotland, under the title of high or heritable bailiffs; as thoſe of Cunningham, Carrick, and Kyle; the firſt in the families of the earls of Eglington, the ſecond of the earl of Caſſils, the third of the earl of Loudon.

Bailiffs of *Boroughs, bailivi burgorum*, were magiſtrates anciently in cities and towns, anſwering, in ſome meaſure, to what of later times was called *portgrave, mayor*, &c.

Canterbury was a bailiff town five hundred years before it was made a mayor town. Weſtminſter, Southwark, Scarborough, &c. are ſtill governed by bailiffs.

Bailiffs differ in this from mayors, that the latter are always ſingle in one place, whereas there were uſually two bailiffs to a city, as formerly at London, and ſometimes four, as at Norwich.

Bailiff of *the Empire*, was anciently the vicar or regent of the empire; as appears from a letter of Henry of Flanders to pope Innocent III. wherein he ſays, the princes, barons, and knights, have elected me *bailiff of the empire; bailivus imperii*.

Bailiff, *Water*, is an officer anciently eſtabliſhed in all port-towns for the ſearching of ſhips, as appears from 28 Hen. VI. cap. 5.

There is ſuch an officer ſtill on foot in the city of London, who ſupervifes and ſearches all fiſh brought thither; and gathers the toll ariſing from the river of Thames.—He attends alſo on the lord mayor in his expeditions by water, and hath the principal care of marſhalling the gueſts at the table. He alſo arreſts men for debt, or other perſonal or criminal matters, on the river of Thames, by warrant of his ſuperiors.

BAILII, David, in *Biography*, a painter of perſpective views, and portraits, was born at Leyden in 1584, learned to draw and deſign under his father, and proſecuted his ſtudies under Adrian Verburg, and Cornelius Vandervoort, with the latter of whom he ſpent ſix years. Bailii copied many capital paintings of ſome great maſters, in the poſſeſſion of Vandervoort, with critical care and obſervation; and particularly a perſpective view of the inſide of a church, originally painted by Stenwyck, which was ſo accurately finiſhed, that Stenwyck himſelf could ſcarce diſtinguiſh the original from the copy. He travelled for improvement through ſeveral parts of Italy, and for ſome time reſided at Rome; and the correctneſs of his drawing, and the delicate handling and finiſhing of his pictures, procured for him every where employment, admirers, and friends. In the latter part of his life he diſcontinued painting, and only drew portraits on vellum with a pen, which he heightened with black-lead, ſo as to give them wonderful force and roundneſs. He died in 1638. Pilkington.

BAILIWICK, Bailywick, or Bayliwick, the territory of a bailiff, or the place within which his juriſdiction is terminated. This is not only taken for the county, as it is frequently called in the writs, but ſignifies generally that liberty which is exempted from the ſheriff of the county, over which the lord of the liberty appointeth a bailiff, with ſuch powers within his precinct, as an under-ſheriff exerciſeth under the ſheriff of the county; ſuch as the bailiff of Weſtminſter, &c. Stat. 27 Eliz. c. 12. Wood's Inſt. 206.

BAILLEAU L'Eveque, in *Geography*, a town of France, in the department of the Eure and Loire, and chief place of a canton in the diſtrict of Chartres, 1½ league north-weſt of Chartres.

BAILLE'E, a town of France, in the department of the Mayenne, and chief place of a canton in the diſtrict

of Chateaugontier, 4½ leagues north-eaſt of Chateaugontier.

BAILLER, in *Law*. See BAILMENT.

BAILLET, ADRIAN, in *Biography*, an eminent French critic, was born in 1649, of obſcure parents, at Neuville, a village near Beauvais. Having completed his education in the college of the city, he took holy orders in 1676, but ſoon quitted the clerical profeſſion, and devoted himſelf entirely to ſtudy. Lamoignon, preſident of the parliament of Paris, made him his librarian, and in this ſtation he continued till his death in 1706. He was a man of indefatigable application, and extenſive erudition. As he was always reading or writing, it is no wonder that his acquaintance with authors was great, and his works numerous. His principal performance was "Jugemens des Savans ſur les principaux Ouvrages des Auteurs;" it is a valuable collection of facts and obſervations. In the firſt volume he lays down rules for judging of authors and their productions; the three following, publiſhed in 1685, treat of printers, critics, tranſlators, authors of diſcoveries, &c.; and the next five on poets. The work would have been proſecuted agreeably to a plan preſented by the author to the public in 1694, if he had not been diſcouraged by ſevere criticiſm and ſatire in the Anti-Baillet of Menage, and other pieces. Abandoning this deſign, he directed his attention to other ſubjects; and he wrote, in 1693, "A treatiſe on the worſhip of the Virgin Mary;" another in 1695, "On the Care of Souls;" "The Lives of Saints" in 4 vols. fol., and in 17 vols. 8vo. in 1701; "The Life of Deſcartes," in 2 vols. 4to. in 1691, and abridged in 12mo., in 1692; "The Life of Richer, doctor of the Sorbonne," written in 1692, and publiſhed in 1714. "The life of Godfrey Hermant, doctor of the Sorbonne," printed at Amſterdam in 1717, 12mo; "An Hiſtory of Holland, from the truce of 1609," where Grotius finiſhed, "to the peace of Nimeguen," publiſhed at Paris, under the name of "Neuville," in 4 vols. 12mo. 1693; "A new and curious Account of Muſcovy," under the ſame name, in 12mo. at Paris, 1698; and "An Hiſtory of the conteſts of pope Boniface VIII. with Philip the Fair, king of France," publiſhed by father Long, in 12mo. 1718. The "Jugemens des Savans" was reviſed and enlarged by M. de la Monnoye, member of the French academy, and printed at Paris, in 7 vols. 4to. in 1722, and in 17 vols. 12mo. at Amſterdam, in 1725.

Baillet is often tedious and unintereſting, and culpably negligent with regard to his ſtyle. Gen. Dict.

BAILLEUL, JOHN DE, *Abbé de Johnval*, was ſo famed for his ſkill in reducing luxated joints, Haller ſays, that his name paſſed into a proverb, and an expert bone-ſetter was called a Bailleul. Hal. Bib. Chirurg.

BAILLEUL, in *Geography*, a town of France, in the department of the North, and chief place of a canton in the diſtrict of Hazenbrouck; it was formerly fortified, but is now without defence. It contains about 500 houſes; three leagues E. S. E. of Caſſel, and 4½ W. N. W. of Lille. N. lat. 40° 35′. E. long. 2° 55′.

BAILLEUL, a town of France, in the department of the Sarte, two leagues from La Fleche.

BAILLIAGE, in *Hiſtory*, the name of a government in Swiſſerland, of which there are two ſorts: the one conſiſting of certain diſtricts, into which all the ariſtocratical cantons are divided, over which a particular ſort of officer, called a *bailiff*, is appointed by government, to which he is accountable for his adminiſtration: the other ſort is compoſed of territories belonging to two or more of them, who alternately appoint a bailiff. This officer, when not reſtrained by the peculiar privilege of certain diſtricts, has the care of the police, and juriſdiction in civil and criminal cauſes in the ſame limitation; and enjoys a ſtated revenue ariſing in different places from various duties and taxes. In caſe of [illegible] or mal-adminiſtration, an appeal always lies from the bailiff to the cantons, to which the bailliage belongs; and the [illegible] place, the time, and the manner to receive the appeal are regulated with the utmoſt exactneſs. Coxe's Trav. Switz. vol. i. p. 37.

BAILLIE, ROBERT, in *Biography*, a Preſbyterian divine of the church of Scotland, was born at Glaſgow, in the year 1599, and educated in the univerſity of his native city. After he had taken his degree of maſter of arts, he applied with diligence to the ſtudy of divinity; and having, in 1622, received orders from archbiſhop L[illegible], and a regent of philoſophy in the univerſity of Glaſgow, in 1623, he modeſtly declined an offer which was made him of a church at Edinburgh, and in 1637 refuſed to preach a ſermon before the aſſembly in this city for recommending the canon and ſervice book, then publiſhed by authority; and ſtated in a letter to the archbiſhop of Glaſgow the reaſons of his refuſal. In 1638, he was a member of the famous aſſembly at Glaſgow, which was a prelude to the civil war, and it appears, notwithſtanding the moderation of his conduct, that he was not deficient in his zeal againſt prelacy and Arminianiſm. He was a member of the following general aſſemblies till 1653, the time excepted during which he attended the Weſtminſter aſſembly. In 1640 he was ſent by the covenanting lords to London, to draw up an accuſation againſt archbiſhop Laud, for the innovations he had obtruded upon the church of Scotland. Soon after his return, in 1642, he was appointed one of the profeſſors of divinity at Glaſgow; and his reputation was ſuch that he received invitations before this time from the other three univerſities, all of which he refuſed. He retained his profeſſorſhip till the reſtoration; but was often interrupted in the exerciſe of it by his reſidence in England; for in 1643 he was choſen one of the commiſſioners of the church of Scotland, to the aſſembly of divines at Weſtminſter. In the principles and views of this aſſembly he ſeems to have entirely concurred; he returned, however, to his own country in 1646. When Charles II. was proclaimed in Scotland after the execution of Charles I., Baillie was one of the divines appointed by the general aſſembly to wait upon his majeſty at the Hague, and in a ſpeech delivered on that occaſion he expreſſed, in the ſtrongeſt terms, his abhorrence of the murder of the late king, and in his ſentiments with regard to this event the Preſbyterian divines of that period, both at home and abroad, were almoſt univerſally agreed. After the reſtoration, Mr. Baillie was appointed, in 1661, principal of the univerſity of Glaſgow; but it is ſaid that a biſhopric was offered him, which he abſolutely refuſed. In the courſe of the year 1662, his health began to decline; and during his illneſs he was viſited by the newly created archbiſhop of Glaſgow, whom he addreſſed in the following uncourtly language: "Mr. Andrew (I will not call you my lord), king Charles would have made me one of theſe lords; but I do not find in the New Teſtament that Chriſt has any lords in his houſe." In July of this year Mr. Baillie died at the age of ſixty-three years. His character was not more diſtinguiſhed by his loyalty, than by his zeal for preſbytery, and his averſion to prelacy; and he ſeems to have been actuated, in a very conſiderable degree, by the intolerant ſpirit of the age in which he lived. In his letters, he every where manifeſts his diſlike of ſectaries; and he hardly omits any convenient opportunity of ſhewing his diſapprobation of the doctrine of toleration. He had alſo imbibed a conſiderable portion of that enthuſiaſtical

ſpirit

ſpirit which was then prevalent, and which protracted the religious ſervices to an aſtoniſhing length. Accordingly, Mr. Baxter, in one of his letters, written whilſt he was attending the Weſtminſter aſſembly, ſpeaks of a devotional exerciſe that laſted nine hours. Notwithſtanding, he was a man of conſiderable learning and ability; he is ſaid to have underſtood twelve or thirteen languages: and Mr. Wedderburn, his biographer, commends him for being not inferior even to the Auguſtan age. Of his diligence and learning, he left ſufficient evidence in his hiſtorical works, intitled, "Opus Hiſtoricum et Chronologicum." His other writings, which were chiefly on controverſial and temporary ſubjects, and which obtained a degree of celebrity that is ſaid to have ſtood rather from the intereſt of other perſons than from their own intrinſic merit, are of inferior value. His "Letters and Journals," publiſhed at Edinburgh by Robert Wodrow, in 1721, in three large volumes, contain an account of public tranſactions, both in Scotland and England, from 1638 to 1692, and throw conſiderable light on the civil and ecclieſiaſtical hiſtory of that period. Biog. Brit.

BAILLOEUL, in *Heraldry*, is a hoc rampant, holding a bow in his mouth.

BAILLOU, Gualterus De (*Walterius*), M. D. a phyſician of conſiderable eminence in the ſixteenth century, was born at Paris in the year 1538. After making great progreſs in the Greek and Latin languages, and in philoſophy, he applied to the ſtudy of medicine. In 1570, he was created doctor; and in the year 1575, dean of the faculty of medicine at Paris. In that year the diſputes between the ſurgeons and phyſicians at Paris, as to their precedence, began, in which Baillou took an active part. It was decided in favour of the phyſicians: and the point is ſtrenuouſly contended. Baillouius was a voluminous writer: but as his works are now little noticed, we ſhall refer our readers, for titles of the particular treatiſes, and for an account of their contents, to Haller's Bib. Med. Pract.

BAILLY, Jean-Sylvain, a celebrated aſtronomer and writer of France, was born at Paris, on the fifteenth of September 1736, of a family which had produced diſtinguiſhed painters for four ſucceſſive generations. He was bred to the ſame profeſſion, but manifeſted an early taſte for poetry and the belles lettres. By an accidental acquaintance with La Caille, his attention was directed to the ſciences, which he cultivated with aſſiduity and ſucceſs. He calculated the orbit of the comet of 1759; and in 1763 he publiſhed an uſeful and elaborate compilation, being the reduction of the obſervations made by La Caille in 1760 and 1761, on the zodiacal ſtars. About this time the theory of Jupiter's ſatellites became a particular object of his inquiries, and in the competition for this prize queſtion of 1764, he had a formidable rival in La Grange, afterwards known as one of the firſt mathematicians in Europe. The reſults of his inveſtigations were collected into a treatiſe, publiſhed in 1766, which alſo contained the firſt part of his "Hiſtory of Aſtronomy." In 1771, he gave a very curious and important memoir on the light of the ſatellites, and introduced a degree of accuracy till that time unknown in the obſervations of their eclipſes; and in the Journal Encyclopedique for May and July 1773, he addreſſed a letter to M. Bernouilli on ſome diſcoveries relating to Jupiter's moons, which he had conteſted. However, the ſtudies of M. Bailly were not confined to the abſtract ſciences; but he was no leſs ſucceſsful in his cultivation of polite literature. His eloge of Leibnitz, publiſhed in 1768, gained the prize of the academy of Berlin; this, and alſo the eloges of Charles V., of Corneille, of La Caille, of Cook, of Moliere, and of Greſſet, printed in 1770, were much admired. In 1775, appeared the firſt volume of the "Hiſtory of Aſtronomy," which indeed ſtrews the path of ſcience with flowers, and in every reſpect is a moſt valuable work; abounding with animated deſcription, luminous narrative, and intereſting detail. His peculiar ideas concerning the early ſtate of Upper Aſia, occaſioned an ingenious correſpondence and diſcuſſion with the veteran philoſopher Voltaire, the ſubſtance of which he incorporated in two volumes intitled, "Letters on the Origin of Sciences," and "Letters on the Atlantide of Plato." If the imagination ſhone forth in theſe eſſays, erudition was no leſs conſpicuous in a great work compoſed in the years 1781 and 1782, on the fables and religious creeds of antiquity; which ſtill exiſts in manuſcript, and the publication of which would extend the fame of its author, and gratify the learned world. His opinions on ſome points happening to coincide with the theories of Buffon, he contracted with that celebrated naturaliſt an intimate friendſhip, which was diſſolved by Bailly's unfortunate oppoſition to the election of Buffon's friend Maury into the academie Françoiſe. The other volumes of the "Hiſtory of Aſtronomy" ſucceſſively appeared, and that capital work was completed in 1787, by the "Hiſtory of the Indian and Oriental Aſtronomy," a production of ſingular acuteneſs, reſearch, and diſcrimination. His "Diſcourſes and Memoirs," which include the pieces before mentioned, were publiſhed in two volumes, in 1790: and his memoirs communicated to the French academy, as they appear in Rozier's Index, are as follow: "Memoir upon the theory of the comet of 1759;" "Memoir upon the epochs of the moon's motions, et mean ſol of the 1st century;" "Firſt, Second, and Third Memoirs on the theory of Jupiter's ſatellites, 1764;" "Memoir on the comet of 1762;" &c. for 1763; "Aſtronomical obſervations made at Sedan, 1764;" "On the ſun's eclipſe of the 30th of April 1764;" "On the longitude of Pekin, 1764;" "Obſervations made at the Louvre from 1760 to 1764, 1765;" "On the cauſe of the variation of the inclination of the orbit of Jupiter's ſecond ſatellite, 1765;" "On the motion of the nodes, and on the variation of the inclination of Jupiter's ſatellites, 1766;" "On the theory of Jupiter's ſatellites, publiſhed by M. Bailly, with tables of their motions, and of thoſe of Jupiter, publiſhed by M. Jeaurat, 1766;" "Obſervations on the oppoſition of the ſun and Jupiter, 1768;" "On the equation of Jupiter's centre, and on ſome other elements of the theory of that planet, 1768;" "On the tranſit of Venus over the ſun, on the third of June 1769; and on the ſolar eclipſe, the fourth of June, the ſame year 1769."

Such was the reputation of Bailly, that he was received as an adjunct in the French academy, on the 29th of January 1763, and aſſociate on the 14th of July 1770. In 1771, he was a candidate, under the patronage of Buffon, for the office of ſecretary; but the intereſt of Condorcet, and the influence of D'Alembert, prevailed in favour of Condorcet. Of the academie Françaiſe, he was choſen ſecretary in 1754; and he was admitted in the following year, into the Academy of Inſcriptions and Belles Lettres; the only inſtance, ſince Fontenelle, of the ſame perſon being at once members of all the three academies. In 1784, he was nominated one of the commiſſion to examine and report concerning the animal magnetiſm of Meſmer, as practiſed by Deſlon. His report was not only deciſive with regard to its object, but furniſhes a rule for the inveſtigation of ſimilar doctrines. It likewiſe throws light upon the phyſical effects produced by moral cauſes; and theſe are peculiarly intereſting, as cauſes of this nature have a political influence on the general opinion of ſociety, and the deſtiny of nations.

M. Bailly, with an ardent, and, as it is generally believed, an honeſt mind, engaged in the ſupport of that revolution of France, which at the time convulſed Europe, and which, with regard to its conſequences, has not yet ſubſided. His

rise, as a principal agent in the transactions of this event, was very rapid. On the 26th of April 1789, he was nominated secretary by the electors of Paris; he was afterwards appointed deputy to the states general; then chosen president of the "Tiers Etat:" and when this chamber was constituted the national assembly, he continued in the chair. During the struggle between the popular part of the subsisting assemblies and the court, Bailly was the most forward to assert the popular rights, which at that time were new in France; and his temerity would probably have been fatal to himself, if he had not been supported by Mirabeau. Bailly dictated the oath to the members of the tiers etat, "to resist tyrants and tyranny, and never to separate, until they had obtained a free constitution." After the capture of the Bastille, on the 14th of July 1789, he was appointed by public acclamation mayor of the city; and in all his several functions he is said to have acted with integrity, courage, and moderation. But in the midst of revolutions the course which he pursued was adapted to please neither of the contending parties; and though he acquired great popularity in the various steps by which the cause of the people gained predominance over that of the court, a circumstance occurred, which gave a turn to the popular opinion, and which rendered him an object of inveterate enmity. On the 17th of July 1790, the populace having collected tumultuously to demand the abolition of monarchy, Bailly received orders from the national assembly to disperse the mob. Desirous that the existing laws and regulations should be respected, he arrested certain deputies who came from some military insurgents at Nancy; he opposed the rash proceedings of Marat and Hubert; he was member of a club less promiscuous in its admission of members than that of the jacobins; and he exerted himself in endeavouring to persuade the populace to permit the royal family to depart to St. Cloud. Finally, on an occasion when the multitude assaulted the soldiery in the Champ de Mars, Bailly ordered the latter to fire, by which about forty persons were killed, and more than one hundred wounded. By these concurring circumstances his popularity declined, and at the dissolution of the constituent assembly, in the close of the year 1791, he resigned his office, and was succeeded by Petion. His health was impaired, and he retired from the scene of tumult, travelled through different provinces of France in the years 1792 and 1793; and pursued his literary and scientific researches. During this period, he wrote memoirs of the events which he had witnessed, and in which he had been a principal actor. Instead of withdrawing from France, which some of his friends advised him to do, he chose rather to submit to the injustice and ingratitude of his country. At the nod of a vulgar tyrant, he was arrested, summarily condemned by a sanguinary tribunal, and, on the 15th of November 1793, was delivered over to appease the vengeance of an incensed and indiscriminating populace. His sufferings were studiously protracted; circumstances of peculiar ignominy attended his execution; and he was executed near the spot where he gave orders for the military to fire on the people. He wore the red shirt, or badge of conspiracy, and was placed in a cart, with his hands tied behind him. In his progress to the place of execution, he was insulted and abused; and when he arrived at the fatal spot, during the removal of the guillotine, he was forced to descend from the cart, and to walk round the field, in order to gratify more completely the rancour of the mob. But all these trials were endured by him with firmness and magnanimity. A by-stander, at the time of his ascending the platform, insultingly exclaimed, "Bailly, you tremble;" to which he instantly replied, "Yes, but not with fear:" he shook indeed on account of the inclemency of the weather. The character of Bailly, thus prematurely cut off in the fifty-seventh year of his age, may be estimated by his works. In his person he was tall; his deportment was sedate and grave; and he blended firmness with sensibility. During his magistracy, he spent part of his fortune in relieving the wants of the poor; and he retired from office, impoverished rather than enriched: and in the various transactions of his life, he established the character of integrity and disinterestedness. His wife, who was the widow of his intimate friend Raymond Gaye, and whom he married in 1787, survived him. He had eight nephews, whom he educated with all the attention and tenderness of a father. With regard to the motives which actuated his public conduct, there seems to be no difference of opinion, whatever discordant sentiments may be entertained concerning the cause to which his talents and life were devoted. Lalande's Eloge de Bailly.

Bailly, or Baillif, *de la Riviere*, physician to king Henry IV., was born at Falaise in Normandy, about the middle of the sixteenth century. He was a strenuous advocate for the doctrines of Paracelsus; and in 1578 he published his "Demosterion, seu Aphorismi ccc. continentes summam doctrinæ Paracelsicæ," 8vo. Parisiis. It contains a defence of his practice, which being strongly opposed by the cotemporary physicians, in the following year he gave his "Responsio ad quæstiones propositas a Medicis Parisiensibus," also in 8vo. In 1580, he published "De peste tractatus," 8vo. Voces viri, Haller says, vix sensum admittunt. We shall omit the titles of his various other writings, which may be found recited in Haller's Bib. Med. Pract. vol. ii. p. 218.

Mons. Carrere says of this physician, that perceiving he was about to die, he called his servants to him singly, and gave to each of them a portion, first of his money, then of his plate and furniture, bidding them, as soon as they had taken what he had given, to leave the house, and see him no more. When the physicians came to visit him, they told him they had found his door open, and the servants and the furniture removed and gone, nothing in fact remaining but the bed on which he lay. Then the doctor, taking leave of his physicians, said, since his baggage was packed up and gone, it was time that he should go also. He died the same day, November the 5th, 1605. Eloy Dict. Hist.

BAILMENT, from Fr. *bailler*, *to deliver*, in *Law*, is a delivery of goods in trust, upon a contract expressed or implied that the trust shall be faithfully executed on the part of the *bailee*, a person to whom they are delivered; and the goods re-delivered as soon as the time or use for which they were bailed shall have elapsed or be performed. There are six sorts of bailments, which devolve a care and obligation on the party to whom goods are bailed; and which consequently subject him to an action, if he misbehave with regard to the trust reposed in him.

1. A bare and naked bailment, to keep for the use of the bailer, which is called *depositum;* and such bailee is not chargeable for a common neglect, but it must be a gross one to make him liable. 2. A delivery of goods which are useful to keep, and they are to be returned again in specie, which is called *accommodatum*, or a lending gratis; and in such case the borrower is strictly bound to keep them; for if he be guilty of the least neglect, he shall be answerable, but he shall not be charged where there is no default in him. 3. A delivery of goods for hire, called *locatio* or *conductio;* and the hirer is to take all imaginable care, and restore them at the time; and if he use such care, he shall not be bound.

4. A delivery by way of pledge, called *vadium*: and in ſuch goods the pawnee has a ſpecial property; and if the goods be the worſe for uſing, the pawnee muſt not uſe them; otherwiſe he may uſe them at his peril; as jewels pawned to a lady, if ſhe keep them in a bag, and they are ſtolen, ſhe ſhall not be charged; but if ſhe go with them to a play, and they are ſtolen, ſhe ſhall be anſwerable. If the pawnee be at a charge in keeping them, he may uſe them for his reaſonable charge; but if, notwithſtanding all his diligence, he loſe the pledge, yet he ſhall recover the debt. But if he loſe it after the money tendered, he ſhall be chargeable, for he is a wrong-doer; after money paid (and tender and refuſal is the ſame) it ceaſes to be a pledge, and therefore the pawnor may either bring an action of *aſſumſit*, and declare that the defendant promiſed to return the goods upon requeſt; or trover, the property being veſted in him by the tender. 5. A delivery of goods to be carried for a reward. (See CARRIER.) 6. A delivery of goods to do ſome act about them (as to carry) without a reward, called by Bracton *mandatum*, in Engliſh, an acting by commiſſion; and though he get nothing for his pains, yet if there were any neglect in him, he will be anſwerable, for his having undertaken a truſt is a ſufficient conſideration; but if the goods be miſuſed by a third perſon, in the way, without any neglect of his, he will not be liable, being to have no reward.

On this ſubject, ſir William Jones's "Eſſay on the Law of Bailment" merits particular attention; and the following analyſis will convey much knowledge in a ſhort compaſs. "*Definitions*. 1. *Bailment*, as before at the beginning of this article. 2. *Depoſit* is a bailment of goods to be kept for the bailor without recompence. 3. *Mandate* is a bailment of goods, without reward, to be carried from place to place, or to have ſome act performed about them. 4. *Lending for uſe* is a bailment of a thing for a certain time, to be uſed by the borrower without paying for it. 5. *Pledging*, is a bailment of goods by a debtor to his creditor, to be kept till the debt be diſcharged. 6. *Letting to hire* is (1) a bailment of a thing to be uſed by the hirer for a compenſation in money; or (2) a letting out of work and labour to be done, or care and attention to be beſtowed, by the bailee on the goods bailed, and that for a pecuniary recompence; or (3) of care and pains in carrying the things delivered from one place to another, for a ſtipulated or implied reward. 7. *Innominate bailments* are theſe where the compenſation for the uſe of a thing, or for labour and attention is not pecuniary; but either (1) the reciprocal uſe or the gift of ſome other thing; or (2) work and pains reciprocally undertaken; or (3) the uſe or gift of another thing in conſideration of care and labour; and converſely. 8. *Ordinary neglect*, is the omiſſion of that care, which every man of common prudence, and capable of governing a family, takes of his own concerns, 9. *Groſs neglect*, is the want of that care which every man of common ſenſe, how inattentive ſoever, takes of his own property. 10. *Slight neglect* is the omiſſion of that diligence which very circumſpect and thoughtful perſons uſe in ſecuring their own goods and chattels. 11. *A naked contract* is a contract made without conſideration or recompence.

"II. The rules which may be conſidered as axioms flowing from natural reaſon, good morals, and ſound policy, are theſe. 1. A bailee who derives no benefit from his undertaking, is reſponſible only for groſs neglect. 2. A bailee who alone receives benefit from the bailment, is reſponſible for ſlight neglect. 3. When the bailment is beneficial to both parties, the bailee muſt anſwer for ordinary neglect. 4. A ſpecial agreement of any bailee to anſwer for more or leſs, is in general valid. 5. All bailees are anſwerable for actual fraud, even though the contrary be ſtipulated. 6. No bailee ſhall be charged for a loſs by inevitable accident or irreſiſtible force, except by ſpecial agreement. 7. Robbery by force is conſidered as irreſiſtible; but a loſs by private ſtealth is preſumptive evidence of ordinary neglect. 8. Groſs neglect is a violation of good faith. 9. No action lies to compel performance of a naked contract. 10. A reparation may be obtained by ſuit for every damage occaſioned by an injury. 11. The negligence of a ſervant, acting by his maſter's expreſs or implied order, is the negligence of the maſter.

"III. From theſe rules the following propoſitions are evidently deducible. 1. A depoſitary is reſponſible only for groſs neglect; or, in other words, for a violation of good faith. 2. A depoſitary, whoſe character is known to his depoſitor, ſhall not anſwer for mere neglect, if he take no better care of his own goods, and they alſo be ſpoiled or deſtroyed. 3. A mandatary to carry is reſponſible only for groſs neglect, or a breach of good faith. 4. A mandatary to perform a work is bound to uſe a degree of diligence adequate to the performance of it. 5. A man cannot be compelled by action to perform his promiſe of engaging in a depoſit or mandate; but,—6. A reparation may be obtained by ſuit for damage occaſioned by the non-performance of a promiſe to become a depoſitary, or a mandatary. 7. A borrower for uſe is reſponſible for ſlight negligence. 8. A pawnee is anſwerable for ordinary neglect. 9. The hirer of a thing is anſwerable for ordinary neglect. 10. A workman for hire muſt anſwer for ordinary neglect of the goods bailed, and muſt apply a degree of ſkill equal to his undertaking. 11. A letter to hire of his care and attention, is reſponſible for ordinary negligence. 12. A carrier for hire by land or by water is anſwerable for ordinary neglect.

"IV. Exceptions to the above rules and propoſitions. 1. A man who ſpontaneouſly and officiouſly engages to keep or to carry the goods of another, though without reward, muſt anſwer for ſlight neglect. 2. If a man through ſtrong perſuaſion and with reluctance undertake the execution of a mandate, no more can be required of him than a fair exertion of his ability. 3. All bailees become reſponſible for loſſes by caſualty or violence, after their refuſal to return the things bailed; on a lawful demand. 4. A borrower and a hirer are anſwerable in all events, if they keep the things borrowed or hired after the ſtipulated time, or uſe them differently from their agreement. 5. A depoſitary and a pawnee are anſwerable in all events if they uſe the things depoſited or pawned. 6. An inn-keeper is chargeable for the goods of his gueſt within his inn, if the gueſts be robbed by the ſervants or inmates of the keeper. 7. A common carrier by land or by water muſt indemnify the owner of the goods carried, if he be robbed of them.

"V. It is no exception, but a corollary from the rules, that every bailee is reſponſible for a loſs by accident or force, however inevitable or irreſiſtible; if it be occaſioned by that degree of negligence for which the nature of his contract makes him generally anſwerable."

The following caſes may ſerve to illuſtrate the above principles.

A man leaves a cheſt locked up with another to be kept, and doth not make known to him what is therein; if the cheſt and goods in it are ſtolen, the perſon who received them ſhall not be charged for the ſame, for he was not truſted with them. And what is ſaid as to ſtealing is to be underſtood of all other inevitable accidents; but it is neceſſary for a man that receives goods to be kept, to receive them in a ſpecial manner, viz. to be kept as his own, or at the peril of

of the owner. 1 Lill. Abr. 193, 194. And vide 1 Rol. Abr. 338. 2 Show. pl. 166.

If I deliver 100l. to *A.* to buy cattle, and he beſtows 50l. of it in cattle, and I bring an action of debt for all, I ſhall be barred in that action for the money beſtowed and charges, &c. but for the reſt I ſhall recover. Hob. 207.

If one deliver his goods to another perſon, to deliver over to a ſtranger; the deliverer may countermand his power, and require the goods again; and if the bailee refuſe to deliver them, he may have an action of account for them. Co. Litt. 286.

If *A.* delivers goods to *B.* to be delivered over to *C.* *C.* hath the property, and *C.* hath the action againſt *B.* for *B.* undertakes for the ſafe delivery to *C.* and hath no property or intereſt but in order to that purpoſe. 1 Rol. Abr. 606.: ſee 1 Bulſt. 68, 69. where it is ſaid that in caſe of converſion to his own uſe, the bailee ſhall be anſwerable to both.

But if the bailment were not on valuable conſideration, the delivery is countermandable; and in that caſe, if *A.* the bailor bring trover, he reduces the property again in himſelf, for the action amounts to a countermand; but if the delivery was on a valuable conſideration, then *A.* cannot have trover, becauſe the property is altered; and in trover the property muſt be proved in the plaintiff. 1 Bulſt. 68.; ſee 1 Leon. 30.

And where a man delivers goods to another to be re-delivered to the deliverer at ſuch a day, and before that day the bailee doth ſell the goods in market overt; the bailor may at the day ſize and take his goods, for the property is not altered. Godb. 160.

If *A.* borrows a horſe to ride to Dover, and he rides out of his way, and the owner of the horſe meets him, he cannot take the horſe from him; for *A.* has a ſpecial property in the horſe till the journey is determined; and being in lawful poſſeſſion of the horſe, the owner cannot violently ſeize and take it away; for the continuance of all property is to be taken from the form of the original bargain, which in this caſe was limited till the appointed journey was finiſhed. Yelv. 172. But the owner may have an action on the caſe againſt the bailee for exceeding the purpoſes of the loan; for ſo far it is a ſecret and fallacious abuſe of his property; but no general action of treſpaſs, becauſe it is not an open and violent invaſion of it. 1 Rol. Rep. 128.

As to borrowing a thing periſhable, as corn, wine, or money, or the like, a man muſt, from the nature of the thing, have an abſolute property in them; otherwiſe it could not ſupply the uſes for which it was lent; and therefore he is obliged to return ſomething of the ſame ſort, the ſame in quantity and quality with what is borrowed. Dr. & Stud. 129.

But if one lend a horſe, &c. he muſt have the ſame reſtored. If a thing lent for uſe be uſed to any other end or purpoſe than that for which it was borrowed, the party may have his action on the caſe for it, though the thing be never the worſe; and if what is borrowed be loſt, although it be not by any negligence of the borrower, as if he be robbed of it; or where the thing is impaired or deſtroyed by his neglect, admitting that he put it to no more ſervice than that for which borrowed, he muſt make it good; ſo where one borrows a horſe, and puts him in an old rotten houſe ready to fall, which falls on and kills him, the borrower muſt anſwer for the horſe. But if ſuch goods borrowed periſh by the act of God (or rather, as ſir William Jones ſays, it ought more reverentially to be termed, by *inevitable accident*), in the right uſe of them; as where the borrower puts the horſe, &c. in a ſtrong houſe, and it falls and kills him, or it dies by diſeaſe, or by default of the owner, the borrower ſhall not be charged. 1 Inſt. 89. 29 Aſſ. 28. 2 H. 7. 11.

If one delivers a ring to another to keep, and he breaks and converts the ſame to his own uſe; or if I deliver my ſheep to another to be kept, and he ſuffers them to be drowned by his negligence; or if the bailee of a horſe, or goods, &c. kill or ſpoil them, in theſe caſes action will lie. 5 Rep. 13. 15 E. 4. 20 *b.* 12 E. 4. 13.

If a man deliver goods to another, the bailee ſhall have a general action of treſpaſs againſt a ſtranger, becauſe he is anſwerable over to the bailor; for a man ought not to be charged with an injury to another, without being able to retire to the original cauſe of that injury, and in amends there to do himſelf right. 13 Co. 69. 14 H. 4. 28. 25 H. 7. 14. See Jacob's Law Dictionary by Tomlins, art. *Bailment.* Blackſt. Com. vol. ii. p. 396. 451, &c.

BAILO, or Balio, a name given at Conſtantinople to the ambaſſador of Venice reſiding at the Porte; who alſo does the office of conſul of his nation.

The word is doubtleſs the remains of the word *baiulus*, which the modern Greeks and Turks have formed into bailo.

The Venetian conſuls at Aleppo, Alexandria, Smyrna, and other parts of the Levant, are alſo denominated bailo.

BAILY, Nathaniel, in *Biography*, an Engliſh writer, living the latter end of the ſeventeenth century and beginning of the laſt, author of the "Dictionarium Ruſticum," treating of all ſorts of country affairs, particularly of the whole art of gardening, 1704, 8vo. London, republiſhed, much improved, 1726. Haller Bib. Bot.

BAILYBOROUGH, in *Geography*, a market and poſt town of the county of Cavan in Ireland, which, though of very mean appearance, has an excellent market. The crops in its vicinity conſiſt of potatoes, flax, and oats, and are very poor. There is a bleach-green contiguous to the town, and there are ſome ſmall farmers in the neighbourhood, who make butter for market, which is ſent to Newry for exportation. Their pigs, which form a conſiderable article of trade, are ſent to the ſame place. This town has been hitherto very much neglected; but ſuch are its advantages of ſituation, that if any encouragement were given, it might be eaſily raiſed to a ſtate of proſperity and conſequence. Between this town and King's Court is a lake, or rather pool, on the ſummit of a mountain, which is celebrated for its antiſcorbutic virtues, and is much frequented from June to Auguſt. Many bathe in the lake; but the mud, which is taken up from the depth of thirty feet, and rubbed on the affected parts, is deemed the moſt efficacious. This mud is a ſort of [illegible] ſubſtance like tar. The lake covers about half a ſquare rood in area, and has a range of lofty hills to the eaſt and weſt. For about ſix feet from the ſurface the water is pure and clear, with ſomething of a chalybeate taſte. It is obſerved of it, that the [illegible] in imparting its genial influence, or in reducing its waters by attraction; nor has it ever been frozen, or its temperature altered in the ſevereſt winter. Bailyborough is forty-three Iriſh miles north-weſt from Dublin. Coote's Statiſt. Survey of Cavan.

BAILYBURG, a town of Sweden, [illegible] of Weſtmannland.

BAIN, a town of France, [illegible] department of the Lower Vilaine, [illegible] ſouth of Rennes. N. lat. [illegible]. W. long. [illegible].

Bain Gonga, a river of [illegible], which we are informed in Col. Cox's [illegible]

near the ſouthern bank of the Nerbuddah, and runs ſouthward through the heart of Berar; and after a courſe of 400 miles mixes with the Godavery, within the hills that bound our northern circars, about ninety miles above the ſea. It is not certain how far the Bain Gonga is navigable; but it is mentioned as a large river in the early part of its courſe; and is probably equal in bulk to the Godavery, when it joins it. Rennell's Mem. p. 246.

BAINBRIDGE, John, in *Biography*, an eminent phyſician and aſtronomer, was born at Aſhby de la Zouch, in Leiceſterſhire, in 1582, finiſhed his education at Emanuel college in the univerſity of Cambridge, and then retired to his own country, where for ſome years he taught a grammar ſchool, and practiſed phyſic. He alſo applied himſelf to the ſtudy of mathematics and aſtronomy, to which he had been devoted from his earlieſt years. Upon his removal to London, he was admitted a fellow of the college of phyſicians. His "Deſcription of the comet" in 1618, introduced him to an acquaintance with ſir Henry Saville, by whom he was appointed, in 1619, his firſt profeſſor of aſtronomy at Oxford, where he ſettled, having entered himſelf a maſter commoner of Merton college, for ſome years. At the age of forty years he began the ſtudy of Arabic, with a view of publiſhing correct editions of the ancient aſtronomers. He died at Oxford, November the 3d, 1643, in the ſixty-ſecond year of his age. His works that were publiſhed are "An Aſtronomical Deſcription of the late comet from November 18th, 1618, to the 16th of December following," London, 1619, 4to.; "Procli ſphæra;" and "Ptolemæi de hypotheſibus Planetarum liber ſingularis;" to which he added Ptolemy's "Canon regnorum," 1620, 4to.; "Canicularia," publiſhed at Oxford, in 1648, by Mr. Greaves, together with a demonſtration of the heliacal riſing of Sirius or the dog-ſtar for the parallel of Lower Egypt, written at the requeſt of archbiſhop Uſher. Several other treatiſes were prepared for the preſs, and left in MS. Biog. Brit.

BAINDER, in *Geography*, a town of Aſiatic Turkey, in the province of Natolia, forty-four miles eaſt from Boli.

BAINDT, a town of Germany, in the circle of Swabia, ſix miles N.N.E. of Ravenſpurg.

BAINE, a river of England, in Lincolnſhire, which paſſes by Horncaſtle, Tatterſal, &c. and joins the Welham near the laſt-mentioned place.

BAINETTA, a town of Piedmont, in the province of Coni, on the Orobio, ſix miles S. E. from Coni, and eight W.S.W. from Mondovi.

BAINS, a town of France, in the department of the Voſges, and chief place of a canton in the diſtrict of Darney 2¼ leagues weſt of Plombieres, and 3¼ ſouth-eaſt of Darney.

BAIOCCO, in *Commerce*, a copper coin in modern Rome, equivalent to a tenth part of the julio, or a hundredth part of the ducat.

The baiocco is worth about nine deniers, French money.

BAJOLE, Cape, in *Geography*, the moſt northerly cape of Minorca iſland, in the Mediterranean, ten leagues from the moſt northerly cape of the iſland of Majorca.

BAIPIA, a town of North America, in New Navarre, 165 miles ſouth-weſt from Caſa Grand.

BAIRAM, a name given to the great annual feaſt of the Mahometans.

The word is alſo written, by ſome authors, more conformably to the oriental orthography, *beiram*. It is originally Turkiſh, and ſignifies literally, a *feaſt-day*, or *holiday*.

The Mahometans have two bairams, the *great* and the *little*, which Scaliger, Erpenius, Rycaut, Hyde, Chardin, Bobovius, and other European writers, commonly interchange, giving the appellation *great* to that which the Turks call little, and *vice verſâ*.

This feaſt commencing with the new moon, the Mahometans are very ſcrupulous in obſerving the time when the new moon commences; to which purpoſe, obſervers are ſent to the tops of the high mountains, who, the moment they ſpy the appearance of a new moon, run to the city, and proclaim *muzhdudduluk*, *welcome news*; as it is the ſignal for beginning the feſtivity.

The ceremonies are deſcribed at large by Rycaut and Tournefort.

Bairam, *the Greater*, is properly that held by the pilgrims at Mecca, commencing on the tenth of Dhu'lhajja, when the victims are ſlain, and laſting three days. This is called by the Arabs, *id al korban*, *id al adha*, that is, the feaſt of the ſacrifice, as being celebrated in memory of the ſacrifice of Abraham, whoſe ſon God redeemed with a great victim. By European writers it is called the *leſſer bairam*, as being leſs taken notice of by the generality of the people, who are not ſtruck with it, becauſe the ceremonies attending it are performed at Mecca, the only ſcene of the ſolemnity.

The *Leſſer Bairam* is called in Arabic *Id al Fetr*, that is, the feaſt of breaking the faſt, and begins the firſt of Shawal, immediately ſucceeding the faſt of Ramadan. This is called by the vulgar, and by moſt others who have written of the Mahometan affairs, the *greater bairam*, becauſe it is obſerved in an extraordinary manner, and laſts for three days at Conſtantinople and in other parts of Turkey, and for five or ſix days in Perſia, during which no work is done; but preſents paſs from one to another, with many other manifeſtations of joy. If the day after Ramadan ſhould prove ſo cloudy as to prevent the ſight of the new moon, the bairam is put off to the next day, when it begins, though the moon be ſtill obſcured. When they celebrate this feaſt, after numerous ceremonies, or rather ſtrange mimicries, in their moſque, they end it with a ſolemn prayer againſt the infidels, to root out Chriſtian princes, or to arm them one againſt another, that they may have an opportunity to extend the borders of their law. Sale's Prel. Diſſ. p. 150.

BAIRDSTOWN, or Beardstown, in *Geography*, a flouriſhing town of America, in Nelſon county, Kentucky, containing 216 inhabitants, ſeated on the head-waters of Salt-river, fifty miles S. E. from Louiſville, and about the ſame diſtance S. W. from Danville.

BAIROUT, as it is pronounced by the Arabs, and as the modern Greeks pronounce Βεϱούτ, Berout, or the ancient *Berytus*, a town of Syria, in the pachalic of Saide or Acre, is ſituated in a plain, which runs out from the foot of mount Lebanon into the ſea, narrowing to a point about two leagues from the ordinary line of the ſhore, and on the north ſide forms a pretty long road, receiving the river of Nahr-el-Salib, called alſo Nahr-Bairout. The frequent floods to which this river is ſubject in winter, have occaſioned the erection of a conſiderable bridge; but this is in ſo ruinous a ſtate as to be impaſſable. The bottom of the road is rocky, which chafes the cables, and renders it inſecure. The town of Bairout, which lies about an hour's journey weſtward towards the point, belonged till of late to the Druzes, but Djezzar took it from them, and placed in it a Turkiſh garriſon. It ſtill continues, however, to be the emporium of the Maronites and the Druzes, where they export their cottons and their ſilks, almoſt all of which are ſent to Cairo. In return, they receive rice, tobacco, coffee, and ſpecie, which they exchange again for the corn of the Bekaa and the

the Hauran. This commerce maintains near 6000 perſons. The dialect of the inhabitants is the moſt corrupt of any in the country, and is ſaid to unite in itſelf the twelve faults enumerated by the Arabian grammarians. The port of Bairout, formed like all the others on the coaſt by a pier, is, like them, choaked up with ſand and ruins. The town is ſurrounded by a wall, the ſoft and ſandy ſtone of which may be pierced by a canon-ball, without breaking or crumbling: in other reſpects this wall, and its old towers, are defenceleſs. Bairout is ſubject to two inconveniences, which will always prevent its becoming a ſtrong place; for it is commanded by a chain of hills to the ſouth-eaſt, and it is altogether deſtitute of water, which is fetched by the women at the diſtance of half a quarter of a league, and even this is but indifferent. Djezzar has undertaken to conſtruct a public fountain, as he has done at Acre; but the canal will ſoon become uſeleſs. In digging, in order to form reſervoirs, ſubteraneous ruins have been diſcovered, from which it appears that the modern town is built on the ſite of the ancient Berytus; and without the walls, towards the weſt, heaps of rubbiſh and ſhafts of columns indicate that Bairout has formerly been much larger than it is at preſent. The plain around it is entirely planted with white mulberry trees, which are young and flouriſhing, and therefore the ſilk produced here is of the fineſt quality. In deſcending from the mountains, the verdure formed by the tops of theſe trees in the diſtant bottom of the valley exhibits a very delightful proſpect. The heat, and the warmth of the water, render Bairout in ſummer an inconvenient place of reſidence; the town, however, is not unhealthy; more eſpecially ſince the emir Fakr-el-din has planted a wood of fir trees about a league ſouthward of the town. Volney's Travels in Egypt and Syria, vol. ii. p. 187, &c. See BERYTUS.

BAISE, a river of France, which runs into the Garonne, near Aiguillon.

BAIT, *White*, in *Ichthyology*, a ſmall fiſh, which is caught in great plenty, from Auguſt 1, to October 1, by ſtat. 30 Geo. II. c. 21, in the river Thames. See WHITE BAIT.

BAIT, in *Fiſhing*. Baits make a capital article in angling; on the choice whereof much of the ſport depends; different ſeaſons, and different game, having their appropriate baits. The red, or earth-worm, is good for the ſmall fry moſt of the year round; and ſmall fiſh are good baits for pikes at all times; ſheep's blood and cheeſe are good bait in April; the bobs, dried waſps, and bees, are for May; brown flies for June; maggots, hornets, waſps, and bees, for July; ſnails in Auguſt; graſshoppers in September; corn, bramble-berries, and ſeeds, at the fall of the leaf; artificial paſtes are for May, June, July, and frogs for March.

Baits are either natural or artificial.

BAITS, *Natural*, include all kinds of worms, as the red worm, maggot, &c. alſo frogs, graſshoppers, hornets, bees, ſnails, roaches, bleak, gudgeon, and loaches, &c.

Theſe baits are to be kept each ſort ſeparate, and fed with thoſe things which they like beſt.

The red worm is to be kept in rich black mould, with a little fennel chopped among it; a little ox or cow dung, newly made, is alſo a very acceptable thing to them. They may be kept in a box, with ſmall holes in it, or in a bag. Red worms, and all other ſorts, ſcour quickly, and grow very tough and bright, on putting them into a thin clout, greaſed with freſh butter, or greaſe, before they are put into moſs.

This is the beſt of all things to keep them in; but the moſs muſt be firſt very well waſhed, and the water ſqueezed out again. As to food, a ſpoonful of cream, dropped into the moſs once in three or four days, is better than any thing elſe. The moſs is to be changed every week, and kept in a cool place.

White [illegible] are to be kept in water moſs, and long grass; and on mowing the moſs every morning it will keep a long time. They are to have their legs and wings cut off when they are uſed.

Live fiſh muſt be uſed as they are caught; but waſps, bees, hornets, and humble-bees, may be preſerved dry. The beſt method of drying them, is putting them in an oven after the bread is drawn. Care muſt be taken that they are not ſcorched; and when they are taken out they are to have the heads dipped in ſheep's blood. This is to be ſuffered to dry on, and then they are to be preſerved in a box. They will keep for three or four months. See ANGLING.

BAITS, *Artificial*, are flies of all kinds and ſhapes, made of ſilk, feathers, and the like. The variety of theſe is very great; there being not only different ones for every ſeaſon and month in the year, but almoſt for every fiſh. See ANGLING.

There are ſeveral artificial baits, for intoxicating of fowl, and yet without tainting or hurting the fleſh, ſo as to make it unfit to eat.

BAITS, *Dead*, are paſtes of divers ſorts, made of corn, cheeſe, fruits, waſps, ſheep's blood, boiled beans, &c.

BAIT, *Ground*. See ANGLING.

BAIT, *Ledger*, is that which remains fixed in one certain place, while the angler may be abſent; eſpecially in fiſhing for pike.

BAIT, *Walking*, is that which the angler attends while he keeps moving from place to place, in queſt of the fiſh.

BAITS *of Hemp*, denote bundles of that plant, pulled and tied up, ready for ſteeping in water. See FLY-FISHING.

BAIT-EL-LAHAM, the ancient *Bethlehem*, in *Geography*, a town of Syria, in the pachalic of Damaſcus, is a village about two leagues ſouth-eaſt of Jeruſalem, ſeated on an eminence in a country full of hills and vallies. The adjacent ſoil is the beſt in all theſe diſtricts; ſo that fruits, vines, olives, and ſeſamum, ſucceed here extremely well; and nothing is wanting but cultivation. They reckon about 600 men in this village capable of occaſionally bearing arms; and occaſions of this kind frequently recur, ſometimes to reſiſt the pacha, ſometimes to make war with the adjoining villages, and ſometimes in conſequence of inteſtine diviſions. Of theſe 600 men, about 100 are Latin Chriſtians, who have a vicar dependent on the great convent at Jeruſalem. The whole trade formerly conſiſted in the manufacture of beads; but not finding a ſufficient vent for them, they have reſumed the cultivation of their lands. They make a white wine, which juſtifies the former celebrity of the wines of Judæa, but it has the property of being very heady. The neceſſity of uniting for their common defence prevails over their religious differences, and induces the Chriſtians here to live in tolerable harmony with their fellow-citizens the Mahometans. Both are of the party of *Yamani*, which, with its oppoſite called *Kaiſi*, divides the whole of Paleſtine into two factions that are perpetually at variance. The courage of theſe peaſants has been frequently tried, and renders them formidable through the whole country. Volney's Travels, vol. ii. p. 323. See BETHLEHEM.

BAITHOSUS, in *Biography*, a Jewiſh teacher, and one of the founders of the ſect of the Sadducees, flouriſhed in Judæa,

Judæa, in the third century before Chriſt. See ANTIGONUS SOCHÆUS.

BAITING, or rather BATING, in *Falconry*, is when a hawk flutters with her wings, either from perch or fiſt, as if it were ſtriving to get away.

BAITING alſo denotes the act of ſmaller or weaker beaſts in attacking or harraſſing greater and ſtronger ones.

In this ſenſe we hear of the baiting of bulls and bears by maſtiffs, or bull-dogs with ſhort noſes, that they may take the better hold.

The baiting of this animal makes his fleſh tender and more digeſtible. In reality, it diſpoſes it for putrefaction, ſo that, unleſs taken in time, baited fleſh is ſoon loſt.

Bulls, bears, and alſo horſes, and other animals, were formerly trained for this purpoſe. This barbarous practice, the firſt riſe of which cannot be ſatisfactorily aſcertained, has the ſanction of high antiquity. Fitz-Stephen, who lived in the reign of Henry II., and whoſe "Deſcription of the City of London" was written in 1174, informs us, that in the forenoon of every holiday, during the winter ſeaſon, the young Londoners were amuſed with boars oppoſed to each other in battle; or with bulls and full-grown bears, baited by dogs. The baiting of horſes was never a general practice; but aſſes, which did not ſufficiently anſwer the purpoſe of ſport, were occaſionally treated with the ſame inhumanity. The practice of bull-baiting was much approved by the nobility in former ages, and was countenanced even by perſons of the moſt exalted rank, without exception even of females. Eraſmus, who viſited England in the reign of Henry VIII., ſays (Adagia, p. 361.), that there were many herds of bears maintained in this country for the purpoſe of baiting. When queen Mary viſited her ſiſter the princeſs Elizabeth, during her confinement at Hatfield houſe, a great exhibition of bear-baiting was preſented, immediately after maſs in the morning, for their amuſement. The ſame princeſs, ſoon after her acceſſion to the throne, entertained the foreign ambaſſadors with the baiting of bulls and bears. In the ſixteenth century there was a place built in the form of a theatre, which ſerved for baiting of bulls and bears: they were faſtened behind, and then worried by large Engliſh bull-dogs; but not without riſk to the dogs from the teeth of the one, and the horns of the other; and it ſometimes happened that they were killed on the ſpot, and freſh ones were ſupplied in the room of thoſe who were deſtroyed, wounded, or tired.

When the bull was baited, a collar was put about his neck, faſtened to a thick rope about three, four, or five yards long, hung to a hook, and ſo attached to a ſtake, that it might turn round. By means of this rope, the bull circulated to watch his enemy, which was a maſtiff dog with a ſhort noſe. This dog, when properly trained, would creep upon his belly, that he might, if poſſible, ſeize the bull by the noſe, which he as carefully endeavoured to defend by laying it cloſe to the ground, and with his horns he attempted to toſs the dog. On ſome occaſions a dog has been toſſed by a bull to the height of thirty or forty feet, and their fall has proved injurious and even fatal to them. The men have been alſo frequently toſſed as well the dogs. The barbarous paſtime of bull and bear-baiting is not encouraged by perſons of rank and opulence in the preſent day, but attempts have been projected for ſuppreſſing it by legiſlative interference: when it is practiſed, which rarely happens, it is attended only by the loweſt and moſt deſpicable part of the people, a circumſtance which indicates a general refinement of manners and prevalence of humanity among the moderns. Houghton's Collections, Strutt's Sports, &c.

Whales are baited by a kind of fiſh called *orie*, or *killers*; ten or twelve of which will attack a young whale at once, and not leave him till he is killed. Philoſophic. Tranſ. N. 287. p. 265.

BAJULARIA, in *Entomology*, a ſpecies of PHALÆNA (*Noctua*) that inhabits Amboyna. The anterior wings are brown, with two white ſpots, and a ſtreak of the ſame colour; poſterior ones yellow, with black ſpots. Fabricius, Cramer.

BAJULATIO, the office of a *bajulus* or bailiff.

BAJULUS, an ancient officer in the court of the Greek emperors; whereof there were ſeveral degrees: as the grand bajulus, who was preceptor of the emperor, and the ſimple *bajuli*, who were ſub-preceptors.

Hence the Italians uſe the word *bajulus* of a kingdom in the ſame ſenſe with protector of a kingdom among the Engliſh. The word is derived from the Latin verb *bajulare*, to carry, or bear a thing on the arms, or on the ſhoulders.

Children, and eſpecially thoſe of condition, had anciently, beſide their nurſe, a woman called *gerula*, as appears from ſeveral paſſages of Tertullian; when weaned, or ready to be weaned, they had men to carry them about to take care of them, who were called *gerulæ*, and *bajuli*, *a gerendo & bajulando*.

BAJULUS is alſo uſed by Latin writers in the ſeveral other ſenſes wherein bailiff is uſed among us.

BAJULUS was alſo the name of a conventual officer in the ancient monaſteries, to whom belonged the charge of gathering and diſtributing the money and legacies left for maſſes and obits; whence he was alſo demominated *bajulus obituum novorum*.

BAJULUS, in *Entomology*, a ſpecies of CERAMBYX (*Callidium*) that is found in the trunks of trees in the northern parts of Europe. The thorax is villous, with two tubercles; body brown. Fabricius. This is *cerambyx caudatus* of Degeer; and *leptura bajula* of Scopoli. Gmelin.—*Obſ.* a variety of this ſpecies (β) is deſcribed by Linnæus. Fn. Suec. i. n. 490. The colour of which is teſtaceous: thorax cinereous, and villous, with two little glabrous lines; in the Fabrician *mantiſſa*. Another variety (γ) is noticed; it is a native of Saxony, and only half the ſize of the former.

BAIUS, MICHAEL, in *Biography*, a profeſſor of divinity at Louvain, was born at Melin, in the territory of Aeth, in the year 1513, and educated in the univerſity of Louvain; where he was elected, in 1541, principal of one of the colleges; and in 1544, lecturer in philoſophy. In 1550 he took his doctor's degree, and was appointed profeſſor of the holy ſcriptures. Baius and his aſſociate having adopted the tenets of Luther, and appealing to the authority of Auguſtin, taught doctrines concerning grace and free-will, contrary to thoſe which had been commonly received in the church of Rome. The complaint of hereſy was excited; Baius was accuſed as a chief inſtrument of promoting it; and the doctors of the Sorbonne at Paris pronounced a ſentence of cenſure. The clamour againſt him was circulated; and a number of propoſitions, collected from books publiſhed by him in 1563 and 1564, were tranſmitted in 1567 to pope Pius IV. The pope iſſued a bull condemning theſe propoſitions; but without mentioning the name of the author, and adding a kind of ambiguous clauſe, which ſeemed to intimate, that ſome of the propoſitions which he condemned, admitted of a favourable conſtruction. By theſe meaſures of policy, ſuggeſted by the experience of the evils that had ariſen from purſuing a more intemperate conduct with regard to Luther, the perſon of Baius was exempted from the penalties of excom-

communication, and he continued to exerciſe his functions, and even to vindicate his doctrines; whilſt he ſolicited the pope to abſolve the irregularity. About thirteen years after this tranſaction, complaints againſt Baius were renewed; and pope Gregory XIII., at the inſtigation of the Jeſuits, confirmed the ſentence of Pius IV. Baius quietly acquieſced in the papal ſentence, and concurred in condemning the propoſitions agreeably to the deſign and meaning of the bull. Baius, notwithſtanding the popular odium which he incurred, retained his office, and received further preferment. He, and Hefſels, his aſſociate in the profeſſorſhip at Louvain, were the two divines commiſſioned to attend the council of Trent, in the year 1563. In 1575, he was preferred to the deanery of St. Peter at Louvain, and elected chancellor of the univerſity; and, in 1578, was appointed conſervator of its privileges. In 1589 he died, at the age of ſeventy-ſeven years. Moſheim repreſents him as equally remarkable on account of the warmth of his piety as the extent of his learning. In proof of his charitable diſpoſition it is alleged, that by his laſt will he left his whole eſtate to the poor. His manners were engaging; and Tolet, one of his adverſaries of the fraternity of Jeſuits, ſaid of him, "Michaele Baio nihil doctius, nihil humilius;" nothing can be more learned, nothing more humble than Baius. As his works, relating chiefly to the controverſy concerning grace and free-will, are not likely to be now much ſought after, it is needleſs to enumerate them. They were printed entire in 4to. at Cologne, in 1694. They are written with logical preciſion, and in a neat ſtyle. Gen. Dict. Moſh. Eccl. Hiſt. vol. iv. p. 235, 236.

BAIX, in *Geography*, a town of France, in the department of the Ardeche, two leagues and a half ſouth-eaſt of Privas.

BAIZE, a town of Germany; in the county of Tyrol, eight miles ſouth of Trent.

Baize, in *Commerce*. See Bays.

BAKAL, in *Geography*, a town of Ruſſia, in the government of Uſa, ninety-ſix miles W. N. W. of Uſa.

BAKAN, a town of Aſia, in the Birman empire, ſeated on the river Ava. N. lat. 19° 35′. E. long. 98° 0′.

BAKER, Sir Richard, in *Biography*, an Engliſh hiſtorian, was the grandſon of ſir John Baker, chancellor of the exchequer, in the reign of Henry VIII, and born at Siſſingherſt in Kent, about the year 1568. He was entered a commoner at Hart's hall, in Oxford, in 1584; and having ſpent three years in academic ſtudies, finiſhed his education in one of the inns of court, and by travelling. In 1603, he obtained the honour of knighthood; and in 1620 he was appointed high-ſheriff for the county of Oxford. By involving himſelf in pecuniary embarraſſment, in conſequence of his marriage, he was obliged to take refuge in the Fleet priſon, where, after remaining there ſeveral years, he terminated his life in 1645. In theſe circumſtances of confinement and humiliating diſtreſs, he obtained relief by ſtudy, and from the influence of religious principles. Beſides other tracts of leſs importance, in the compoſition of which he amuſed himſelf, his principal work was the "Chronicle of the Kings of England from the Time of the Romans' Government unto the Death of King James," publiſhed in folio, at London, in 1641, and afterwards continued by Edward Phillips, a nephew of Milton. This chronicle continued to be popular for ſeveral years, and deſervedly ſo if the author's account of it be juſt; for he ſays, "that it was collected with ſo great care and diligence, that if all other of our chronicles ſhould be loſt, this only would be ſufficient to inform poſterity of all paſſages memorable or worthy to be known." But of this performance a leſs favourable opinion has been entertained by others; and the critical examination of Thomas Blount in his "Animadverſions upon ſir Richard Baker's Chronicle, and its Continuation," publiſhed in 12mo., at Oxford, in 1672, in which many and groſs errors, reſpecting dates, names, places, and facts, were pointed out, greatly depreciated its value in the public eſtimation. Although a new corrected edition, with a ſecond continuation, appeared in 1730, yet Baker's chronicle remained, after all, a performance ill-conſtructed, injudicious, and unworthy of confidence. Of the writer's taſte and ſtyle the following commendation of his panegyriſt, ſir Henry Wotton, will afford an adequate idea: "I much admire the character of your ſtyle, which ſeemeth unto me to have not a little of the African idea of St. Auſtin's age; full of ſweet raptures, and of reſearching conceits; nothing borrowed, nothing vulgar, and yet all flowing from you, I know not how, with a certain equal facility." Biog. Brit.

Baker, *Thomas*, an eminent mathematician, was born at Ilton in Somerſetſhire, about the year 1625, and was educated at Oxford. In 1645 he was elected ſcholar of Wadham college, took his degree of bachelor of arts in 1647, and ſoon afterwards left the univerſity. As vicar of Biſhops-Nymmet in Devonſhire, he lived in ſtudious retirement, and chiefly applied himſelf to the ſtudy of mathematics, in which he excelled. Of this we have ſufficient evidence in his work, intitled, "The Geometrical Key, or the Gate of Equations unlocked," and publiſhed at London in 1684, 4to. in Latin and Engliſh. An account of this book is given in the Phil. Tranſ. vol. xiv. N° 157. p. 549, 550. (See Central *Rule*.) To ſome mathematical queries, ſent to him by the members of the Royal Society, not long before his death, he returned an anſwer ſo ſatisfactory, that they gave him a medal, with an inſcription honourable and reſpectful. He died at Biſhops-Nymmet, June 5th, 1690, and was buried in his own church. Biog. Brit.

Baker, *Thomas*, a writer and antiquary of eminence, was born at Lancheſter in the county of Durham, in 1656, and ſtudied at St. John's college, Cambridge, where he became a fellow. In 1699 he publiſhed, in 8vo., an anonymous work, intitled, "Reflections upon Learning, wherein is ſhewn the Inſufficiency thereof, in its ſeveral Particulars, in order to evince the Neceſſity and Uſefulneſs of Revelation," which paſſed through ſeveral editions, and was regarded, for many years, as a ſtandard of fine writing. As to its ſtyle, however, it has been obſerved, that, whilſt it is allowed to be perſpicuous and manly, it has no claim to any high degree of elegance; and whatever merit the work in general may be ſuppoſed to poſſeſs, it will be juſtly queſtioned, whether an author, who beſtows cold and partial praiſe on Bacon, who in a chapter of metaphyſics omits the mention of Locke, who ſpeaks contemptuouſly of the Copernican ſyſtem, and who attacked Le Clerc with an unbecoming aſperity, was duly qualified to paſs judgment upon general learning. The ingenious Dr. Jortin ſays of him (Life of Eraſmus, p. 550, 551), "that he was no critic himſelf, and not at all acquainted with the true ſtate of claſſical books, and particularly of Greek authors." Baker, though he poſſeſſed real erudition, and though his remarks are often acute and ingenious, has unduly diſparaged the writings of able men, and the diſcoveries of modern ſcience. In the progreſs of his life, he purſued ſtudies for which he ſeems to have been better qualified. As a collector of antiquities, and particularly of ſuch as related to the church and univerſity, he excelled. His talents in this way were employed in collecting materials for a hiſtory of the univerſity of Cambridge; but though he lived to an advanced age, this hiſtory was never completed.

Baker was unqueſtionably a man of integrity and candour. By his conſcientious refuſal to take the oaths required by government at the acceſſion of George I. he loſt his fellowſhip; but he retained his chambers at St. John's college, where he was highly eſteemed, and Mr. Prior, the celebrated poet, gave the profits of his own fellowſhip to Baker, in order to ſupply the loſs of income which he had ſuffered. His correſpondence with men of learning was extenſive; and he was liberal in his literary communications to thoſe who ſolicited information; and particularly to biſhop Burnet, who was indebted to him for ſeveral remarks and corrections relating to his "Hiſtory of the Reformation." Theſe two perſons, though very different from each other with regard to their party and principles, maintained a mutual friendſhip and a candid intercourſe, which were honourable to both. Baker's private character was amiable, and he was beloved and reſpected by all who knew him. He died at Cambridge, July 2d, 1740, in his eighty-fourth year. Of his extenſive collections, he left twenty-three volumes in folio, written by his own hand, to lord Oxford, and they now compoſe part of the Harleian collection in the Britiſh muſeum. He alſo bequeathed fifteen volumes folio, of a like kind, to the public library at Cambridge, together with other MSS. and printed books. Biog. Brit.

"Mr. Baker," ſays a late biographer, Horatio Walpole earl of Orford, "lived and died in charity with all mankind, and was perhaps the ſole inſtance of a man, who bequeathed his worldly goods to a ſociety that ejected him, and to the miniſters of a church in which he had loſt preferment." Memoirs of the Life and Writings of the late Thomas Baker, &c. by R. Maſters, 1784.

Baker, *Henry*, an ingenious and diligent naturaliſt, was born in London near the cloſe of the ſeventeenth or the beginning of the eighteenth century, and apprenticed to a bookſeller. This employment, if he ever engaged in it after the expiration of his apprenticeſhip, he ſoon relinquiſhed; and having directed particular attention to the methods which might be practicable and uſeful in the cure of ſtammering, he engaged in teaching deaf and dumb perſons to ſpeak; and in this undertaking he was very ſucceſsful. He married a daughter of the celebrated Daniel Defoe. In the earlier period of his life, he indulged a taſte for poetry, and publiſhed, in 1725 and 1726, "Original Poems, ſerious and humorous," in two parts, in which there are ſome tales that reſemble in wit, and alſo in licentiouſneſs, thoſe of Prior. He was the author likewiſe of "The Univerſe, a Poem intended to reſtrain the Pride of Man," ſeveral times reprinted, and of "An Invocation to Health," reprinted in his "Original Poems." At a more advanced period of life, he purſued various branches of ſtudy and experiment in philoſophy and natural hiſtory, and devoted himſelf more eſpecially to microſcopical reſearches and obſervations. In 1740, he was elected a fellow of the Antiquarian and Royal Societies; in both which he was a regular attendant. In 1744, the Royal Society honoured him with ſir Godfrey Copley's medal in recompence of his microſcopical diſcoveries, the cryſtallizations and configurations of ſaline particles. Among various topics, on which he communicated papers to the Royal Society, that have been publiſhed in their Tranſactions, one was the water-polype (ſee Polype); and his remarks on this curious animal were enlarged into a ſeparate treatiſe, which paſſed through ſeveral editions. The moſt important and valuable of his obſervations are contained in his two principal works, intitled, "The Microſcope made eaſy," and "Employment for the Microſcope," of which many editions have been publiſhed. Mr. Baker was one of the earlieſt and moſt zealous members of the ſociety for the encouragement of arts, manufactures, and commerce; and by his extenſive correſpondence he was eminently uſeful in introducing into his own country ſeveral valuable methods of culture. To him we are indebted for the true hiſtory of the "Coccus Polonicus," for the "Alpine Strawbery," and for the "Rheum Palmatum." After the firſt diſcoveries in electricity, he was one of the firſt who announced to the public the apprehended medicinal effects that might reſult from the application of it, and to relate the experiments of this kind which had been made at Rome and Bologna. He did not, however, eſcape the ſtrictures of critics, and particularly of Dr. Hill, in his review of the works of the Royal Society. It has been ſaid of him, more to the diſhonour of thoſe who have thrown out this unjuſt and invidious reflection than to his diſgrace, that he was a philoſopher in little things; but cavillers of this deſcription ſeem to forget that the minute productions of nature diſplay the great firſt cauſe as much as the largeſt; and they too generally eſcape the vulgar eye. Mr. Baker, ſays one of his biographers, was "an intelligent, upright, benevolent man, much reſpected by thoſe who knew him beſt. His friends were the friends of ſcience and virtue; and it will be always remembered by his cotemporaries, that no one was more ready than himſelf to aſſiſt thoſe with whom he was converſant, in their various reſearches and endeavours for the advancement of knowledge and the benefit of ſociety. After a life induſtriouſly devoted to theſe great objects, he died at his apartments in the Strand, Nov. 25th, 1774. The bulk of his fortune was bequeathed to his only grandſon; and he left 100 l. to the Royal Society for an anatomical or chemical lecture. Biog. Brit.

Baker's *Central Rule*, in *Mathematics*. See Central *Rule*.

Baker's *Dozen Iſlands*, in *Geography*, a cluſter of iſlands near the eaſt ſide of Hudſon's bay, about N. lat. 57° 30′. and W. long. 81°. to the weſt of an opening which goes to the eaſt and north-eaſt as far as the ſouth-eaſt end of Hudſon's ſtraits.

BAKERSFIELD, a newly-ſettled townſhip of America, in Franklin county, Vermont, formerly in Chittenden county.

BAKERSTOWN, lies in Cumberland county, and diſtrict of Maine, containing 1276 inhabitants; diſtant 162 miles north-eaſt from Boſton.

BAKEU, or Bacou, a town of European Turkey, in the province of Moldavia, 60 miles ſouth-weſt of Jaſſy.

BAKEWELL, is an ancient market town of England, in the county of Derby. In the Saxon chronicle it is called *Badecanwyllam*; from which circumſtance Mr. Bray conjectures that a bath had been uſed in this place previous to the year 924, at which time Edward the elder ordered a ſtrongly fortified town to be built in the vicinity. The pariſh of Bakewell is the moſt extenſive in the county; its length from north to ſouth being more than twenty miles, and its breadth upwards of eight. Its number of houſes is 299, and that of inhabitants 1412. In conſequence of the extent of this pariſh, it has nine chapels of eaſe beſides the church in the town. The latter, ſituated on an eminence, is an ancient amd handſome ſtructure, built in the form of a croſs, with an octagonal tower in the centre, ſupporting a lofty ſpire. The architecture of this fabric combines a variety of ſtyles. The plain Saxon appears in the nave, and the arch of the weſtern doorway is enriched with zigzag ornaments; but the other parts are built in that ſtyle which prevailed in the fifteenth century. Here are ſome ancient and curious monuments. In the church yard is a Catholic ſtone croſs, whoſe ſides are ornamented with a rudely executed

cuted repreſentation of the crucifixion in relief, and other ſculptured figures.

The market was formerly held on a Monday, but it is now kept on Fridays. Near the entrance of the town from Aſhford is a large mill for the carding, roving, doubling, ſpinning, and twiſting of cotton; in which manufactory from 300 to 350 perſons of both ſexes are conſtantly employed. This mill was erected by the late ſir Richard Arkwright, who was the founder of the cotton trade in this neighbourhood. Between the gritſtone and limeſtone ſtrata about Bakewell, is a thick ſtratum of ſhale, which being of an argillaceous nature, and retentive of moiſture, renders the paſturage extremely good and thriving. Bakewell is 25 miles north of Derby, and 152 miles north-weſt from London. About three miles eaſt of this town is *Chatſworth*, a magnificent ſeat of the duke of Devonſhire. This celebrated manſion was erected by William the firſt duke of Devonſhire, in the year 1702. It is built in the Ionic order, with a flat roof, ſurrounded by a baluſtrade. Its form is nearly a ſquare, of about 190 feet, incloſing a ſpacious quadrangular court, having a fountain in the centre, with the ſtatue of Orpheus. The fronts which form the quadrangle, are decorated with rich ſculptural repreſentations of military trophies. This manſion is ſumptuouſly furniſhed, and embelliſhed with carved ornaments by the celebrated Gibbons, with painted walls and ceilings, with portraits, alſo a collection of foſſils, &c. The unfortunate Mary, queen of Scots, was doomed to thirteen years' captivity in the old manſion at this place. The park is about nine miles in circumference, and is diverſified with much grand, picturesque, and beautiful ſcenery. The *water-works*, which about fifty or ſixty years ago gave Chatſworth great celebrity, are ſtill preſerved near the ſouth-eaſt and ſouth ſides of the houſe; but they attract little attention in the midſt of ſuch a variety of natural beauties.

About two miles ſouth of Bakewell is *Haddon Hall*, a truly venerable manſion belonging to his grace the duke of Rutland. The high turrets and embattlements of this houſe, when beheld at ſome diſtance, give it the reſemblance of an ancient fortified caſtle. It conſiſts of numerous apartments and offices, which ſurround two paved quadrangular courts. The moſt ancient part is the tower of the gateway, which was probably built about the time of Edward the Third. The gallery was erected in the time of queen Elizabeth; but the chapel was raiſed in the reign of Henry the Sixth. Many of the rooms are very ſpacious; and the doors were concealed behind the hangings of arras, which muſt have been always lifted up for perſons to paſs in and out. Haddon Hall preſents perhaps a more complete ſpecimen of the ancient Engliſh baronial manſion, than is to be found in any other houſe in the kingdom. For a particular deſcription of it ſee the Beauties of England and Wales, vol. iii. p. 494.

At a ſhort diſtance from Bakewell is *Aſhford*, where are ſome conſiderable marble works. Theſe were the firſt of the kind eſtabliſhed in England, and great quantities of black and grey marble are ſawed and poliſhed. This operation is performed by machinery, which is kept in motion by water. One part, called the ſweeping mill from its circular motion, will work upon, and level a ſet of marble ſlabs of eighty ſuperficial feet. Beauties of England and Wales, vol. iii.

BAKEWELL *Breed*, an improved ſpecies of ſheep, which have been bred by Mr. Bakewell of Diſhleigh. See SHEEP.

BAKHUYSEN. See BACKHUYSEN.

BAKIAN. See BACHIAN.

BAKING, the art of preparing bread, or of reducing meals of any kind, whether ſimple or compound, into bread.

The ſeveral ſorts of baking among us may be reduced to two; the one for unleavened, the other for leavened bread.

The learned are in great doubt about the time when baking firſt became a particular profeſſion, and bakers were introduced. It is generally agreed they had their riſe in the Eaſt, and paſſed from Greece to Italy after the war with Pyrrhus, about the year of Rome 583. Till which time every houſewife was her own baker: for the word *piſtor*, which we find in Roman authors before that time, ſignified a perſon who ground or pounded the grain in a mill or mortar to prepare it for baking, as Varro obſerves. According to Athenæus, the Cappadocians were the moſt applauded bakers, after them the Lydians, then the Phœnicians.

To the foreign bakers brought into Rome, were added a number of freedmen, who were incorporated into a body, or, as they called it, a *college*; from which neither they nor their children were allowed to withdraw.—They held their effects in common, and could not diſpoſe of any part of them. Each bake-houſe had a *patronus*, who had the ſuperintendency thereof; and theſe *patroni* elected one out of their number each year, who had the ſuperintendence over the reſt, and the care of the college. Out of the body of the bakers, every now and then, one was admitted among the ſenators.

To preſerve honour and honeſty in the college of bakers, they were expreſsly prohibited all alliance with comedians and gladiators; each had his ſhop or bakehouſe, and they were diſtributed into fourteen regions of the city. They were excuſed from guardianſhips and other offices, which might divert them from their employment.

By our own ſtatutes, bakers are declared not to be handicrafts. No man for uſing the myſteries or ſciences of baking, brewing, ſurveying, or writing, ſhall be interpreted a handicraft. 22 H. VIII. cap. 13.

The bakers of London make the nineteenth company. They were incorporated about the year 1307, and conſiſt of a maſter, four wardens, thirty aſſiſtants, and one hundred and forty-nine on the livery, beſides the commonalty. See COMPANY.

The bakers of London are under the juriſdiction of the lord mayor and aldermen. A penalty is inflicted on bakers ſelling at a higher price than is ſet by the lord mayor; and bakers are to ſet their marks on their bread. The aſſize of bread is regulated by ſeveral ſtatutes. See BREAD.

The manner of baking at Otaheite, and in many iſlands of the South ſeas, is as follows. They make fire by rubbing the end of one piece of dry wood upon the ſide of another, juſt as the carpenters whet a chiſſel; they then dig a pit in the ground, about half a foot deep, and two or three yards in circumference; they pave the bottom of it with large pebble ſtones, which they lay very ſmooth and even, and then kindle a fire in it with dry leaves and the huſks of the cocoa-nut. When the ſtones are properly heated, they take out the embers and rake out the aſhes on every ſide, then cover the ſtones with a layer of green cocoa-nut tree leaves, and wrap up the animal that is to be dreſſed, in the leaves of the plantain. If it be a ſmall hog, or dog, they wrap them up whole; if large, they ſplit them. When placed in the pit, they cover it with hot embers, and lay upon them bread-fruit and yams wrapped up in like manner in the leaves of the plantain. Over theſe they ſpread the remainder of the embers, mixing among them ſome of the hot ſtones, with more cocoa-nut tree leaves and then cloſe up all with earth, ſo that the heat is kept in. After a time proportioned to what is dreſſing, the oven is opened, and the meat taken out, tender, full of gravy, and, as captain Wallis thought, better in every reſpect than when it is dreſſed any other way. Having no

veſſels in theſe iſlands that could bear the fire, the inhabitants of them had no idea of hot water, or its effects, and therefore always roaſted or baked their meat in the manner above related. Hawkeſworth's Account of Voyages in the Southern Hemiſphere, vol. i. p. 484.

BAKING is uſed for the expoſing a ſubſtance, incloſed in a crust, to the fire. See DRESSING *of Meats*.

BAKING *Porcelain*. See PORCELAIN.

BAKON, in *Geography*, a large foreſt of Hungary, near Veſprin, where Andrew, king of Hungary, in a battle with his brother, was forſaken by his followers, and trampled to death by his enemies.

BAKSAISKAIA, a fortreſs of Ruſſian Tartary, in the government of Caucaſus, on the weſt ſide of the Ural; 32 miles north of Gurica.

BAKTEGAN, the name of a ſalt lake of Perſia, about fifty miles eaſt of Shiraz, which receives the rivers of Kuren and Bundamir. It is repreſented in the maps as being about 40 Britiſh miles long, and 10 broad.

BAKU, a town of Perſia, in the province of Shirvan, on the weſt coaſt of the Caſpian ſea, with a harbour. N. lat. 40° 25'. E. long. 50° 2'.

The bay of Baku is reckoned the ſafeſt harbour of the Caſpian, becauſe ſhips may lie there at anchor in ſeven fathom water; yet in ſome places the entrance is dangerous on account of ſhallows, iſlands, and ſand-banks. Baku, like Derbent, is inhabited by Perſians, Tartars, and ſome few Armenian merchants. The principal articles of export by which the traffic of this place is chiefly ſupported, are the naphtha, and the fine rock-ſalt, both of which are collected on the eaſt ſide of the bay. The inhabitants indeed cultivate ſaffron and cotton, but not with any conſiderable advantage. The trade of Baku is doubtleſs of more conſequence than that of Derbent, though in fact but very confined, and is moſtly carried on with Shamachy, whence it gets ſilk and ſilk-ſtuffs. A Ruſſian conſul uſually reſides here.

BALA, in *Botany*, a name uſed by ſome authors for the *muſa*, or plantain tree; called alſo the *lanana* and *ficoides*, by others.

BALA, in *Ancient Geography*, a city of Pentapolis, ſo called becauſe it was *ſwallowed up*, as the word imports, when Lot quitted it. It is more uſually denominated *Zoar*.

BALA, in *Geography*, a town in the county of Merioneth, in North Wales, conſiſting of one ſtreet, with a high artificial mount, apparently the keep of a fortreſs, at the ſouth-eaſt end of it. It is ſituated on the eaſtern extremity of the fine lake to which it gives a name, and whoſe fiſh contribute largely towards the ſubſiſtence of its inhabitants. The fairs and markets are conſiderable, and abundantly ſupplied with the produce of the ſurrounding country, and with flannels, gloves, ſtockings, &c. In the manufactory of the latter articles, the inhabitants of the town and of the neighbouring villages are conſtantly employed. "Knitting," obſerves Mr. Aikin, "is the general leiſure work of both ſexes in Wales, eſpecially about Bala; and it cannot fail of giving ſtrangers a high idea of the induſtry of the people, to ſee men and women going to market with burdens on their heads, while their hands are employed in working the fleeces of their own ſheep into articles of dreſs, coarſe indeed, but equally warm and ſerviceable with the more coſtly and elaborate manufactures." Bala is in the pariſh of Llanycil, a village about one mile from the town. The whole pariſh includes a population of 2445. Though endowed with many valuable privileges, Bala cannot boaſt of any particular or elegant ſtructures. It is an incorporated town by preſcription, and the government is veſted in two bailiffs and a common council; but neither this nor any other town in the county has ever ſent members to parliament. The aſſizes are kept here and at Dolgelly alternately. Its market is on Saturdays, and here are two fairs annually. It is 96 miles from Holyhead, and 203 from London. "The object moſt worthy notice in this neighbourhood is—

"BALA-*Pool*, or *Pimble-mere*, or *Llyn-tegyd*, which is the largeſt lake in Wales. Its length from N. E. to S. W. is about four miles, and its breadth in the wideſt part is 1200 yards. The water, like that of moſt rocky lakes, is ſo pure that the moſt delicate chemical teſts detected ſcarcely any perceivable quantity of foreign admixture. The ſouth-weſtern extremity, where three mountain torrents fall into the pool, is the ſhalloweſt, owing to the great quantity of earth and ſtones which are borne down in flood time from the country through which they flow: the gradual aggregations have formed ſeveral banks and low iſlands in this end of the lake, and in conſequence obliged it to encroach proportionally on the north-eaſtern boundary. This tendency is further increaſed by the prevalence of ſtrong weſterly winds, which drive on the ſhore a heavier ſurf than would be imagined. When theſe two cauſes combine, a circumſtance that not unfrequently happens, the waters riſe to ſuch an alarming height, as to threaten the town of Bala with an inundation, were it not for a dyke that is raiſed on the ſhore: the water being thus obſtructed pours over the road at the extremity of the mound, and diſcharges itſelf into the low grounds through which the Dee flows, doing no ſmall damage to the rich and extenſive paſtures. The lake is well ſtocked with excellent fiſh, of which the red trout and the gwyniad are eſteemed the moſt delicious. Theſe are all caught by angling from the ſhore, for ſir W. Wynne, who claims the property of the whole pool, will not allow any boats to be kept on it." The ſcenery round this lake is much admired for its diverſified, wooded, and rocky characteriſtics. Aikin's Journal of a Tour through North Wales, &c.

From the bottom of this lake iſſues the river Dee, which is ſaid to paſs through it without mingling its waters with thoſe of the lake (ſee ABYSSINIA); and paſſing under a romantic old bridge, winds gently in a wide and deep ſtream towards Corwen and Llangollen.

Bala is ſurrounded with mountains, through which various roads are formed towards Dinaſmowthy, towards Llanvilling over the Berwin, and towards Llanrwſt in the vicinage of Snowdon.

BALAAM, in *Scripture Biography*, the ſon of Beor or Boſor, a prophet or diviner, of the city of Pethor on the Euphrates. He was ſent for by Balak, king of the Moabites, to curſe the Iſraelites; but he pronounced upon them a bleſſing. He was killed, together with Balak, in a battle, in which the Iſraelites defeated the Midianites, about 1451 years before Chriſt. Numb. xxii, xxiii, xxiv. Deut. xxiii. 4. 2 Pet. ii. 15. Jude, verſ. 11. Rom. ii. 14. It has been a ſubject of controverſy, whether Balaam was a true prophet or a mere diviner, magician, or fortune-teller, *hariolus*, as he is called, Numb. xxii. 5. Origen ſays, that his whole power conſiſted in magic and ſorcery. Theodoret is of opinion that Balaam did not conſult the Lord, but that he was ſupernaturally inſpired, and conſtrained to ſpeak againſt his own inclination. Cyril ſays, that he was a magician, an idolater, and a falſe prophet, who ſpoke truth againſt his will; and St. Ambroſe compares him to Caiaphas, who prophecied without being aware of the import of what he ſaid.

Jerom ſeems to have adopted the opinion of the Hebrews; which was, that Balaam knew the true God, erected altars to him, and that he was a true prophet, though corrupted

rupted by avarice. Numb. xxii. 18. St. Auſtin and other commentators have inclined to this opinion.

Maimonides thinks, that every thing which happened to Balaam in the way to Balak, was done in a prophetical viſion. The abbot Jeruſalem, and his followers, ſuppoſe Balaam to have been an egregious impoſtor, who had acquired the reputation of being a prophet, and made a public traffic of his divinatory art. With this view he feigns frequent converſations with God, and delivers his own ideas for divine oracles. He ſuppoſes that Moſes inſerted the hiſtory of Balaam, as an epiſode, from Moſaïc motives, for the purpoſe of obviating preſſing objections on the ſuppoſition that Moſes was the original writer. Dr. Geddes, in contrariety to the five foregoing opinions which he had adopted with regard to the pentateuch, declares it to be his opinion, that this hiſtory was written, not by Moſes, but by the compiler of the pentateuch, from ſuch traditional ſtories or ſcraps of written documents as he could find. "Indeed," he adds, "it has all the air of a legendary tale."

The ſtory of Balaam's aſs has often been an object of ridicule among infidels and unbelievers. The abbot Jeruſalem thinks that it was all a fiction of Balaam, to free himſelf from obloquy, if he ſhould bleſs, inſtead of curſing the Iſraelites. Dr. Juſtin (ſix Diſſertations, Diſſ. v.) ſuppoſes, that Balaam was a worſhipper of the true God, and a prieſt and prophet of great reputation; and that he was ſent for by Balak, from a notion which generally prevailed, that prieſts and prophets could ſometimes, by prayers and ſacrifices duly and faithfully applied, obtain favours from God, and that their imprecations were efficacious. He conceives that the prophet had been accuſtomed to revelations, and that he uſed to receive them in viſions, or in dreams of the night. With regard to the intercourſe between Balaam and his aſs, he conjectures that it was tranſacted in a trance or viſion. Accordingly, he admits that an angel of the Lord did, indeed, come to oppoſe Balaam in the way, and ſuffered himſelf to be ſeen by the beaſt, but not by the prophet; that the beaſt was terrified, and Balaam ſmote it, and immediately fell into a trance or extacy; and in that ſtate of viſion, converſed with the beaſt firſt, and then with the angel. The angel preſented theſe objects to his imagination, as ſtrongly as if they had been before his eyes; ſo that this was ſtill a miraculous or preternatural operation. Dr. Geddes ſays, that to him there appears nothing ſtrange in the ſtory of the aſs, but the manner of telling it; and it ceaſes to be wonderful, when we recollect the oriental mode of narrating. Balaam is riding on his aſs on as yet a doubtful errand; the aſs ſtartles at ſomething, and turns aſide from the way; thruſts his maſter's legs againſt a wall, and at length falls down under him. All this he takes for a bad omen, and a ſign that his journey is not agreeable to God. God is thence conceived to be angry with him, and an imaginary dialogue enſues between God and Balaam, as had before been ſuppoſed to be held between Balaam and his aſs. Geddes's Crit. Remarks, vol. i. p. 394.

BALAAMITES, in *Eccleſiaſtical Hiſtory*, the name of a ſect in the firſt age of Chriſtianity, of the ſame import in the Hebrew language with Nicolaitans in the Greek. See NICOLAITANS.

BALABAC, in *Geography*, one of the Philippine, or rather Bornean iſlands, between Borneo and Palawa, near the ſouth-weſtern point of the latter iſland. N. lat. 7° 50'. E. long. 117° 30'.

BALABEA, an iſland near the north-weſt end of New Caledonia. S. lat. 20° 7'. E. long. 164° 22'.

BALABOLA. See BOLEBOLA.

BALACHNA. See BALAKHNA.

BALAD, a town of Aſia, in the country of Diarbekir, twenty miles north-weſt of Moſul.

BALADE, the name of a harbour on the north-weſt coaſt of New Caledonia, in the South Pacific Ocean, formed by a reef which runs off to the north, and by the iſland of Balade, and ſeveral ſmaller iſlands, on the ſouth. S. lat. 20° 15'. E. long. 164° 30'.

BALÆNA, (from φαλλαινα, Greek, a whale), a genus of cetaceous animals, with [illegible] certain baleen [illegible] the ſnout, from [illegible] the throat, [illegible] the ſpout hole, [illegible] the ſides, [illegible] acquainted with [illegible] ſay, [illegible] of the [illegible] to the [illegible] of [illegible]. The [illegible] of the ſeveral ſpecies, the want of [illegible], which [illegible] in the whale, [illegible] other cogent reaſons for removing it from the latter. Our countryman, Ray and Willughby, both [illegible] the whales in their hiſtories of fiſhes; [illegible] Linnæus, who from real arrangement of the animal kingdom [illegible], divides this into two principal [illegible] one comprehending thoſe which have [illegible], and the other, thoſe which breathe by means of [illegible], and are truly fiſhes. The reaſons he offers for [illegible] the former with the fiſhes are theſe; becauſe the form of their bodies agrees with thoſe of fiſhes; becauſe they are entirely naked, or covered only with a ſmooth ſkin; and becauſe they live entirely in the water, and have all the actions of fiſhes. Notwithſtanding this, Linnæus, whoſe accuracy of diſcrimination an enlightened poſterity will for ever admire and eſteem, has referred them to the mammalia tribe of animals: a reference extremely juſt, but the propriety of which will not appear ſo obvious at the firſt glance to the curſory obſerver, as to the accurate anatomiſt, or indefatigable hiſtorian of nature.

The whale, notwithſtanding its fiſh-like external appearance, and reſidence in the waters, has no other claim to a place among fiſhes; for its internal anatomy is preciſely the ſame as that of the terreſtrial animals, and of the quadruped tribe in particular. Such is the opinion advanced by that firſt of naturaliſts, Linnæus; and ſuch is the opinion confirmed by the remarks of that able anatomiſt the late Mr. Hunter. In a paper preſented on the anatomy of whales, to the Royal Society of London, a few years ago by the latter, it is obſerved, that this order of animals has nothing peculiar to fiſh, except living in the ſame element, and being endowed with the ſame powers of progreſſive motion, as thoſe fiſh which are intended to move with a conſiderable velocity. Although inhabitants of the waters, they belong to the ſame claſs as quadrupeds; breathing air, being furniſhed with lungs, and all other parts peculiar to the economy of that claſs, and having warm blood. The projecting part, or tail, contains the power that produces progreſſive motion, and moves the broad terminating [illegible], the motion of which is ſimilar to that of an oar in ſculling a boat; it ſuperſedes the neceſſity of poſterior extremities, and allows of the proper ſhape for ſwimming. The tail is flattened horizontally, which is contrary to that of fiſh; this poſition of tail giving the direction to the animal in the progreſſive motion of the body. The two lateral fins, which are analogous to the anterior extremities in the quadruped, are commonly ſmall, varying however in ſize, and ſeem to ſerve as a kind of oars. The element in which they live renders ſome parts, which are of importance in other animals, uſeleſs to them; gives to ſome parts a different action, and renders others of leſs account. The larynx, ſize of the trachea, and number of ribs differ exceedingly. The coecum is only found in ſome of them. The teeth in ſome are wanting. The blow-holes are two in number in many; in others only one. The bones alone, in many animals, when properly united

into what is called the ſkeleton, give the general ſhape and character of the animal. Thus a quadruped is diſtinguiſhed from a bird, and even one quadruped from another; it only requiring a ſkin to be thrown over the ſkeleton to make the ſpecies known. But this is not ſo decidedly the caſe in this order of animals, for the ſkeleton in them does not give the true ſhape. An immenſe head, a ſmall neck, few ribs, and in many a ſhort ſternum, and no pelvis, with a long ſpine, terminating in a point, require more than a ſkin being laid over them in order to give the regular and characteriſtic form of the animal. The ſtructure of the bones is ſimilar to that of the bones of quadrupeds; they are compoſed of an animal ſubſtance, and an earth that is not animal; they are leſs compact than thoſe of quadrupeds that are ſimilar to them. From theſe and other obſervations we may infer, that the ſtructure, formation, arrangement, and union of the bones, which compoſe the forms of parts in this order of animals, are much upon the ſame principle as in quadrupeds. The fleſh and muſcles of this order of animals are red, reſembling thoſe of quadrupeds, and perhaps more like thoſe of the bull or horſe than any other animal.

The Linnæan definition of the mammalia claſs, having a heart with two auricles and two ventricles, and the blood warm and red, applies moſt ſtrictly to the whale. "The heart," Mr. Hunter ſays, "is incloſed in its pericardium, which is attached by a broad ſurface to the diaphragm, as in the human body. It is compoſed of four cavities, two auricles, and two ventricles; it is more flat than in the quadruped, and adapted to the ſhape of the cheſt. The auricles have more faſciculi, and theſe paſs more acroſs the cavity from ſide to ſide, than in many other animals; beſides being very muſcular, they are very elaſtic, for being ſtretched they contract again very conſiderably. There is nothing uncommon or particular in the ſtructure of the ventricles, in the valves of the ventricles, or in that of the arteries." In their amours and mode of producing their young, the whales agree with other creatures of the mammalia tribe; and like them they have teats, and ſuckle them.

The balæna genus is diſtinguiſhed, according to Linnæus, by having horny laminæ in the ſuperior jaw inſtead of teeth, and a double reſpiratory orifice on the upper part of the head. By theſe characters the true whales may be diſtinguiſhed from the other genera of cetaceous animals, as the monodon, phyſeter, and delphinus. The hiſtory of the whales will be conſidered under the reſpective ſpecies, of which Linnæus and Gmelin deſcribe the following: MYSTICETUS (common whale), PHYSALUS (fin-fiſh), BOOPS (pike-headed whale), GIBBOSA (bunched whale), MUSCULUS (round lipped whale), and ROSTRATA (beaked whale). The French naturaliſts diſtinguiſh two other ſpecies; Virey ſpeaks of la baleine Franche, or baleine de Groenland (B. myſticetus Linn.), le nord caper, or baleine d'Irlande (balæna glacialis Bonn.), le gibbar, or finn-fiſch (fin-fiſh Eng. and balæna phyſalus Linn.), la baleine tampon (balæna nodoſa Bonn.), la Jubarte (balæna boops Linn.), le rorqual (balæna muſculus Linn.), and la baleine a bec (balæna roſtrata Linn.)

In concluding theſe remarks on the whale tribe, we cannot avoid adverting to the Britiſh Zoology of Mr. Pennant, in which theſe and the other cetaceous animals found on our coaſts are admitted under the title of cetaceous fiſhes; he follows the arrangement propoſed by Ray, and ſeems to object chiefly to that of Linnæus, becauſe "to have preſerved the chain of beings entire," he ſays, Linnæus "ſhould have made the genus of phocæ, or ſeals, and that of trichecus or manati, immediately precede the whale, thoſe being the links that connect the mammalia or quadrupeds with the fiſh; for the ſeal is, in reſpect to its legs, the moſt imperfect of the former claſs, and in the manati the hind feet coaleſce, aſſuming the form of a broad horizontal tail." Brit. Zool. vol. iii.

M. Bloch excludes the whales, and other cetaceous creatures, except the marſoin or porpoiſe, from his work on fiſhes; but theſe are included in one of the ſmaller editions of the work, in the "ſeventh claſs, les cétacées." In a prefatory note we are informed, however, that Linnæus places theſe at the concluſion of the mammalia, immediately after the hog-tribe; but as it might be agreeable to give the entire claſs in which the largeſt animals which nature produces are arranged, the omiſſion of Bloch is ſupplied from Duhamel, with the aſſiſtance of Anderſon, Bonaterre, Artedi, Ray, and Belon.

BALÆNAE, in *Natural Hiſtory*, a ſpecies of ECHINORHYNCHUS, that infeſts the inteſtines of the whale. Phips. It. Gmelin.

BALÆNARIS, in *Conchology*, a ſpecies of LEPAS, having a ſubconic ſhell, with ſix elevated rugoſe four-parted lobes, and a membranaceous bidentated operculum. Müll. Found adhering to the pectoral fins and wrinkles of balæna boops, or pike-headed whale.

BALÆNARUM, in *Entomology*, a ſpecies of PHALANGIUM (*Pycnogonum* Fabr.), with two feelers and an ovate body. Gmel. This is phalangium littorale of Stroemſundm.; pediculus ceti, Baſter; pycnogonum littorale Fabr. ſn. Groenl.; and acarus marinus ſeu polygonopus of Pallas. Inhabits European ſeas, lurking under ſtones. Back red; ſucker advanced, ſtraight, obtuſe at the end, with a round perforation; feelers about as long as the ſucker, and inſerted near its baſe.

BALAGANSKOI, in *Geography*, a town of Siberia, on the Angara, 30 miles W.N.W. of Irkutſk. N. lat. 53° 45′. E. long. 103° 14′.

BALAGAT, or BALLA-GAUT, a province of the Deccan, in the Indian peninſula. It is a tract naturally very ſtrong, particularly on the weſt ſide towards the ſea, where a ſtupendous wall of mountains, called the Gauts, riſes abruptly from the low country, called the Concan, or Cockun, ſupporting, in the nature of a terrace, a vaſt extent of fertile and populous plains, which are ſo much elevated, as to render the air cool and pleaſant. This elevated tract is continued not only through the Mahratta territories, but extends through the peninſula to the ſouthern extreme of Myſore, and is named *Balla-Gaut*, throughout its whole extent; meaning literally the *Higher* or *Upper Gauts;* or perhaps more correctly the countries lying *above* or *below* the Gauts. In the peninſula, it is applied in contradiſtinction to *Payen-Gaut*, or the *Lower Gauts;* but in the Deccan, it appears to be uſed only as a proper name, and not as a correlative; as we have never heard of the Deccan *Payen-Gaut.* Rennell's Mem. Introd. p. 127.

As a province, it was formerly the largeſt of the three which compoſed the northern Deccan, bounded on the north by Candiſh and Berar; on the eaſt by Tellinga; on the weſt by Baglana and part of Guzerat; and on the ſouth by Viſiapore. This province, after it fell into the hands of the Moguls, aſſumed the name of Dowlatabad, from its former capital. It is a fruitful pleaſant country, abounding with cotton and ſugar. Its chief city is Aurungabad.

BALAGUER, a town of Spain, in Catalonia, ſeated on the north bank of the river Segra, at the foot of a high hill. N. lat. 41° 38′. E. long. 0° 48′.

BALAKEF, a diſtrict of the government of Saratof, in Ruſſia, on the river Khoper.

BALAKHNA, or BALACHNA, a town of Ruſſia, in a diſtrict of the ſame name, being one of the thirteen diſtricts of Neſhnei Novogorod, on the right ſide of the Volga. The town was built in 1536, and contains 767 timber houſes, and 1489 inhabitants. It trades to St. Peterſburg; tranſports and ſalt, conſtructs fiſhing-boats. It has one

monaſtery, five brick, and ten timber churches. N. lat. 56° 30′. E. long. 45° 5′.

BALAKLAVA, a fiſhing town of Crim Tartary, or Taurida, containing about 200 houſes, and ſeated on a bay of the Black or Euxine ſea, in N. lat. 44° 35′. E. long 33° 14′. The bay forms a harbour; which, in the imperial proclamation declaring Theodoſia and Eupatoria free ports, is debarred from navigation.

BALAKZEL, in *Ornithology*, the Turkiſh name of the heron.

BALALAIKA, in *Muſic*, a muſical inſtrument of the bandour kind, of very ancient Sclavonian origin; it is in common uſe both with the Ruſſians and Tartars; according to Niebuhr, it is alſo frequent in Egypt and Arabia. The body of it is an oblong ſemicircle, about a ſpan in length, with a neck or finger-board of four ſpans. It is played on with the fingers like the bandour or guitar; but has only two wires, one of which gives a monotonous baſs, and by the other the piece is produced. Under the touch of able fingers, accompanied by a good voice, it ſounds agreeably enough; and therefore it is not unfrequently ſeen in the hands of people of faſhion.

BALAMBANGAN, in *Geography*, a ſmall iſland in the Eaſtern Pacific ocean, near the northern point of Borneo, between this iſland and Palawa, remarkable for a ſettlement attempted by the Engliſh in 1773; but evacuated either on account of the unhealthy climate, or of a Dutch invaſion. N. lat. 7° 10′. E. long. 117°.

BALAMBUAN, or PALAMBUAN, the name of a diſtrict or territory on the eaſt part of the iſland of Java, which produces pepper, cotton, rice, Indian corn, and fruit in great plenty, and which abounds with paſtures that feed a great number of horſes, antelopes, buffaloes, and oxen. The capital, which is a ſtrong trading town, is of the ſame name. S. lat. 7° 10′. E. long. 115° 30′.

BALAMBUAN *Channel*. See BALLI.

BALAMIUS, FERDINAND, in *Biography*, born in the iſland of Sicily, about the middle of the ſixteenth century, not leſs celebrated for his accompliſhments in polite literature, and his ſkill in the Greek language, than for his knowledge of medicine, was greatly eſteemed by pope Leo X. to whom he was phyſician. He publiſhed in 1556, at Lyons, "De cibis boni et mali ſucci," tranſlated from the works of Galen; alſo "Galeni liber de oſſibus, ad Tyrones;" 8vo. republiſhed at Frankfort, in fol. with obſervations by Gaſpar Hoffman, 1630. The above are inſerted in the edition of Galen's works, publiſhed by the Juntas, 1586, fol. Since his death the following was printed at Roſtoch: "De optima corporis noſtri conſtitutione;" "De bona valetudine;" "De hyrudinibus, cucurbitula, &c." 1636, 8vo. Haller Bib. Med. Pract. Eloy Dict. Hiſt.

BALAM PULLI, in *Botany*, a name uſed by ſome authors for the tree whoſe fruit is the tamarind of the ſhops.

BALANCE, or BALLANCE, *Libra*, in *Mechanics*, one of the ſeven ſimple powers, or rather a ſpecies of that mechanical power called the lever, uſed principally for determining the equality or difference of weights in heavy bodies, and conſequently their maſſes or quantities of matter.

The balance is of two kinds, viz. the *ancient* and *modern*. The ancient or Roman, called alſo *ſtatera Romana*, or ſteel-yard, conſiſts of a lever or beam, moveable on a centre, and ſuſpended near one of its extremes; on one ſide the centre are applied the bodies to be weighed, and their weight is eſtimated by the diviſion marked on the beam, on the other ſide, where a weight moveable along it keeps the balance in equilibrio. See STEEL-YARD.

The modern balance, now ordinarily in uſe, conſiſts of a lever, or beam, ſuſpended exactly by the middle; to the extremes whereof are hung ſcales or baſons.

In each caſe, the beam is called the *jugum*, and the two moieties thereof on each ſide the axis, the *brachia*, or *arms*; and the handle whereby it is held, *trutina*; the line on which the beam turns, or which divides its brachia, is called the *axis*; and when conſidered with regard to the motion of the brachia, is eſteemed but a point, and called the *centre of the balance*; and the places where the weights are applied, the *points of ſuſpenſion*, or *application*.—That ſmall part perpendicular to the *jugum*, by which either the preponderation, or preponderancy of bodies is indicated, is called the *tongue of the balance*.

In the Roman balance, therefore, the weight uſed for a counterbalance is the ſame, but the points of application are various; in the common balance, the counterpoiſe is various, and the point of application the ſame.

The principle on which each is founded is the ſame, and may be conceived from what follows.

BALANCE, *Doctrine of the*.—The beam AB (*Plate Mechanics, fig.* 8.) the principal part of the balance, is a lever of the firſt kind, which, inſtead of reſting on a fulcrum at C, its centre of motion, is ſuſpended by ſomewhat ſlender to the centre C: ſo that the mechaniſm of the balance depends on the ſame theorem as that of the lever.

Hence, as the known weight is to the unknown, ſo is the diſtance of the unknown weight from the centre of motion to the diſtance of the known weight, where the two weights will counterpoiſe each other; conſequently, the known weights ſhew the quantity of the unknown.

Or thus: the action of a weight to move a balance is by ſo much greater, as the point preſſed by the weight is more diſtant from the centre of the balance; and that action follows the proportion of the diſtance of the ſaid point from that centre. When the balance moves about its centre, the point B deſcribes the arch *Bb* (*fig.* 9.); whilſt the point A deſcribes the arch *Aa*, which is the largeſt of the two; therefore in the motion of the balance, the action of the ſame weight is different, according to the point to which it is applied; hence it follows, that the proportion of the ſpace gone through by the point at A is as *Aa*, and at B as *Bb*, but thoſe arches are to one another as CA, CB.

BALANCE, *Varieties in the Application of the*.—If the brachia of a balance be divided into equal parts, one ounce applied to the ninth diviſion from the centre, will equiponderate with three ounces at the third; and two ounces at the ſixth diviſion act as ſtrongly as three at the fourth, &c.

Hence it follows, that the action of a power to move a balance is in a ratio compounded of the power itſelf, and its diſtance from the centre; or that diſtance is the meaſure gone through in the motion of the balance.

It may be here obſerved, that the weight equally preſſes the point of ſuſpenſion at whatever height it hangs from it, and in the ſame manner as if it was fixed at the very point: for the weight at all heights equally ſtretches the cord by which it hangs.

A balance is ſaid to be in equilibrio, when the actions of the weights upon the brachia to move the balance are equal, ſo as mutually to deſtroy each other. When a balance is in equilibrio, the weights on each ſide are ſaid to equiponderate: unequal weights may alſo equiponderate; but then the diſtances from the centre muſt be reciprocally as the weights. In which caſe, if each weight be multiplied by its diſtance, the products will be equal; which is the foundation of a ſteel-yard, which ſee.

Thus in a balance whoſe brachia are very unequal, a ſcale hanging at the ſhorteſt, and the longeſt divided into equal parts: if ſuch a weight be applied to it, as at the

the firſt diviſion ſhall equiponderate with one ounce in the ſcale; and the body to be weighed be put in the ſcale, and the above mentioned weight be moved along the longeſt *brachium*, till the *equilibrium* be found; the number of diviſions between the body and the centre ſhews the number of ounces that the body weighs, and the ſubdiviſions the parts of an ounce. On the ſame principle alſo is founded the *falſe balance*, which cheats by the inequality of the *brachia*: for inſtance, take two ſcales of unequal weights, in the proportion of 9 to 10, and one of them at the tenth diviſion of the balance above deſcribed, and another at the ninth diviſion, ſo that there may be an equilibrium; if then you take any weights, which are to one another as 9 to 10, and put the firſt in the firſt ſcale, and the ſecond in the other ſcale, they will equiponderate.

But it is eaſy to diſcover the deceit of a falſe balance by changing the weights that are in equilibrio to the contrary ſcales; and thus the owner of the balance muſt either confeſs the fraud, or add to the commodity ſold by means of ſuch a balance, not only the quantity by which it was deficient, but alſo as much as he intended to gain by the fraud, and a fraction of that added weight proportional to the inequality of the arms of the balance. In this caſe, the buyer, inſtead of 9lb offered to him for 10lb his due, will have by changing the ſcales, 11¼ pounds. For 9 : 10 :: 10 : 11¼.

Several weights, hanging at ſeveral diſtances on one ſide, may equiponderate with a ſingle weight on the other ſide: to do this it is required, that the product of that weight, by its diſtance from the centre, be equal to the ſum of the products of all the other weights, each being multiplied by its diſtance from the centre.

To demonſtrate which, hang three weights of an ounce each, at the ſecond, third, and fifth diviſions from the centre, and they will equiponderate with the weight of one ſingle ounce applied to the tenth diviſion of the other *brachium*; and the weight of one ounce at the ſixth diviſion, and another of three ounces at the fourth diviſion will equiponderate with a weight of two ounces on the other ſide at the ninth diviſion.

Several weights unequal in number on either ſide, may equiponderate: in this caſe if each of them be multiplied by its diſtance from the centre, the ſums of the products on either ſide will be equal; and if thoſe ſums be equal, there will be an *equilibrium*.

To prove which, hang on a weight of two ounces at the fifth diviſion, and two others, each of one ounce, at the ſecond and ſeventh; and on the other ſide hang two weights, each alſo of one ounce, at the ninth and tenth diviſions; and theſe two will equiponderate with thoſe three. A balance of this kind, the arms of which are equally divided, has been ſometimes called an *arithmetical balance*; becauſe the arithmetical operations of addition, ſubtraction, multiplication, and the rule of three, may be eaſily performed by it.

E. g. To *add* the numbers 2, 3, and 7; apply an ounce weight at the ſecond diviſion, and another on the ſame arm at the third, and another at the ſeventh, then take an ounce weight, and move it along the other arm, till the beam is in equilibrio, which will be at the twelfth diviſion; ſo that 2+3+7=12.

To *ſubtract* 5 from 12; hang an ounce weight at one end of the arm at 12 inches, and another at the other end at 5; then move a third ounce weight along the arm till the equilibrium is reſtored, and it will be found at the ſeventh diviſion, which gives 12−5=7.

To *multiply* 4 by 3; ſuſpend a four ounce weight at the third diviſion on one arm, and move an ounce weight on the other, till the beam be in equilibrio, and it will mark out 12=4×3.

To *divide* 12 by 4; ſuſpend an ounce at the twelfth diviſion, and move a four ounce weight on the other arm, till there is an equilibrium, and it will be found at the quotient 3=12/4. s'Graveſande. Phyſices Elem. Math. vol. i. p. 50.

To the juſtneſs of a balance it is required, that the points of ſuſpenſion be exactly in the ſame line as the centre of the balance; that they be preciſely equidiſtant from that centre on either ſide; that the brachia be as long as conveniently they may, in relation to their thickneſs, and the weight which they are intended to ſupport; that there be as little friction as poſſible in the motion of the beam and ſcales; and laſtly, that the centre of gravity of the beam be placed a little below the centre of motion.

We ſhall here add ſome further obſervations, which may ſerve to illuſtrate the properties of a good balance, and which deſerve attention in the conſtruction of this inſtrument for purpoſes that require peculiar accuracy. The balance is properly a lever, whoſe axis of motion is formed with an edge like that of a knife, and the two diſhes or ſcales at its extremities are hung upon edges of the ſame kind, which are firſt made ſharp, and then rounded with a fine hone, or a piece of buff leather. On the regular form of this rounded part the excellence of the inſtrument very much depends. When the lever, or beam of the balance, is conſidered as a mere line, the two outer edges are called points of ſuſpenſion, and the inner the fulcrum. The points of ſuſpenſion are ſuppoſed to be at equal diſtances from the fulcrum, and to be preſſed with equal weights when loaded. 1. If the fulcrum be placed in the centre of gravity of the beam, and the three edges be all in the ſame right line, the beam of the balance will have no tendency to one poſition more than another, but will reſt in any poſition in which it may be placed, whether the ſcales be on or off, empty or loaded. 2. If the centre of gravity of the beam, when level, be immediately above the fulcrum, it will overſet by the ſmalleſt action; that is, the end which is loweſt will deſcend; and it will do this with the greater velocity, in proportion as the center of gravity is higher, and the points of ſuſpenſion are leſs loaded. 3. But if the center of gravity of the beam be immediately below the fulcrum, the beam will not reſt in any poſition but when level; and, if diſturbed from that poſition, and then left at liberty, it will vibrate, and at laſt come to reſt in an horizontal poſition. Its vibrations will be quicker, and its horizontal tendency ſtronger, the lower the centre of gravity, and the leſs the weight upon the points of ſuſpenſion. 4. If the fulcrum be below the line joining the points of ſuſpenſion, and theſe be loaded, the beam will overſet, unleſs prevented by the weight of the beam tending to produce an horizontal poſition, as in the third caſe. In this laſt caſe ſmall weights will equilibrate, as in the laſt caſe; a certain exact weight will reſt in any poſition of the beam, as in the firſt caſe; and all greater weights will cauſe the beam to overſet, as in the ſecond caſe. Money ſcales are often made this way, and will overſet with any conſiderable load. 5. If the fulcrum be above the line joining the points of ſuſpenſion, the beam will come to the horizontal poſition, unleſs prevented by its own weight, as in the ſecond caſe. If the centre of gravity be nearly in the fulcrum, all the vibrations of the loaded beam will be made in times nearly equal, unleſs the weights be very ſmall, when they will be ſlower. The vibrations of balances are quicker, and the horizontal tendency ſtronger, the higher the fulcrum. When the fulcrum, or centre of motion C, (ſee *fig.* 10.) is in the right line joining the centres of ſuſpenſion, it is evident that the equilibrium of equal weights, e. g. P and W, will obtain in every poſition; for the perpendiculars

diculars let fall from C upon the directions will be always equal to each other. But when C is above or below WP, an equilibrium of equal weights does not occur, unless WP coincide with the horizontal line AB. In this case, the perpendiculars let fall from C upon the directions of W and P, are equal to GB and GA, CG being perpendicular to AB; but when the balance is in any other position W', the perpendicular CI is greater than CH, becauſe g L, which is leſs than CI, is equal to gM, which is greater than CH. W will therefore deſcend and continue to vibrate till its motion be deſtroyed by friction. (See Lever.) If P and W be unequal, and C be in the right line WP, the heavier of them will deſcend till WP be perpendicular to the horizon, or, if the center of motion be not in WP, till $P \times CH = W \times CI$. It is evident from what has been ſaid, that the nearer the centre of gravity of the beam is to the centre of motion, the nicer will be the balance, and the ſlower its vibrations: thus, if *aCbc* (*fig.* 11.) be the beam, and C the center of motion, the difference between the effects of having the centre of gravity at K, or *c*, will be the ſame as if we compared the velocities of two pendulums, of the length CK and C*c*, which are in a ſubduplicate ratio of their lengths. The tendency to an horizontal poſition is, therefore, increaſed by lowering the center of gravity, in which caſe it will alſo require a greater additional weight to cauſe it to turn or incline to any given angle, and it is conſequently leſs ſenſible with a greater load. The fixing of the centre of motion in a balance is, therefore, of peculiar importance, for on this depends the eaſe with which it will be affected by a ſmaller weight; and the readineſs with which it will return to its horizontal poſition: and it is evident, that the beſt poſition is that in which the centre of motion is a little above the centre of gravity; and even in this it ſhould be proportioned to the diſtance of the weights from the fulcrum, and the quantity of matter to be weighed, which, in different beams, can only be attained by the practice and experience of the maker.

It has already appeared, that if the arms of a balance be unequal, the weights in equipoiſe will be unequal in the ſame proportion. But it ſhould be obſerved, that though the equality of the arms of a balance is uſeful in the making of weights by biſection, a balance with unequal arms will weigh as accurately as another with equal arms, provided the ſtandard weight itſelf be firſt counterpoiſed, then taken out of the ſcale, and the thing to be weighed be put into the ſcale, and adjuſted againſt the counterpoiſe: or, when proportional quantities only are conſidered, the bodies under examination may be weighed againſt the weights, taking care always to put the weights in the ſame ſcale; for then, though the bodies may not be really equal to the weights, yet their proportions to one another will be the ſame as if they had been accurately equal to them. However, it is indiſpenſably neceſſary that their relative lengths ſhould continue invariable. For this purpoſe it is neceſſary either that the three edges be all truly parallel, or that the points of ſuſpenſion and ſupport ſhould be always in the ſame part of the edge, which laſt requiſite is moſt eaſily obtained.

If a beam be adjuſted ſo as to have no tendency to any one poſition, as in caſe 1. above ſtated, and the ſcales be equally loaded; then, if a ſmall weight be added in one of the ſcales, that balance will turn, and the points of ſuſpenſion will move with an accelerated motion, ſimilar to that of falling bodies, but as much ſlower in proportion, very nearly, as the added weight is leſs than the whole weight borne by the fulcrum. The ſtronger the tendency to an horizontal poſition in any balance, or the quicker its vibrations (ſee caſes 3. and 5.), the greater additional weight will be required to cauſe it to turn or incline to any given angle. If a balance were to turn with the ten thouſandth part of the weight, it would [illegible] be ſlower [illegible] be ſlow.

Long beams have been generally recommended; becauſe the quantity of motion in a given body varies as its diſtance from the fulcrum; and, therefore, the greater the diſtance, the more eaſily will be the [illegible] from any ſmall difference between, e. g. P and W. Long beams are alſo thought to have leſs friction; [illegible] And it has been remarked, that the quicker angular motion, greater ſtrength, and leſs weight of a ſhort balance, are certain advantages.

The index that is placed perpendicularly to the beam of a balance, in order to aſcertain its poſition, affects its equilibrium, except it be in an horizontal ſituation; the momentum of the index being meaſured by its weight multiplied into the diſtance of its centre of gravity, from a line perpendicular to the horizon. But the error that would ariſe from hence is corrected by continuing the index, or placing a weight on the oppoſite ſide of the beam. The ſcales of a balance ſhould be ſuſpended in ſuch a manner, that in all poſitions the ſtrings of the ſcales may be parallel to one another; otherwiſe the weights, though equal, will not be in equilibrio.

Very delicate balances are not only uſeful in philoſophical experiments, but they are much more expeditious than others in common weighing. If a pair of ſcales, with a certain load, be barely ſenſible to $\frac{1}{10}$th of a grain, it will require a conſiderable time to aſcertain the weight to that degree of accuracy, becauſe the turn muſt be obſerved ſeveral times, and it is very ſmall. But if no greater accuracy were required, and ſcales were uſed which would turn with the [illegible] of a grain, a tenth of a grain, more or leſs, would make ſo great a difference in the turn, that it would be ſeen immediately. A degree of ſenſibility may be given to a balance, that turns with a certain addition, but is not moved by any ſmaller weight, by producing a tremulous motion in its parts. Thus, if the edge of a blunt ſaw, a file, or other ſimilar inſtrument, be drawn along any part of the caſe or ſupport of a balance, it will produce a jarring, which will diminiſh the friction in the moving parts for a while, ſo that the turn will be evident with one third or one fourth of the additional weight that would otherwiſe have been required. In this way a beam which would only turn by the addition of a tenth of a grain, will turn with the thirtieth or fortieth of a grain. In order to regulate the horizontal tendency in ſome beams, the fulcrum is placed below the points of ſuſpenſion, and a [illegible] is put upon the [illegible] index, by means of which the centre of gravity may be raiſed or lowered.

[illegible] of which obſervations on the proportion of the balance we have availed ourſelves in the preceeding part of this article, [illegible] weights [illegible] proper to accompany it, when it is applied to chemical and ſimilar purpoſes: viz. [illegible] With theſe the perſon poſſeſſed will always have [illegible] number of weights in his ſcales as there are figures in the number expreſſing the weights in grains. Mr. Nicholſon ſubjoins an account of ſome balances, which have been conſtructed

trusted by different persons for nice experiments. The first he mentions is that of Muschenbroek, which turned with $\frac{1}{50}$ of a grain, and which weighed to $\frac{1}{10000}$ part of the whole; ascertaining such weights truly to four places of figures. In the Philos. Trans. vol. lxvi. p. 50. we have mention of two accurate balances of Mr. Bolton; one of which would weigh a pound, and turn with $\frac{1}{10}$ of a grain, and give the $\frac{1}{70000}$ of the weight; and the other weighed $\frac{1}{2}$ an ounce, and turned with the $\frac{1}{100}$ of a grain, or the $\frac{1}{350000}$ of the weight. Mr. Read's balance mentioned in p. 511. of the same volume, turned with less than a penny-weight, and even with four grains, when loaded with fifty-five pounds, i. e. about $\frac{1}{800000}$ of the weight, and which might be relied on to five places of figures. Mr. Whitehurst's balance (Ibid. p. 570.) weighs one penny weight, and is sensibly affected with $\frac{1}{2000}$ of a grain, i. e. $\frac{1}{480000}$ part of the weight. Mr. Nicholson's balance, with 1200 grains in each scale, turns with $\frac{1}{10}$ of a grain, or $\frac{1}{24000}$ of the whole. This balance, he says, will serve to determine all weights between 100 grains and 4000 grains to four places of figures. Mr. Aikorne's (mentioned Ibid. vol. lxxvii. p. 203) is true to three grains with 15 lb on end; and hence the weight is known to $\frac{1}{15000}$ part, or to four, or barely five places of figures. The balance of Dr. George Fordyce, made by Mr. Ramsden, mentioned in lxxvth volume of the Phil. Trans. when loaded with four or five ounces, shewed a difference of $\frac{1}{70000}$ of a grain, or $\frac{1}{2800000}$ part of the weight. Mr. Magellan's would bear several pounds, and shew $\frac{1}{10}$ of a grain, with one pound an end. This is the $\frac{1}{7000000}$ of the weight and answers to five figures. The Royal Society's balance, lately made by Mr. Ramsden, turns on steel edges upon planes of polished crystal, and ascertains a weight to the seven millionth part, and may be used in general practice to determine weights to five places and better. To which we may add, that the balance used by count Rumford, in his experiments for ascertaining the weight ascribed to heat (Phil. Trans. for 1799. part ii.), served, as he informs us (p. 187.), to measure $\frac{1}{100000}$ of the weight which he examined. Nicholson's Chemistry, c. vi. Parkinson's System of Mechanics, &c. p. 134, &c. Desaguliers's Exp. Phil. vol. i. p. 140, &c.

Mr. Ludlam has contrived a balance of a new construction for the woollen manufactures. Their thread is made into skains of the same length; and the fineness of it is denominated from the number of skains which go to a pound; the coarsest being about twelve to the pound, and the finest near sixty. This machine is designed for weighing the skains, in order to determine their respective fineness. It resembles the beam of a common pair of scales; at one end of it is fixed a weight, called a counterpoise, and at the other end a hook; in sorting, the skain to be examined is put upon the hook, and sinks down more or less, according to its weight, till the counterpoise, by rising, balances it: then the index or cock of the beam, points out on a graduated arch the number of skains of that sort which goes to the pound.

A scale, instead of the hook, might be used for weighing money, if the arch were properly divided for that purpose. See a drawing of this machine and the explanation of the theory of it, in Phil. Trans. vol. lx. N°25, p. 205.

The *bent-lever balance*, is a balance (*fig.* 12.) which acts by a fixed weight *C*, increasing in power as it ascends along the arc *FG* of a circle, and pointing by an index to the number or division of the arc which denotes the weight of any body put into the scale *E*. With this instrument, one constant weight serves to weigh all others, by only varying the position of the arms of the balance, instead of varying the places or points of suspension in the arms themselves.

The following property of the balance was first suggested by Dr. Helsham (see his Course of Lectures in Natural Philosophy, published by Dr. Robinson, p. 91), communicated by him to Dr. Desaguliers (see his Course of Experimental Philosophy, vol. i. p. 152.), and published in the Phil. Trans. for 1729. The property is this, that if a man standing in one scale and counterpoised by a weight in the other, lays his hand to any part of the beam, and presses it upwards, he will destroy the equilibrium and cause the scale in which he stands to preponderate. Thus, if a man, whose weight is equal to *W*, standing in one scale and in equilibrio with *P* placed in the other (*fig.* 8.), press the beam upwards in *D* with a force equal to *Q*, the diminution of *W*'s momentum is equal to $Q \times FD$; and because the re-action at the scale is equal to *Q*, the increase of *W*'s momentum is equal to $Q \times FA$, and consequently *W* will descend with a force equal to $Q \times AD$. If the pressure be upwards at *E*, *W* will descend with a force resulting from this pressure, equal to $Q \times EF$, and from the re-action with a force equal to $Q \times FA$; and, therefore, the whole force of descent is equal to $Q \times EA$. Thus, also, if the pressure be downwards at *D*, the increase of *W*'s momentum is equal to $Q \times FD$, and the diminution of its momentum $= Q \times FA$; and, consequently, *W* will ascend with a force equal to $W \times DA$. If the pressure be downwards at *E*, the diminution of *W*'s momentum, or the increase of *P*'s momentum, is equal to $Q \times EF$, and a part, *Q*, of *W*'s weight being transferred to *E*, the diminution of its momentum, on that account, is equal to $Q \times FA$, and consequently the whole diminution of *W*'s momentum, or force of *P*'s ascent, is equal to $Q \cdot EA$.

Balance *of the Air*, is used to denote the weight of that fluid, whereby, according to its known property, it presses where it is least resisted, till it be equally adjusted in all parts.

Balance, *Assay*, is a nice balance used in determining the exact weight of minute bodies. Its structure is very little different from that of the common sort; except that it is made of the best steel, and fitted for moving with the smallest weight.

The beam of this balance is suspended in a fork, the two legs of which are steel springs joined at the top, but kept together below with a brass pliant clasp, parallel to one another, and at the distance of $2\frac{1}{2}$ lines. When this clasp is taken off, and the legs of the fork stretched out, the axis of the beam may be put into two holes at the ends of the legs, or removed from them. A sharp needle is fixed in the head of the fork, which stands perpendicularly, when the fork is suspended, and is so long, as almost to touch the top of the tongue of the beam put into the fork when in equilibrio. This needle is the test or mark of the equilibrium; and for the convenience of observing it, the legs of the fork are broader in that place, and have an opening two or three lines wide. Two scales made of a thin plate of silver, $1\frac{1}{2}$ inch in diameter, suspended on three small silken strings, almost as long as the beam, and tied together at the top with a silver hook in the form of an S, are hung to the extremities of the beam; and to each of these scales belongs a small dish of silver or blued steel, somewhat less than one inch in diameter, and both of equal weight; the bodies to be weighed are put into these dishes, with a pair of pincers, or with a spoon, or small shovel, when they are pounded; and then the dishes are put into the scales. The balance is suspended on a moveable brass or copper support, consisting of a pedestal, and a pillar set upon it about twenty inches high, at the top of which projects at right angles, an arm one inch in length: at the extremity of this arm is a small pulley three lines in diameter, another at the top of the pillar, and a third near the bottom of it; all which pullies move with ease on their respective axes. At the distance of $1\frac{1}{2}$ inch below the

upper

upper arm, another arm 1½ inch long, projects from the pillar at right angles, with a hole through it two lines long, and a quarter of a line broad, and placed perpendicularly below the pulley of the upper arm, to receive a ſmall plate 1½ inch long, and of ſuch breadth and thickneſs that it may freely move up and down, and yet not play too freely in the hole. At each extremity of the plate is a ſmall hook. The whole of this apparatus is encloſed in a ſmall caſe (*fig.* 13.), furniſhed with glaſſes, *a*, *a*, *a*, at the top and about it. The manner of uſing the aſſay-balance is to paſs a ſilken ſtring over the three pullies of the ſupport and arm; then the ſupport is placed in the middle of the ſmall caſe, and the other end of the ſilk ſtring is paſſed below through a hole in the middle of the lower part of the frame, containing the window in the fore part of the caſe, and faſtened to a ſmall weight of a cubic form. The fork of the balance is ſuſpended on the inferior hook of the plate. By moving backwards and forwards the weight faſtened to the ſtring, placed upon the top of the drawer projecting beyond the fore-part of the caſe, the balance within is either raiſed or lowered. The bodies to be weighed, and the weights themſelves, being put into the diſhes; the diſhes are put into the ſcales, through the ſide windows, which muſt be opened for that purpoſe. When any thing is added or taken away, by means either of the pincers, or of the ſmall ſhovel, or ſpoon, the balance is let down that the ſcales may reſt upon the bottom of the caſe; and before it is lifted up again the windows muſt be ſhut, eſpecially if the air is not perfectly ſtill. The flat pieces of glaſs, often placed under the ſcales of an aſſay-balance, ſeem, by their electrical power, capable of attracting, and of thus cauſing the lighter ſcale to preponderate where the whole matter weighed is ſo very ſmall. See Phil. Tranſ. N° 480. p. 245. The electricity of a flat ſurface about three inches ſquare has been known to hold down one ſcale, when there was a weight of about 200 grains in the other.

Balance, in *Aſtronomy*. See Libra.

Balance, in *Horology*, is that part of a clock or watch, which by its motion regulates and determines the beats.—The circular part of it is called the *rim*, and its ſpindle the *verge*; there belong to it alſo two *pallets* or nuts, which play in the fangs of the crown-wheel; in pocket watches, that ſtrong ſtud, in which the lower pivot of the verge plays, and in the middle of which one pivot of the crown-wheel runs, is called the *potence*: the wrought piece which covers the balance, and in which the upper pivot of the balance plays, is the cock: the ſmall ſpring in the new pocket-watches is called the Regulator.

It appears from the teſtimony of hiſtorical accounts, as well as other evidences, that the balance was univerſally adopted in the conſtruction of the firſt clocks and watches; nor was it till the year 1657, that Mr. Huygens united pendulums with clock-work. (See Pendulum.) In watches of early conſtruction, the balance vibrated merely by the impulſes of the wheels, without any other control or regulation; the motion communicated to the balance by one impulſe continued till it was deſtroyed, partly by friction, and partly by a ſucceeding impulſe in the oppoſite direction; and therefore the vibrations muſt, of courſe, have been very unſteady and irregular. Theſe imperfections were in a great meaſure remedied by Dr. Hooke's ingenious invention of applying a ſpiral ſpring to the balance, the action of which on the balance of a watch is ſimilar to that of gravity on a pendulum; each kind of force having the effect of correcting the irregularities of impulſe and reſiſtance which otherwiſe diſturb the iſochroniſm of the vibrations. In clocks and watches, the real meaſure of time is the balance, and all the other work ſerves merely to continue the motion of the balance, and to indicate the time as meaſured by its vibrations. The regularity of a time-keeper will therefore depend on that of the time in which the balance vibrates; and the inveſtigation of this time of vibration, from the ſeveral data or conditions on which it depends, is an important object in this part of mechanical ſcience. See Escapement, Clock, Time-keepers, and Watch.

That the balances of watches, when manufactured of ſteel, as they generally are, might be in a ſmall degree magnetic, and that this property might have ſome influence in diſturbing their vibrations, ſome have ſuſpected, and others have denied; but Mr. Varley has lately (ſee Philoſ. Magaz. vol. i. p. 18.) pointed out a ſource of error which has been hitherto little, if at all, apprehended; and this is the polarity of the balance, or tendency of a particular point to the north; and of an oppoſite point to the ſouth, ſo ſtrong as to be ſufficient materially to alter the rate of going of the machine, when put in different poſitions. If this cauſe of error had been known, the uſe of ſteel balances would have been laid aſide long ago, particularly where accurate performance is indiſpenſable, as in time-pieces for aſtronomical and nautical purpoſes. Mr. Varley, having aſcertained the fact, and knowing the poſition of the poles, proceeded to examine the effects produced by this cauſe upon the watch's rate of going. Having put on the pendulum ſpring, and replaced the balance in the watch, he laid the watch with the dial upwards, that is, with the plane of the balance horizontally, and in ſuch a poſition that the balance when at its place of reſt ſhould have its marked ſide towards the north; in this ſituation it gained 5′ 35″ in 24 hours. He then changed its poſition, ſo that the marked ſide of the balance when at reſt ſhould be towards the ſouth, and in 24 hours it loſt 6′ 48″; producing, by its change of poſition only, a difference of 12′ 23″ in its rate. This difference muſt be ſtill further augmented or diminiſhed as the wearer might happen to carry in his waiſtcoat pocket, a key, a knife, or any other article made of ſteel. Subſtituting, in the room of the ſteel-balance, one made of gold, he found that the watch's rate of going was as uniform as that of any watch on the like conſtruction.

Balance, *Hydroſtatical*, in *Hydraulics*, is an inſtrument for determining the ſpecific gravities of bodies. See Hydrostatical, and Specific Gravity.

Balance *of Forces*, in *Mechanics*. See Compound Motion.

Balance, in the *Accounts of Merchants*, is, when the debtor and creditor ſides of any diſtinct account are equal. In ſuch caſe the account is ſaid to be *balanced*.

Balance of a merchant, or trader's books, is a branch of the art of accountantſhip. In the method of keeping the books of traders, according to that excellent art of charge and diſcharge by double entry, ſuch books, if correctly kept, will always be fit for a general balance. For ſuch is the excellency of that method, that the books of themſelves muſt neceſſarily balance on the whole, though not in every diſtinct account throughout the ledger. See Book-Keeping.

Balance, among *Painters*. See Equilibrium.

Balance *of the Conſtitution*, in *Political Oeconomy*, denotes the ſecurity which each part of the legiſlature poſſeſſes in the exerciſe of the powers aſſigned to it from the encroachment of the other parts. The political equilibrium ſignified by this phraſe, conſiſts in two contrivances, viz. a *balance of power* and a *balance of intereſt*. By the former is meant, that there is no power poſſeſſed by one part of the legiſlature, the abuſe or excels of which is

is not checked by ſome antagonift power, reſiding in another part. Thus the power of the two houſes of parliament to frame laws is checked by the king's negative; on the other hand the arbitrary application of this negative is checked by the privilege that parliament poſſeſſes of refuſing ſupplies of money to the exigencies of the king's adminiſtration. The conſtitutional maxim, "that the king can do no wrong," is balanced by another maxim not leſs conſtitutional, "that the illegal commands of the king do not juſtify thoſe who aſſiſt, or concur, in carrying them into execution;" and by a ſecond rule, ſubſidiary to this, "that the acts of the crown acquire not any legal force, until authenticated by the ſubſcription of ſome of its great officers." The power of the crown to direct the military force of the kingdom is balanced by the annual neceſſity of reſorting to parliament for the maintenance and government of that force. The power of the king to declare war is checked by the privilege of the houſe of commons to grant or withhold ſupplies by which the war muſt be carried on. The king's choice of miniſters is controlled by the obligation he is under of appointing thoſe men to offices in the ſtate, who are found capable of managing the affairs of his government with the two houſes of parliament. By the *balance of intereſt*, which accompanies and gives efficacy to the *balance of power*, is meant this, that the reſpective intereſts of the three ſtates of the empire are ſo diſpoſed and adjuſted, that whichever of the three ſhall attempt any encroachment, the other two will unite in reſiſting it. If the king ſhould endeavour to extend his authority by contracting the power and privileges of the commons, the houſe of lords would ſee their own dignity endangered by every advance which the crown made to independency, upon the reſolutions of parliament. The admiſſion of arbitrary power is no leſs formidable to the grandeur of the ariſtocracy than it is fatal to the liberty of the republic; that is, it would reduce the nobility from the hereditary ſhare they poſſeſs in the national councils, in which their real greatneſs conſiſts, to being a part of the empty pageantry of a deſpotic court. On the other hand, if the houſe of commons ſhould intrench upon the diſtinct province, or uſurp the eſtabliſhed prerogative of the crown, the lords would receive an inſtant alarm from every new ſtretch of popular power. In every conteſt in which the king may be engaged with the repreſentative body, in defence of his eſtabliſhed ſhare of authority, he will find a ſure ally in the collective power of the nobility. If the nobles ſhould attempt to revive the ſuperiorities exerciſed by their anceſtors under the feudal conſtitution, the king and the people would alike remember how the one had been inſulted, and the other enſlaved by that barbarous tyranny. Paley's Principles of Philoſophy, vol. ii. p. 208—213.

Balance *of Power*, in the *Political Syſtem*, originates from, and is maintained by, the alliances of different nations, as their circumſtances and intereſt may require. See this ſubject ſtated and diſcuſſed more at large under the article Power.

Balance *of Trade*, denotes an equality between the value of commodities bought of foreigners, and the value of the native productions tranſported into other nations.

The balance of trade with any foreign nation is ſaid to be againſt or in favour of the country ſimply as it tends to carry money out, or to bring it in; that is, according as the price of the imports exceeds or falls ſhort of the price of the exports: ſo invariably is the increaſe or diminution of the ſpecie of a country regarded as a teſt of the public advantage or detriment, which ariſes from any branch of its commerce. According to Dr. Smith (Wealth of Nations, vol. ii. p. 212.), there is no certain criterion by which we can determine on which ſide what is called the balance between any two countries lies, or which exports to the greateſt value. The two criterions to which an appeal has been uſually made on ſuch occaſions are, the cuſtom-houſe books, and the courſe of exchange. The cuſtom-books, ſays this writer, are now generally acknowledged to be a very uncertain criterion, on account of the inaccuracy of the valuation at which the greater part of goods is rated in them; and the courſe of exchange is, perhaps, almoſt equally precarious.

Balance *of Annual Produce and Conſumption*, is that which, according to Dr. Smith (ubi ſupra, p. 250.), neceſſarily occaſions the proſperity or decay of every nation, as it happens to be either favourable or unfavourable. If the exchangeable value of the annual produce exceeds that of the annual conſumption, the capital of the ſociety muſt annually increaſe in proportion to the exceſs. The ſociety in this caſe lives within its revenue, and what is annually ſaved out of its revenue is naturally added to its capital, and employed ſo as to increaſe ſtill further the annual produce. On the contrary, if the exchangeable value of the annual produce fall ſhort of the annual conſumption, the capital of the ſociety muſt annually decay in proportion to this deficiency. The expence of the ſociety in this caſe exceeds its revenue, and neceſſarily encroaches upon its capital. Its capital muſt, therefore, neceſſarily decay, and together with it, the exchangeable value of the annual produce of its induſtry. The balance of produce and conſumption is entirely different from that which is called the balance of trade. It might take place in a nation which had no foreign trade, but which was entirely ſeparated from all the world. It may take place in the whole globe of the earth, of which the wealth, population, and improvement may be either gradually increaſing, or gradually decaying. This balance may be conſtantly in favour of a nation, though the balance of trade ſhould be generally againſt it. A nation may import to a greater value than it exports for half a century, perhaps, together; the gold and ſilver which come into it during all this time may be immediately ſent out of it; its circulating coin may gradually decay, different ſorts of paper money being ſubſtituted in its place, and even the debts too which it contracts in the principal nations with which it deals may be gradually increaſing; and yet its real wealth, the exchangeable value of the annual produce of its lands and labour, may, during the ſame period, have been increaſing in a much greater proportion. See on this ſubject more largely under the articles Commerce, and Trade.

Balance, *to*, in *Sea Language*, ſignifies to contract a ſail into a narrow compaſs, in a ſtorm, by retrenching, or, folding up a part of it in one corner. To this purpoſe ſerves the *balance-reef*, which is a reef-band that croſſes the ſail diagonally. See Reef.

Balance *of the Boom Main-ſail*, is performed after all its reefs are taken in, by rolling up a ſimilar portion of the hindmoſt or aftmoſt lower corner called the *clue*, and faſtening it ſtrongly to the boom, ſecuring it from being fretted by the cord that faſtens it. See Boom.

Balance *of the Mizen*, is thus performed; the mizen-yard is lowered a little, a ſmall portion of the ſail is rolled up at the peek, or upper corner, and faſtened to the yard, about one-fifth inward from the outer end, or yard-arm, towards the maſt. See Mizen.

BALANCE-*Fiſh*, in *Ichthyology*, an Engliſh name of the *ſqualus zygæna* of Linnæus and Gmelin. It is alſo called by ſome the *hammer-fiſh*, or *hammer-headed ſhark*, from the very ſingular form of the head; and its ſpecific character is taken excluſively from that particular; head very broad, tranſverſely, and hammer-ſhaped. Salvian calls it *libella ciambetta*; and Belon, *libella*, *baliſta*, *cagnolu*, &c. See ZYGÆNA SQUALUS.

BALANCERS, or POIZERS, in *Entomology*, a term ſynonymous with the French word *balanciers*, and *halteres* of Linnæus; denoting thoſe little filamentous bodies which terminate in a round, truncated, or oval capitulum, or knob; and of which one is placed on each ſide of all the dipterous, or two-winged inſects, immediately under a ſmall ſcale or arch, below the wing. In different genera theſe vary a little in reſpect of ſituation, and are alſo of larger or ſmaller ſize in proportion to the other parts of the inſect in different kinds.

The uſe of theſe organs is by no means obvious. Some imagine that they beat the little arch or ſcale, beneath which they are ſituated, in the motion of flying, and thereby occaſion that humming or buzzing noiſe, which every one muſt have obſerved the houſe-fly, fleſh-fly, and other very common two-winged inſects to emit in flight. The *cicada*, we well know, make a like noiſe by means of ſomewhat ſimilar organs under the lamellæ, but whether the noiſe which the dipterous inſects make is occaſioned in this manner or not, we ſhall not preſume to ſay. Olivier thinks it is not, becauſe it appears from certain experiments, that when any of theſe inſects are deprived of the halteres, and are permitted to reſume their flight, the ſame buzzing ſound is heard without the ſlighteſt variation. The more general opinion is, that they are deſigned to facilitate the motion of the creature in the air, by equipoiſing, or preſerving the true equilibrium, juſt as a ſtick, made heavy at each end, is held by rope-dancers to preſerve their balance, and hence theſe organs have been called the balancers. This is moſt probably the real uſe of the halteres, notwithſtanding that their diminutive ſize is ſome objection to ſuch opinion, for when theſe are accidentally injured, the motion of the creature becomes very irregular, and it evidently appears unable to direct its courſe with the ſame facility as before; either ſuffering great pain, or being deprived of the means it previouſly poſſeſſed.

BALANCIER, a machine uſed in the ſtriking of coins, medals, counters, and the like. See COINAGE.

BALANEÆ, in *Ancient Geography*, a town ſeated on the coaſt of Syria, between the towns of Gabala and Antaradus; convenient for commerce, and furniſhed with grain and fruits in abundance. Strabo, Pliny, and Ptolemy place it in Syria, properly ſo called; to the north of the river Eleutherus, which ſeparated Syria from Phœnicia. Under the reign of Theodoſius the younger, this town was compriſed in the province called Syria ſecunda: but afterwards belonged to a new province which the emperor Juſtinian formed under the name of Theodoriade.

BALANITES, in *Natural Hiſtory*, a name given by the ancients to a ſtone, ſeeming to have been of the ſemipellucid gems. They deſcribe two ſpecies of it; the one of which was yellow, and the other green, but each having veins of a flame colour. Their deſcriptions are too ſhort for us to be able to aſcertain what ſtones, among thoſe known at this time, they meant.

Some think the *balanites* to have been the *lapis Judaicus*, on account of its acorn-like figure and ſize. Plin. Nat. Hiſt. lib. xxxvii. cap. 10. ed. Hardouin.

BALANOIDES, in *Conchology*, a ſpecies of LEPAS, with a conic truncated ſmooth ſhell, and obtuſe operculum. Linn. Fn. Suec.—Donov. &c. This is *balanus pyxidatus vulgaris* of Petiver; and a variety of it with a long tubular ſtalk is deſcribed by Da Coſta, Pennant, and Donov. Brit. Shells.

BALANTE, in *Geography*, a town of the iſland of Celebes, in the country of Bancala.

BALANUS, in *Conchology*, the name of a genus of multivalve ſhells, in the works of ſeveral writers on the *teſtacea*, as Petiver, Gefner, Da Coſta, &c. The ſhells of this kind are comprehended by Linnæus and Gmelin in the genus LEPAS, which ſee.

BALANUS, a ſpecies of LEPAS, with a conic ſulcated ſhell, and ſharp-pointed operculum. Found adhering to rocks, ſtones, ſhells, &c. in the greateſt plenty in all the European ſeas. Linn. Fn. Suec.—Donov. Brit. Shells, &c.

BALANUS, *βάλανος*, or GLANS, is ſometimes uſed by *Anatomiſts* for the nut of the yard. Sometimes alſo the clitoris is ſo called.

BALANUS is alſo ſometimes uſed for a ſuppoſitory.

BALANUS MYREPSICA, in *Pharmacy*, the BEN-NUT which ſee.

BALANUS, in *Geography*, the name of a port of Italy, in Lucania.

BALARA, in *Ancient Geography*, a commercial city ſeated on the coaſt of the Indian ocean, between the mouth of the Indus and that of the Euphrates. Philoſtratus.

BALARUC, in *Geography*, a town of France, celebrated for its mineral ſprings, in the department of the Herault, four leagues from Montpellier.

BALARUC, *Waters of*. Theſe are hot ſprings of ſome celebrity, employed both internally, and eſpecially as baths. From the deſcription and analyſis of Le Roy (in the Memoires de l'Academie des Sciences for 1772), they appear to contain a ſmall portion of ſea ſalt, ſome fixed air, and ſome deliqueſcent ſalts, but no iron nor ſulphur. They are limpid, and ſaltiſh to the taſte. Their temperature when freſh is about 128° Fahr.; but they are cooled down to about 115° before they are uſed.

BALASCHEV. See BALAKEF.

BALASORE, a ſea-port town of Hindoſtan, in the country of Oriſſa, and a place of conſiderable trade, ſeated on the river Gongahar, about twenty miles from its mouth in the bay of Bengal. Ships generally take pilots here to conduct them up the Ganges. It is about 101 geographical miles S. W. from Calcutta. N. lat. 21° 20′. E. long. 87° 1′ 30″.

BALASS, BALLAS, or BALAIS, in *Mineralogy*. See RUBY.

BALATAM, in *Geography*, a volcanic mountain in the iſland of Sumatra.

BALATITI, in *Ornithology*, a name given by the people of the Philippine iſlands to a kind of bird, by the flight of which they divine the event of things. What bird this is has not been aſcertained.

BALAUSTINA, in *Conchology*, a ſpecies of TELLINA, having the ſhell dilated, orbiculate, and one valve furniſhed with lateral teeth. Inhabits the Mediterranean ſea. Colour whitiſh, with obſolete rufous rays. Size of a lupine ſeed.

BALAUSTIUM FLORES, *Balauſtines*, the flowers of *punica granatum*, or pomegranate tree. Theſe are large roſe-like flowers of a deep red colour, ſet in long, bell-ſhaped cups, and are brought from the ſouthern parts of Europe. They are mildly aſtringent, as indeed is the whole of the pome-

pomegranate, and will ſtrike a black with ſolutions of iron. They have little or no ſmell, and readily yield their aſtringent virtue to watery or ſpirituous menſtrua. An extract was formerly prepared from the balauſtines, and it entered into ſome of the officinal powders. It is now almoſt, if not entirely, diſuſed.

BALAYAN, in *Geography*, a diſtrict or province in the iſland of Manila or Luçon, with a town of the ſame name. It lies near the city of Manila, and extends along the coaſt on the eaſt ſide of the iſland, is inhabited by about 2500 tributary Indians, and abounds in cotton, rice, and palm-trees.

BALBASTRE, Claude, in *Biography*, an eminent organiſt at Paris, and a ſpirited compoſer, of the old ſchool, for keyed-inſtruments. He was born at Dijon, 1729, and was a favourite diſciple of Rameau, and organiſt of Nôtre-Dame and S. Roch. He was a zealous cultivator of his art, and ſuggeſted to harpſichord and piano-forte makers many improvements.

BALBASTRO, in *Geography*, an epiſcopal town of Spain, in Arragon, ſeated on the Vero, near its conflux with the Cinca, with a dioceſe extending over 170 pariſhes, forty-ſeven miles N. W. of Barcelona, and forty E. N. E. of Saragoſſa. N. lat. 41° 50′. E. long. 0° 20′.

BALBEC, Baalbec, or Balbeck, a famous city of Syria, in the pachalic of Saide, celebrated by the Greeks and Latins under the name of *Heliopolis*, or the city of the ſun; deſcribed by the Arabians as the wonder of Syria, and denoting by its preſent Arabic name Balbec, i. e. the *vale of Baal*, its connection with the worſhip of the ſun, of which *Baal*, the chief idol deity of the country, was an appropriate denomination. It is pleaſantly ſituated near the north-eaſt extremity of the valley of Bocat, or Bekaa, at the foot of mount Anti-Libanus, on the laſt riſing ground where the mountain terminates in the plain: it is well watered by the Litane, riſing from Anti-Libanus, and the Barbouni from the foot of Libanus, and abounds in gardens. It is of a ſquare figure, extending, as Maundrell conjectured (Journey from Aleppo to Jeruſalem, p. 135.), about two furlongs on each ſide; and its houſes are of the meaneſt ſtructure, being ſuch as are uſually ſeen in Turkiſh villages. Its diſtance from Damaſcus is about fifty miles to the north-weſt, and about thirty miles from the neareſt ſea-coaſt, which is the ſituation of the ancient Byblus. N. lat. 34°. E. long. 36° 45′.

"As we arrive from the ſouth (ſays Volney, Travels in Egypt and Syria, vol. ii. p. 232, &c.), we diſcover the city at the diſtance of only a league and a half, behind a hedge of trees, over the verdant tops of which appears a white edging of domes and minarets. After an hour's journey we reach theſe trees, which are very fine walnuts; and ſoon after, croſſing ſome ill-cultivated gardens, by winding paths arrive at the entrance of the city. We there perceive a ruined wall, flanked with ſquare towers, which aſcends the declivity to the right, and traces the precincts of the ancient city. This wall, which is only ten or twelve feet high, permits us to have a view of thoſe void ſpaces, and heaps of ruins which are the invariable appendage of every Turkiſh city; but what principally attracts our attention, is a large edifice on the left, which, by its lofty walls, and rich columns, manifeſtly appears to be one of thoſe temples which antiquity has left for our admiration. Theſe ruins, which are ſome of the moſt beautiful and beſt preſerved of any in Aſia, merit a particular deſcription.

To give a juſt idea of them, we muſt ſuppoſe ourſelves deſcending from the interior of the town. After having croſſed the rubbiſh and huts with which it is filled, we arrive at a vacant place, which appears to have been a ſquare; there, in front towards the weſt, we perceive a grand ruin, which conſiſts of two pavilions ornamented with pilaſters, joined at their bottom angle by a wall 160 feet in length. This front commands the open country from a ſort of terrace, on the edge of which we diſtinguiſh, with difficulty, the baſes of twelve columns, which formerly extended from one pavilion to the other, and formed a portico. The principal gate is obſtructed by heaps of ſtones; but that obſtacle ſurmounted, we enter an empty ſpace, which is an hexagonal court of 180 feet diameter. This court is ſtrewed with broken columns, mutilated capitals, and the remains of pilaſters, entablatures, and cornices; around is a row of ruined edifices, which diſplay all the ornaments of the richeſt architecture. At the end of this court, oppoſite the weſt, is an outlet, which formerly was a gate through which we perceive a ſtill more extenſive range of ruins, whoſe magnificence ſtrongly excites curioſity. To have a full proſpect of theſe, we muſt aſcend a ſlope, up which were the ſteps to this gate, and we then arrive at the entrance of a ſquare court, much more ſpacious than the former. The eye is firſt attracted by the end of this court, where ſix enormous and majeſtic columns render the ſcene aſtoniſhingly grand and pictureſque. Another object not leſs intereſting, is a ſecond range of colums to the left which appear to have been part of the periſtyle of a temple; but before we paſs thither, we cannot refuſe particular attention to the edifices, which encloſe this court on each ſide. They form a ſort of gallery which contains various chambers, ſeven of which may be reckoned in each of the principal wings: viz. two in a ſemicircle, and five in an oblong ſquare. The bottom of theſe apartments ſtill retains pediments of niches and tabernacles, the ſupporters of which are deſtroyed. On the ſide of the court they are open, and preſent only four and ſix columns, totally deſtroyed. It is not eaſy to conceive the uſe of theſe apartments; but this does not diminiſh our admiration at the beauty of their pilaſters, and the richneſs of the frieze of the entablature. Neither is it poſſible to avoid remarking the ſingular effect which reſults from the mixture of the garlands, the large foliage of the capitals, and the ſculpture of wild plants with which they are every where ornamented. In traverſing the length of the court, we find in the middle a little ſquare eſplanade, where was a pavilion, of which nothing remains but the foundation. At length we arrive at the foot of the ſix columns; and then firſt conceive all the boldneſs of their elevation, and the richneſs of their workmanſhip. Their ſhafts are twenty-one feet eight inches in circumference, and fifty-eight high; ſo that the total height, including the entablature, is from ſeventy-one to ſeventy-two feet. The ſight of this ſuperb ruin, thus ſolitary and unaccompanied, at firſt ſtrikes us with aſtoniſhment; but on a more attentive examination, we diſcover a ſeries of foundations, which mark an oblong ſquare of 268 feet in length, and 146 wide; and which, it ſeems probable, was the periſtyle of a grand temple, the primary purpoſe of this whole ſtructure. It preſented to the great court, that is to the eaſt, a front of ten columns, with nineteen on each ſide, which, with the other ſix, make in all fifty-four. The ground on which it ſtood was an oblong ſquare, on a level with this court, but narrower than it, ſo that there was only a terrace of twenty-ſeven feet wide round the colonnade. The eſplanade this produces, fronts the open country, toward the weſt, by a ſloping wall of about thirty feet. This deſcent, as you approach the city, becomes leſs ſteep, ſo that the foundation of the pavilion is on a level with

with the termination of the hill, whence it is evident that the whole ground of the courts has been artificially raiſed. Such was the former ſtate of this edifice; but the ſouthern ſide of the grand temple was afterwards blocked up to build a ſmaller one, the periſtyle and wall of which are ſtill remaining. This temple, ſituated ſome feet lower than the other, preſents a ſide of thirteen columns, by eight in front (in all thirty-four), which are likewiſe of the Corinthian order; their ſhafts are fifteen feet eight inches in circumference, and forty-four in height. The building they ſurround is an oblong ſquare, the front of which, facing the eaſt, is out of the line of the left wing of the great court. To reach it you muſt croſs trunks of columns, heaps of ſtone, and a ruinous wall by which it is now hid. After ſurmounting theſe obſtacles, you arrive at the gate, where you may ſurvey the incloſure which was once the habitation of a god; but inſtead of the awful ſcene of a proſtrate people, and ſacrifices offering by a multitude of prieſts, the ſky, which is open from the falling in of the roof, only lets in light to ſhew a chaos of ruins, covered with duſt and weeds. The walls, formerly enriched with all the ornaments of the Corinthian order, now preſent nothing but pediments of niches, and tabernacles of which almoſt all the ſupporters are fallen to the ground. Between theſe niches is a range of fluted pilaſters, whoſe capitals ſupport a broken entablature; but what remains of it, diſplays a rich frieze of foliage reſting on the heads of ſatyrs, horſes, bulls, &c. Over this entablature was the ancient roof, which was fifty-ſeven feet wide, and 110 in length. The walls which ſupported it are thirty-one feet high, and without a window. It is impoſſible to form any idea of the ornaments of this roof, except from the fragments lying on the ground; but it could not have been richer than the gallery of the periſtyle: the principal remaining parts contain tablets in the form of lozenges, on which are repreſented Jupiter ſeated on his eagle; Leda careſſed by the ſwan; Diana with her bow and creſcent, and ſeveral buſts which ſeem to be figures of emperors and empreſſes. It would lead us too far, to enter more minutely into the deſcription of this aſtoniſhing edifice. The lovers of the arts will find it deſcribed with the greateſt truth and accuracy in a work publiſhed at London in 1757, under the title of "Ruins of Balbec." This work, compiled by Mr. Robert Wood, the world owes to the attention and liberality of Mr. Dawkins, who, in 1751, viſited Balbec and Palmyra. It is impoſſible to add any thing to the fidelity of their deſcription.

Several changes, however, have taken place ſince their journey: for example, they found nine large columns ſtanding; and, in 1784, there were but ſix. They reckoned nine and twenty at the leſſer temple, but there now remain but twenty; the others have been overthrown by the earthquake of 1759. It has likewiſe ſo ſhaken the walls of the leſſer temple, that the ſtone of the ſoffit of the gate has ſlid between the two adjoining ones, and deſcended eight inches; by which means the body of the bird, ſculptured on that ſtone, is ſuſpended, detached from its wings, and the two garlands, which hung from its beak and terminated in two genii. Nature alone has not effected this devaſtation; the Turks have had their ſhare in the deſtruction of the columns. Their motive is to procure the iron cramps, which ſerve to join the ſeveral blocks of which each column is compoſed. Theſe cramps anſwer ſo well the end intended, that ſeveral of the columns are not even diſjointed by their fall; one, among others, as Mr. Wood obſerves, has penetrated a ſtone of the temple wall without giving way. Nothing can ſurpaſs the workmanſhip of theſe columns; they are joined without any cement, yet there is not room for the blade of a knife between their interſtices. After ſo many ages, they in general ſtill retain their original whiteneſs. But, what is ſtill more aſtoniſhing is, the enormous ſtones which compoſe the ſloping wall. To the weſt, the ſecond layer is formed of ſtones which are from twenty-eight to thirty-five feet long, by about nine in height. Over this layer, at the north-weſt angle, there are three ſtones, which alone occupy a ſpace of 175 feet and one half; viz. the firſt, fifty-eight feet ſeven inches; the ſecond, fifty-eight feet eleven; and the third, exactly fifty-eight feet; and each of theſe are twelve feet thick. Theſe ſtones are of a white granite, with large ſhining flakes, like gypſe; there is a quarry of this kind of ſtone under the whole city, and in the adjacent mountain, which is open in ſeveral places, and, among others, on the right, as we approach the city. There is ſtill lying there a ſtone, hewn on three ſides, which is ſixty-nine feet two inches long, twelve feet ten inches broad, and thirteen feet three in thickneſs. By what means could the ancients move theſe enormous maſſes? This is doubtleſs a problem in mechanics curious to reſolve. The inhabitants of Balbec have a very commodious manner of explaining it, by ſuppoſing theſe edifices to have been conſtructed by Djenoun, or Genii, who obeyed the orders of king Solomon; adding, that the motive of ſuch immenſe works was to conceal, in ſubterraneous caverns, vaſt treaſures, which ſtill remain there. To diſcover theſe, many have deſcended into the vaults which range under the whole edifice; but the inutility of their reſearches, added to the oppreſſions and extortions of the governors, who have made their ſuppoſed diſcoveries a pretext, have at length diſheartened them; but they imagine the Europeans will be more ſucceſsful; nor would it be poſſible to perſuade them, but what we are poſſeſſed of the magic art of deſtroying Taliſmans. It is in vain to oppoſe reaſon to ignorance and prejudice: and it would be no leſs ridiculous to attempt to prove to them that Solomon never was acquainted with the Corinthian order, which was only in uſe under the Roman emperors. The tradition which aſcribes the buildings at Balbec, and alſo at Palmyra, to Solomon, and on which the inhabitants of the country confidently rely, is founded on an opinion generally prevalent, of his wiſdom and love of pleaſure, with both which the magnificence, beauty, and diſpoſition, of theſe buildings perfectly agree; and on the mention of "Tadmor in the wilderneſs, and the tower of Lebanon looking towards Damaſcus," which are ſaid in the Old Teſtament to have been built by his direction. Some have ſuppoſed that theſe are the ruins of a temple of the ſun, built by the Phœnicians, becauſe it is certain that the ſun was worſhipped at this place when the Phœnicians were in their moſt flouriſhing ſtate. Others have thought, that theſe buildings were erected by the Greeks, who ſucceeded the Phœnicians in the poſſeſſion of this country, becauſe they are of the Corinthian and Ionic order; but as they are not mentioned from the time of Alexander's conqueſt to that of Pompey, there is great reaſon to ſuppoſe that they are of later date.

When we conſider the extraordinary magnificence of the temple of Balbec, we cannot but be aſtoniſhed at the ſilence of the Greek and Roman authors. Mr. Wood, who has carefully examined all the ancient writers, has found no mention of it, except in a fragment of John of Antioch, ſurnamed Malala, who attributes the building of this edifice to Antoninus Pius. He ſays that this emperor "built a great temple to Jupiter at Heliopolis, near Libanus, in Phœnicia, which was one of the wonders of the world." This is the only hiſtorical authority that has yet been diſ-

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covered relating to this ſubject. As theſe buildings ſeem to have been erected between the time of Pompey and Caracalla, it is very probable that they were the work of Antoninus Pius. The inſcriptions which remain corroborate this opinion, which perfectly accounts for the conſtant uſe of the Corinthian order, ſince that order was not in general uſe before the third age of Rome; but we ought by no means to allege as an additional proof, the bird ſculptured over the gate, for if his crooked beak, large claws, and the caduceus he bears, give him the appearance of an eagle, the tuft of feathers on his head, like that of certain pigeons, proves that he is not the Roman eagle: beſides that the ſame bird is found in the temple of Palmyra, and is therefore evidently an oriental eagle, conſecrated to the ſun, who was the divinity adored in both theſe temples. His worſhip exiſted at Balbec, in the moſt remote antiquity. His ſtatue, which reſembled that of Oſiris, had been brought thither from the Heliopolis of Egypt, and the ceremonies with which he was worſhipped there have been deſcribed by Macrobius, in his curious work, intitled, "Saturnalia." Mr. Wood ſuppoſes, with reaſon, that the name of Balbec, which in Syriac ſignifies *City of Baal*, or of the Sun, originated in this worſhip. The Greeks, by naming it Heliopolis, have, in this inſtance, only given a literal tranſlation of the oriental word, a practice to which they have not always adhered. We are ignorant of the ſtate of this city in remote antiquity; but it is to be preſumed that its ſituation, on the road from Tyre to Palmyra, gave it ſome part of the commerce of thoſe opulent capitals. Under the Romans, Heliopolis was conſtituted a colony by Julius Cæſar, and in the time of Auguſtus, it is mentioned as a garriſon town, for it received part of the veterans of the fifth and eighth legions; and there is ſtill remaining, on the wall of the ſouthern gate on the right, as we enter, an inſcription which proves the truth of this, the words *Kenturia Prima*, in Greek characters, being very legible. One hundred and forty years after, Antoninus built there the preſent temple, inſtead of the ancient one, which was doubtleſs falling into ruins; but Chriſtianity having gained the aſcendancy under Conſtantine, the modern temple was neglected, and afterwards converted into a church, a wall of which is now remaining, that hid the ſanctuary of the idols. It continued thus until the invaſion of the Arabs, when it is probable they envied the Chriſtians ſo beautiful a building. The church being leſs frequented, fell to decay; wars ſucceeded, and it was converted into a place of defence; battlements were built on the wall which ſurrounded it, on the pavilions, and at the angles, which ſtill ſubſiſt; and from that time, the temple, expoſed to the ravages of war, fell rapidly to ruin.

The ſtate of the city is not leſs deplorable: the wretched government of the Emirs of the houſe of Harfouſhe had already greatly impaired it; and the earthquake of 1759 completed its deſtruction. The wars of the Emir Youſef, and Djezzar, have rendered it ſtill more deſerted and ruinous: of 5000 inhabitants, at which number they were eſtimated in 1751, not 1200 are now remaining, and all theſe poor, without induſtry or commerce, and cultivating nothing but a little cotton, ſome maize, and water-melons.

BALBI, John, in *Biography*, a learned Dominican monk of the thirteenth century, was born at Genoa, and hence called "Balbi Januenſis;" and diſtinguiſhed as the author of a grammatical work, intitled "Catholicon," finiſhed in 1286, and entitled to attention principally from its having been one of the firſt printed books. It was printed in folio at Mentz, in 1460; and this edition is become very ſcarce.

BALBIAN, Justus, of Aloſt, in Flanders, ſtudied at Padua, where he was admitted doctor in medicine, which he practiſed with conſiderable reputation, towards the latter end of the ſixteenth century, at Gouda. He openly profeſſed the Calviniſtic religion, in which faith he died in 1616, and was buried in the principal church of that city, with the following inſcription on his tomb:

Singulos dies, ſingulas vitas puta,
Juſti a Balbian, [ſepulchrum:
Flandri Aloſtani, Philo-Chymici, ejuſque heredum
Ille heri, ego hodie, tu cras.
Obiit anno 1616.

In 1539, he publiſhed "De Lapide Philoſophico Tractatus Septem," Lugd. Bat. 8vo. It is a collection of the works moſt eſteemed among the adepts at that time, among whom our author muſt be claſſed. The year following he publiſhed at Venice, "Nova Ratio Praxeos Medicæ," Haller. Bib. Med. P. Eloy. Dict. Hiſt.

BALBINUS, Decimus Coelius, a Roman emperor, was a deſcendant of a noble family, founded by Cornelius Balbus Theophanes, originally of Cadiz in Spain, who was the friend and hiſtoriographer of Pompey, and admitted into the freedom of the city under his patronage. Balbinus was diſtinguiſhed both as a poet and an orator; and as a magiſtrate he had governed ſeveral provinces with reputation. His fortune was affluent; and his manners liberal and affable. After the defeat and death of the two Gordians, on the 3d of July, A. D. 237, Balbinus was elected emperor by the ſenate in conjunction with Maximus. Their election was ſoon ſucceeded by a tumult at Rome, occaſioned by a licentious multitude; who neither loved the rigid Maximus, nor ſufficiently feared the mild and humane Balbinus; and who ſurrounding the temple of Jupiter, demanded, that, beſides the two emperors choſen by the ſenate, a third ſhould be added of the family of the Gordians, as a juſt return of gratitude to thoſe princes who had ſacrificed their lives for the republic. Accordingly, Maximus and Balbinus being driven back into the capitol, a boy, thirteen years of age, the grandſon of the elder, and nephew of the younger Gordian, was preſented to them, and inveſted with the title and ornaments of Cæſar. The tumult was appeaſed by this eaſy condeſcenſion; and the two emperors, as ſoon as they had been peaceably acknowledged in Rome, prepared to defend Italy againſt the common enemy. Maximus marched againſt Maximin, who was then laying ſiege to Aquileia; but this tyrant having been abandoned by his guards, and aſſaſſinated in his tent, Maximus returned in triumph to Rome, and was received with cordial congratulations, not only by his colleague and young Gordian, but by the ſenate and the people, who perſuaded themſelves that a golden age would ſucceed an age of iron. The conduct of the two emperors correſponded with theſe expectations. The rigour of the one was tempered by the clemency of the other; the oppreſſive taxes impoſed by Maximin were repealed or moderated, diſcipline was revived, and many ſalutary laws were enacted. "What reward," ſaid Maximus, "may we expect for delivering Rome from a monſter?" To which queſtion Balbinus replied, "the love of the ſenate, of the people, and of all mankind." "Alas!" rejoined his more penetrating colleague, "Alas! I dread the hatred of the ſoldiers, and the fatal effects of their reſentment." His apprehenſions were juſtified by the event. At length jealouſies broke out between the two emperors, and they were thus prevented from uniting in any vigorous meaſures of defence againſt their common enemies of the Prætorian camp. Theſe fierce troops, proceeding to an open revolt, ſeized on both the emperors, ſtripped them of their garments, dragged

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them ignominiouſly through the ſtreets of Rome, and terminated the tragedy by inhumanly maſſacring them. Thus they both fell after a reign of little more than a year, July 15th, A. D. 238. Crevier's Hiſt. Emp. vol. viii. p. 382, &c. Gibbon's Hiſt. vol. i. p. 290—305.

BALBOA, Vasco Nugnez De, a famous Spaniſh adventurer, was a native of Caſtile, and one of thoſe who formed a ſettlement in Hiſpaniola. In 1510, he commanded a feeble colony, eſtabliſhed at Santa Maria al Antiqua, or the ancient, ſo called becauſe it was the firſt ſettlement on the ſouthern continent of America. Anxious for being inveſted with a legal title to the ſupreme command, he diſpatched one of his officers to Spain, in order to ſolicit a royal commiſſion; and with a view of more effectually recommending himſelf to the patronage which he was endeavouring to obtain, he made frequent inroads into the adjacent country, ſubdued ſeveral of the caziques, and collected a conſiderable quantity of gold, which abounded more in that part of the continent than in the iſlands. In one of his expeditions he met with a young cazique, who expreſſed his aſtoniſhment at the high value which was ſet upon the gold, which the Spaniards were weighing and diſtributing: "Why do you quarrel," ſaid he, "about ſuch a trifle? If you are ſo paſſionately fond of gold, as to abandon your own country, and to diſturb the tranquillity of diſtant nations for its ſake, I will conduct you to a region where the metal, which ſeems to be the chief object of your admiration and deſire, is ſo common that the meaneſt utenſils are formed of it." Tranſported with the intelligence, Balboa eagerly inquired where this happy country lay, and how they might arrive at it. The cazique informed them, that at the diſtance of ſix ſuns, or ſix days journey to the ſouth, they would diſcover another ocean, near which this wealthy kingdom was ſituated; but if they intended to attack it, they muſt aſſemble forces far ſuperior in number and ſtrength to thoſe which now attended them. This was the firſt information which the Spaniards received concerning the great ſouthern continent known afterwards by the name of Peru. Balboa diligently prepared for the enterpriſe; and poſſeſſing talents for conducting ſo hazardous and almoſt deſperate an undertaking as that of marching acroſs the iſthmus of Darien, he arranged his troops, amounting upon a muſter to only 190 men, who were hardy veterans, that had been inured to the climate of America, and who were ready to follow him through every danger. A thouſand Indians attended them to carry their proviſions; and to complete their warlike array, they took with them ſeveral of thoſe fierce dogs which were no leſs formidable than deſtructive to their naked enemies. On the 1ſt of September, A. D. 1513, he ſet out on this expedition; and having continued their progreſs for 25 days through woods and mountains, and amidſt contending enemies, he at length reached the top of a mountain from which he was able to diſcover the ocean, which was the object of their wiſhes. On viewing this glorious ſpectacle, which no European eye had ever before beheld, he fell on his knees, and returned thanks to heaven with upliſted hands for conducting him to a diſcovery ſo beneficial to his country, and ſo honourable to himſelf. His followers united with him in expreſſions of wonder, exultation, and gratitude. Purſuing their courſe, they at length arrived at the ſhore of the ocean; when Balboa, advancing into the waves with his ſword and buckler, took poſſeſſion of it in the name of the king his maſter, and vowed to defend it with theſe arms againſt all his enemies. The part of the great Pacific, or Southern ocean, which Balboa firſt diſcovered, ſtill retains the name of the gulf of St. Michael, which he gave to it, and is ſituated to the eaſt of Panama. Here he obtained a ſupply of proviſions; and partly by force and partly by free gift, he enriched himſelf with a conſiderable quantity of gold and of pearls. He alſo received information, that there was a mighty and opulent kingdom ſituated far towards the ſouth-eaſt, where the inhabitants had tame animals, meaning the Llamas afterwards found in Peru, to carry their burdens. His followers were exhauſted by fatigue and diſeaſe; and he therefore determined to lead them back, inſtead of attempting to take poſſeſſion of this country, to their ſettlement at Santa Maria in Darien; and, after an abſence of four months, he returned to it with greater glory and more treaſure than the Spaniards had hitherto acquired in any of their expeditions againſt the New World. Balboa haſtened to tranſmit information of his important diſcovery to Spain, and to ſolicit a reinforcement of 1000 men for the conqueſt of the opulent country, of which he had received ſo favourable an account. Ferdinand, the king of Spain, determined to avail himſelf of the intelligence which Balboa had communicated; but regardleſs of his merit, he appointed Pedrarias Davila to ſuperſede him in the government of Darien. He alſo provided him with a well equipped fleet and 1200 ſoldiers, who were joined by a great number of voluntary adventurers. Upon their arrival at Darien, they found Balboa, whoſe fame had reached Spain, and of whoſe opulence they had formed ſuch high ideas, clad in a canvas jacket, with coarſe hempen ſandals, and employed in thatching his own tent with reeds. Balboa, however, received them with dignity; and treated Pedrarias with the deference due to his character. Pedrarias appointed a judicial inquiry to be made into Balboa's conduct, and impoſed upon him a conſiderable fine. At length reſentment on the part of one, and the envy of the other, produced diſſenſions which were very detrimental to the colony. Pedrarias loſt many of his men by ſickneſs, and this diſtreſs was further augmented by an extreme ſcarcity of proviſions: and the new governor incenſed the natives by rapacious proceedings, which deſolated the whole country from the gulf of Darien to the lake of Nicaragua. Balboa ſent violent remonſtrances to Spain againſt the imprudent government of Pedrarias, which had ruined a happy and flouriſhing colony; and Pedrarias recriminated by accuſing him of having deceived the king, by magnifying his own exploits, as well as by a falſe repreſentation of the opulence and value of the country. Ferdinand, ſenſible of his own imprudence in having ſuperſeded Balboa, appointed him Adelantado or lieutenant-governor of the countries upon the South ſea, with very extenſive privileges and authority; and he enjoined Pedrarias to avail himſelf of Balboa's counſel in all his operations. After ſome time Pedrarias and Balboa were apparently reconciled; and by way of cementing the union between them, the former agreed to give his daughter in marriage to the latter. This happened in 1515. Jealouſy ſtill rankled in the breaſt of the governor; and when Balboa had with much labour finiſhed four ſmall brigantines, and provided 300 choſen men, in order to ſail towards Peru, Pedrarias deſired him to poſtpone the voyage; and having ſolicited an interview, ordered him to be arreſted, and then to be tried on an accuſation of diſloyalty to the king, and of an intention to revolt againſt the governor. He was found guilty, and ſentence of death was pronounced; and though the judges who paſſed it, ſeconded by the whole colony, warmly interceded for his pardon, the governor continued inexorable; and the Spaniards beheld, with aſtoniſhment and ſorrow, the public execution of a man whom they univerſally deemed more capable than any who had borne command in America, of forming and accompliſhing great deſigns. Upon his premature death in 1517, at the age of

42, the expedition, which he had planned, was relinquiſhed. Balboa was diſtinguiſhed among his countrymen by a variety of important and uſeful qualities, adapted to the ſtation he occupied, and the ſervices in which he engaged. Beſides bravery, which he poſſeſſed in an eminent degree, he was prudent in conduct, generous, affable, and poſſeſſed of thoſe popular talents which, in the moſt deſperate undertakings, inſpire confidence and ſecure attachment. Robertſon's Hiſt. Amer. vol. i. p. 276—301.

BALBRIGGEN, in *Geography*, a ſmall port town of Ireland, in the county of Dublin. It has a ſafe harbour with a pier, within which ſhips of 200 tons burden may lay their broadſides, and unload on the quay. The baſe of the pier is 18 feet thick, and on the outſide is a conſiderable rampart of large fragments of rock, ſunk to defend the pier againſt the waves. At this town there once was an extenſive cotton manufactory; but it has lately declined ſo much, that the proprietors are now converting one of their principal cotton mills into a flour mill. Many of the inhabitants derive a ſubſiſtence from fiſhing, in which nine wherries are employed. On the ſhore near the town is a ſlate rock, which is a good quarry for blocks of ſufficient ſize for making ton ſlates. It is diſtant from Dublin 15½ Iriſh miles. N. lat. 53° 36'. W. long. 6° 13'.

BALBUL, in *Ornithology*, a ſpecies of Anas, or duck, having a black beak, and ſpot of the wing above obliquely green, beneath obliquely black. Forſk. Fn. Arab.

BALBURA, in *Ancient Geography*, a town of Aſia Minor, in Cabellia, a country of Caria, ſituated in the vicinity of Cibyra Major. When the prætor Murena extended the principality of Cibyra, Balbura was annexed to Lycia.

BALBUS, a mountain of Africa, between the town of Clupea, the territory of Carthage, Numidia, and the ſea. Hither Maſiniſſa retired, after having been defeated by Syphax, king of Numidia.

BALBUSARDUS, in *Ornithology*. See Bald-buzzard.

BALCASH, Tengis, or Palkati, in *Geography*, a lake of Independent Tartary, in the country of the Kalmuks, ſubject to China, is about 140 Britiſh miles in length by half that breadth; being the largeſt lake in Aſia, next to the ſeas of Aral and Baikal.

BALCDUTHA, a ſettlement in the eaſtern part of Kentucky, in America, on the weſt ſide of Big Sandy river.

BALCH, a river of Germany, which runs into the Rhine at Cologn.

BALCHIKANSKOI, a town of Siberia, 140 miles ſouth-weſt of Doroninſk.

BALCHUYSEN, a town of Germany, in the circle of Weſtphalia, and duchy of Juliers, nine miles weſt of Cologn.

BALCONY, from the French *balcon*, in *Architecture*, a kind of open gallery without the walls of buildings, contrived chiefly for the convenience of looking around, ſeeing proceſſions, cavalcades, and the like.

Where there is but one, it is uſually in the middle of the front of the edifice, and level with the firſt floor: ſometimes they are made of wood, ſometimes of caſt iron; the former ſurrounded with a rail or baluſtrade, the latter wrought in various figures in *demi-relievo*. Some are alſo made of bar iron, faſhioned in crail-work, or flouriſhes of divers fancies.

Balcony, in a ſhip, denotes a gallery either covered or open, made abaft, either for ornament or convenience of the captain's cabin.

BALDA, in *Ancient Geography*, a town of Hiſpania Bætica, in the country of the Turduli. Ptolemy.

BALDACANIFER, corruptly alſo written *balcanifer*, denotes a ſtandard-bearer; chiefly in the ancient order of knights Templars.

BALDACHIN, or Baldaquin, in *Architecture*, a building in form of a canopy, ſupported with columns, and ſerving as a crown or covering to an altar.

The word comes from the Italian *baldacchino*, which ſignifies the ſame.

Baldachin, or *Baldakin*, or *Beldekin*, popularly *Baudekin*, in *Middle Age Writers*, denotes a rich kind of cloth made of gold warp and ſilk woof, variouſly figured. It took the denomination from its being formerly brought into theſe countries from *Baldacio*, or Babylon.

BALD-BUZZARD, in *Ornithology*, the name under which Falco *Haliaëtos* is deſcribed by Willughby and other Engliſh naturaliſts. It is alſo called *balbuzard* by Buffon.

BALD-EAGLE, in *Geography*, or *Warrior Mountains*, lie about 200 miles W. of Philadelphia, in the county of Bedford, in Pennſylvania, and form the weſtern boundary of Bald-eagle valley.

Bald-eagle is alſo a river which runs a north-eaſt courſe forty-four miles, and falls into the weſtern branch of the Suſquehanna river. The water of Huron river, which falls into the lake Erie, is called Bald-eagle creek.

Bald-eagle *Valley*, or *Sinking-Spring Valley*, lies upon the frontiers of Bedford county in Pennſylvania, about 200 miles weſt of Philadelphia. On the eaſt it has a chain of high rugged mountains, called the "Canoe ridge;" and on the weſt, the "Bald-eagle," or Warrior mountains. It is a pleaſant vale of lime-ſtone bottom, about five miles wide; and its vicinity abounds with lead-ore. In 1779, it contained about 60 or 70 families that lived in log-houſes, and formed in ſeven or eight years ſeveral valuable plantations. Among the curioſities of this place is that called the "Swallows," which abſorb ſeveral of the largeſt ſtreams of the valley, and after conveying them ſeveral miles under ground, return them again upon the ſurface. Theſe ſubterraneous paſſages have given occaſion to the name of "Sinking-Spring Valley." Of theſe the moſt remarkable is called the "Arch Springs," which run cloſe upon the road from the town to the fort; being a deep hollow formed in the limeſtone rock, about thirty feet wide, covered with a ſtony arch, and giving paſſage to a fine ſtream of water. The ſubterraneous river enters the mouth of a ſpacious cave, whoſe exterior aperture is ſufficient to admit a ſhallop with her tails full ſpread; and in the midſt of this cave, from eighteen to twenty feet wide, are timber, bodies and branches of trees, &c. which being lodged up to the roof of the paſſage, ſhews that the water riſes to the top during freſhes. The cave, extending about forty yards, widens into a large kind of room, at the bottom of which is a vortex, where the water forms a whirlpool, and abſorbs pieces of floating timber, which are inſtantly conveyed out of ſight. From the top of the Bald-eagle mountains there is a fine proſpect of thoſe of the Alleghany, ſtretching along till they ſeem to meet the clouds. Much ſlate is found here; and there are ſtrong ſigns of pit-coal.

BALDEGG, a lake of Swiſſerland, four miles long and one wide; nine miles S.S.W. of Bremgarten.

BALDENAU, a town of Germany, in the circle of the lower Rhine, and biſhopric of Treves; 36 miles S.S.W. of Coblentz.

BALDERIC, in *Biography*, a French hiſtorian, a native of Orleans, lived in the 12th century, and was biſhop of Dole in Britanny. He aſſiſted at the council of Clermont, held on occaſion of the holy war, and wrote a hiſtory of that war in four books, containing an account of the events

events of that fanatical expedition from its commencement to the year 1099, when Jeruſalem was taken by Godfrey of Bouillon. This work may be found in "Geſta Dei per Francos à Bongaro," folio, 1511. He alſo wrote "Poems," preſerved in the fourth volume of Du Cheſne's collection of French hiſtorians. Nouv. Dict. Hiſtor.

BALDERN, in *Geography*, a town of Germany, in the circle of Swabia, and county of Ottingen, one mile S.S.E. of Zobing.

BALD-HEAD, a cape of the north-weſt coaſt of America, and on the weſt coaſt of Norton ſound. N. lat. 64° 43'. E. long. 198° 18'.

Bald-head is alſo the ſouthernmoſt of two heads on the eaſt coaſt of Newfoundland, between Fermowes harbour on the S.S.W. and fort Agua on the N.N.E.

Baldhead lies alſo at the mouth of Cape Fear river in North Carolina, and being at the ſouth-weſt end of Smith's iſland, forms with Oak iſland the main entrance into the river.

Bald-head makes alſo the ſouth-weſt part of what is called Wells bay, in the diſtrict of Maine.

BALDI, Bernardino, in *Biography*, a learned Italian, was born at Urbino, in 1553. Such was his ardour in the proſecution of knowledge, that he ſacrificed both his meals and his ſleep to the attainment of it. Having ſtudied mathematics under Commandino in the place of his nativity, he purſued his ſtudies in the univerſity of Padua; where in his twentieth year, he was diſtinguiſhed by his literary application and proficiency. Such was his acquaintance with the Greek language, that he tranſlated the Phenomena of Aratus into Italian verſe, and other Greek writers into Latin; and he poſſeſſed ſuch a talent for acquiring the knowledge of languages, that he learned twelve of them, ſeveral of which were oriental. When he left Padua, he became mathematician to Ferrante Gonzaga II. duke of Guaſtalla; and in 1586, he was created abbot of Guaſtalla, which church he governed for many years with great reputation. At Rome, where he ſpent part of his time, he obtained the title of apoſtolical prothonotary. Towards the latter part of his life, he reſigned the church of Guaſtalla, and retiring to Urbino, devoted himſelf entirely to his ſtudies. He died in that city in 1617, at the age of 64 years. Baldi obtained as high a rank among the Italian poets as he poſſeſſed among the ſcholars and mathematicians. In paſtoral poetry, his "Celeo," or "Orto," is thought to be excelled by few works in the language; and his blank verſe is much eſteemed. In mathematics and mechanics his labours were numerous. He tranſlated into Italian the Greek work of Hero of Alexandria, "On Automata, or ſelf-moving Machines;" and into Latin, the ſame author's treatiſe, "On warlike Machines." He alſo wrote "Exercitations on the Mechanics of Ariſtotle," and publiſhed two Latin works relative to Vitruvius, the one containing an explanation of all the terms uſed by him, and the other inquiring into the meaning of his "Scamilli impares." A poſthumous work, intitled, "Cronica de' Mathematici," being a compendium of a larger one on the lives of mathematicians, was printed in 1707. Many other monuments of his genius and induſtry, which obtained reputation in their time, are now conſigned to oblivion. Nouv. Dict. Hiſtor. Gen. Biog.

Baldi, de Ubaldis, a celebrated lawyer, was born at Perugia in 1319, and carefully educated by his father Francis Ubaldi, a learned phyſician. After having ſtudied law at Perugia under Bartoli, he became a preceptor, and acquired high reputation in moſt of the univerſities of Italy. He was the rival of his maſter Bartoli, and contradicted many of his opinions. The duke, John Galeazzo, was his generous patron; and he was liberally rewarded by pope Urban VI. for pleading his cauſe againſt Clement. Having retained the full vigour of his faculties and his diſtinguiſhed reputation as an oracle of juriſprudence till the year 1400, when he had attained the age of 76, he died at Pavia, in conſequence of the bite of a dog, with which he was playing. His numerous treatiſes of law, publiſhed in three volumes folio, manifeſt deep knowledge and excellent talents; but they are written too much in the barbarous ſtyle of the age. His reputation was ſo great, that his family after his death aſſumed the name of Baldeſchi inſtead of that of Ubaldi. Nouv. Dict. Hiſtor.

BALDINGER, Ernestus Gottfried, a medical writer, of whom we have no memorial, but that, in 1764, he publiſhed at Berlin "Introductio in Notitiam Scriptorum Medicinæ Militaris," 8vo. a valuable work, in which, beſides the titles of the books, the author has given a critical account of their contents. Haller. Bib. Med. Pract.

BALDINI, John Anthony, *Count*, was born at Placentia, July 7, 1654, finiſhed his ſtudies at Bologna and at Rome, and then travelled into France and Poland. In 1698, he went to Spain, and continued there nine years as ambaſſador from the duke of Parma. On his return to Parma, he was again diſpatched to German courts, and at laſt to England, whence he was ſent to attend the congreſs at Utrecht. His figure was handſome, and his manners engaging; and the greater part of his time was devoted to the ſtudy of natural philoſophy, mathematics, and more eſpecially civil and eccleſiaſtical hiſtory. In England, he was elected fellow of the Royal Society; and in Spain, he collected many rare gems, with a view of having them engraved; but in the progreſs of this work he was interrupted by his public occupations and travels. At Amſterdam, he enriched his cabinet of curioſities with many Indian and Chineſe ſubjects; and he purchaſed, at a great expence, all the lexicons, atlaſſes, and books of travels he could procure that related to the Eaſtern countries. The editor of the "Atlas Hiſtorique," in 5 vols. publiſhed at Amſterdam in 1719, was much indebted to Baldini's collection; and the diſcourſe annexed to theſe maps was originally written in Italian by Baldini. On the 23d of February 1725, Baldini died, in conſequence of a ſtroke of the apoplexy. Gen. Biog.

BALDINUCCI, Philip, was born at Florence in 1624; and diſtinguiſhed himſelf by his knowledge of the arts of deſign, and his reſearches concerning the lives of their profeſſors. His great undertaking was a general hiſtory of the moſt eminent painters from Cimabue to his own time, comprehended in ſix volumes, and divided into centuries. A new edition of this whole work was publiſhed at Florence in 1731, and it has been ſince reprinted at Florence and at Turin, with copious notes and additions, by Sig. Ingegnere Piacenza. Baldinucci likewiſe publiſhed "A Vocabulary of Deſign," in conſequence of which he was admitted into the Academy della Cruſca. His work, intitled, "The Commencement and Progreſs of the Art of Engraving on Copper," Florence, 1686, 4to. abounds with curious information. He alſo publiſhed ſeveral ſmaller works; one of which drew upon him a ſarcaſtic and unjuſt attack from Cinelli. He died in 1696, at the age of 72 years. Nouv. Dict. Hiſtor.

BALDINUS, Bernard, an Italian phyſician, who flouriſhed about the middle of the ſixteenth century, taught medicine at the univerſity of Padua, and afterwards at Milan, where he died in the year 1600. In 1562, he publiſhed at Venice, "Problemata excerpta ex Commentariis Galeni in Hippocratem," 8vo.

Baldinus, *Baccius*, another Italian phyſician of the ſame age, publiſhed, at Florence, "In Librum Hippocratis, de Aquis, Aere, et Locis, Commentaria;" "Tractatus de Cucumeribus," 1586, 4to. Haller. Bib. Med. Eloy. Dict. Hiſt.

BALDIVIA, or Valdivia, in *Geography*, the name of a government in the kingdom of Chili, in South America. It was formerly ſubject to the viceroy of Lima, but is now annexed to the juriſdiction of the preſident of Chili. *Baldivia*, or Valdivia, is alſo the name of a port town, ſituated on the north-eaſt ſide of a bay of the ſame name, in S. lat. 40° 5′. W. long. 80° 5′. The town was built by the Spaniſh general Baldivia, about the year 1551; in 1559, the people of Chili chaſed the Spaniards from this ſettlement, burned the town, and put the inhabitants to the ſword. Near this place are many gold mines, and therefore the Spaniards have fortified it, regarding it as the key to the South ſeas; and the fortifications are ſupported by the whites of Peru and Chili, who are baniſhed hither for their crimes. In 1643, it was taken poſſeſſion of by the Dutch; but they were compelled to abandon it, and to leave all their cannon, conſiſting of 30 or 40 pieces, their baggage, and their ſtores, on receiving intelligence that ſuccours were tranſmitted from Peru. Valdivia receives from the treaſury of Lima an annual ſupply of 70,000 dollars; 30,000 in ſpecie, the value of 30,000 in clothes for the ſoldiers, and 10,000 in ſpecie which is paid to the king's ſoldiers at Santiago, in order to purchaſe flour and other neceſſaries for the garriſon at Valdivia. Theſe remittances are conveyed in ſhips which ſail from Valparaiſo. The bay has a narrow entrance, and is ſpacious within; it is well ſecured from winds by point Galera and Bonifacio, which is remarkable for its high land juſt on the north of the bay. The rivers of Baldivia and Guyaquil are the largeſt on this coaſt; but neither of them can carry a ſhip of burden ſix leagues within land.

BALDMONIE, an old Engliſh name for gentian, the root of which is uſed in medicine; ſome alſo have called the *meum*, or ſpignel, by this name.

BALD-MOUNTAIN, in *Geography*, a noted promontory in the gulf of St. Lawrence, in North America, being a mark on the main, about 30 leagues from the neareſt or north-weſt point of Anticoſti iſland.

BALDNESS, Calvities, a falling of the hair, eſpecially that of the ſinciput.

It differs from *alopecia*, *area*, *ophiaſis*, and *tinea*, as theſe all ariſe from ſome vice in the nutritious humour; *baldneſs*, from the defect of it. But the diſtinction is not always obſerved by modern phyſicians.

When the eyelids ſhed their hair, it is called a *pilaſis*. Among the cauſes of baldneſs, immoderate venery is reputed one of the chief: old age uſually brings it on of courſe. Some will have the proximate cauſe of baldneſs to be the dryneſs of the brain, and its ſhrinking from the cranium; it having been obſerved, that in bald perſons there is always a vacuity or empty ſpace between the ſkull and the brain.

Buffon ſays, that the crown of the head, and the ſpace immediately above the temples, are the parts which firſt become bald; but that the hair below the temples, and on the inferior part of the back of the head, ſeldom falls off. He adds, baldneſs is peculiar to man: women, in the moſt advanced age, though their hair becomes white, are ſeldom affected with baldneſs. Children and eunuchs are not more ſubject to it than women. It is alleged by Ariſtotle, that no man becomes bald before having intercourſe with women, except ſuch as have been bald from their birth. The ancient writers upbraid the inhabitants of the iſlands of the Archipelago with the epithet "bald-heads;" and aſſert, that theſe iſlanders are all brought into the world with this defect. Buff. Nat. Hiſt. by Smellie, vol. ii. p. 442.

Calvus, *bald pate*, was a frequent term of reproach among the Romans; among whom this defect was in great diſcredit. Hence divers arts to conceal it, as falſe hair, and a *galericulus*, contrived on purpoſe. The later Romans, however, ſeemed to have been reconciled to baldneſs; for we find among them a kind of officers or ſervants, called *glabratores*, or *glabrarii*, whoſe buſineſs was to take off the hair from all parts, even from the head. In an ancient inſcription, there is mention of one Diophantus, TI. CÆSARIS. ORNATOR. GLABR. that is, *ornator glabrarius*. See Alopecia.

BALDO, Mount, in *Geography*, a part of the Alps, in the Auſtrian territories, lying on the eaſt of the lake Guida, and ſeparating the country of Tyrol from that of Verona, about 30 miles in circumference.

BALDOCK, Ralph de, in *Biography*, an Engliſh divine of the fourteenth century, was educated at Oxford, appointed biſhop of London in 1304, choſen in 1307 lord chancellor of England, and in 1313 died at Stepney. His hiſtory of the Britiſh affairs, intitled, "Hiſtoria Anglica," ſeen by Leland, is now loſt. Biog. Brit.

Baldock, in *Geography*, is a neat and pleaſant market town of Hertfordſhire, in England. It is ſeated between hills on that great Roman road which bore the name of Ickling-way, or Icknield-ſtreet. This town has been conſiderably improved of late years by the erection of many reſpectable houſes; and being on a great travelling road, it has a conſtant ſucceſſion of new company. Here are a good market on Thurſday, and five annual fairs; the former is plentifully ſupplied with barley; and a great quantity of malt is made in this town. Baldock dates its origin and the foundation of its church to an earl of Pembroke, who granted two hundred acres of waſte land, in the reign of king Stephen, for that purpoſe. This was conferred on the knights Templars, who dedicated the church to the Virgin Mary, and named the town Balbec, from the name of their former place of reſidence in Syria. The knights hoſpitalers of St. John, and thoſe of Jeruſalem, alſo erected buildings at the eaſt end of the town, in the pariſh of Clothall. On the hills in the vicinity are four ancient encampments. Here is an alms-houſe founded by William Winn, in 1621, for twelve poor widows, who are alſo provided with a ſmall legacy of forty ſhillings annually by the will of the ſame worthy founder. According to the returns publiſhed by authority of the houſe of commons, this town has 231 houſes, and 1283 inhabitants; of whom 648 are males, and 635 are females.

BALDOVINI, Francisco, in *Biography*, an Italian poet, was born at Florence, in 1634. His firſt ſtudies were devoted to the law, for which profeſſion his father intended him; but after the death of his parents, he ſurrendered himſelf wholly to the enchantments of poetry and muſic. On viſiting Rome, he obtained, through the intereſt of his uncle cardinal Flavio Chigi, the place of ſecretary to cardinal Jacopo Filippo, and at the age of 40, entered into holy orders. In 1676, he obtained the living of St. Leonardo d'Artimino; and in 1694, Coſmo III. grand duke of Tuſcany, conferred on him the priorſhip of Orbatello, which he changed, in 1699, for that of Santa Felicita. In the diſcharge of his new functions, he gave equal ſatisfaction to the court, the religious orders, and his pariſhioners, by his exemplary piety, and his rigid attention to the duties of his ſtation, to which the amiableneſs of his manners, his knowledge of the world, and his proficiency in learning, rendered

rendered him perfectly adequate. He lived in profperity and health till his 82d year, and died in 1716. He excelled in that fpecies of fimple, ruftic, and pleafant poetry, which is neither heroic nor burlefque, and which perhaps no poetry in our language refembles more than Gay's paftorals. His "Il Lamento di Cecco da Varlungo," or "Cecco's Complaint," is a playful poem, written in the provincial dialect of Tufcany, and publifhed firft at Florence in 1694, by Bartolommei; and afterwards, in 1755, with the author's life by Domenico Manni, and curious notes by Marini. The poem was tranflated into Englifh by John Hunter, efq. in 1802, London, 8vo. See the Tranflator's Preface.

BALDUS, or as he wrote his name, BADUS, SERAFINUS, a native of Genoa, who flourifhed in the middle of the feventeenth century, was one of the earlieft writers on the properties of the Peruvian bark, and the moft ftrenuous aflertors of its value. It appears that he paffed the latter part of his life at Rome, where he was patronized by the cardinal De Lugo, himfelf an admirer of that celebrated medicine, and who procured a parcel of it to be imported from Spain into Italy, in 1649. Baldus learned from Bolli, a Genoefe merchant, that the tree producing the bark, of which he gives a defcription, grows at Quito, a Spanifh province in South America; and that its power in curing intermittents became firft known to the Spaniards, from its being fuccefsfully adminiftered to the counteſs of Cinchon, the wife of the governor. He is very diffufe in his account of the qualities of the bark, and of the moft efficacious mode of adminiftering it; and gives numerous examples of the cures performed by it, not only in intermittents, but in continued fevers likewife. His works, which are all controverfial, are: "Sanguis expiatus, feu de Sanguine incalefcente," Genuæ, 1643; "Cortex Peruvianus redivivus, contra Plempium," Gen. 1656, 12mo.; "Anaftafis Corticis Peruv. feu Chinæ Defenfio contra Ventilationes J. Jacobi Chiflet, et gemitus V. F. Plempii," Genuæ, 1663, 4to.; "Neceffitas Phlebotomiæ in Exanthematibus," Gen. 1663, 4to. Haller. Bib. Med. Pract. Eloy. Dict. Hift.

BALDUS, *Baldus*, M. D., a native of Florence, flourifhed about the middle of the feventeenth century. After acquiring conſiderable reputation in his own country, he removed to Rome, where he was foon advanced to be phyfician to pope Innocent the tenth, and archiater; but died a few months after being elevated to that poft. He publifhed, in 1631, "Prælectio de Contagione peftifera," 4to.; and in 1637, "Difquifitio ad textum fecundum Hippocratis, de Aere, Aquis, et Locis, accedit, de Calculorum Cauſis; Aquæ Tiberis Bonitate; Queſtio de majori nunc quam præterito Seculo, calculoſorum in urbe frequentia," 4to. Hall. Bib. Med. Pract. Eloy. Dict. Hift.

BALDUS, in *Entomology*, a fpecies of PAPILIO, with very entire brown wings; on the anterior ones above and beneath, an ocellar fpot, with a double pupil; on the poſterior ones, four ocellar fpots above and fix beneath. Fabricius. Inhabits India. Donov. Inf. Ind.

BALDWIN I. in *Biography*, emperor of Conſtantinople, was born in 1172, and fucceeded his father as count of Flanders and Hainault. In the fourth cruſade, which commenced A.D. 1198, he aſſumed the croſs at Bruges, together with his brother Henry, and the principal knights and citizens of the rich and induſtrious province of Flanders, and diſtinguiſhed himſelf ſo much in the wars which preceded the capture of Conſtantinople, that after this event he was choſen emperor of the eaſt, A.D. 1204. But the Greeks ſoon revolted againſt this foreign empire; and formed an alliance with John, or Calo-John, the revolted chief of the Bulgarians and Wallachians. Baldwin, in his attempt to recover Adrianople, from which he had been expelled, was drawn into an ambuſcade by the feigned flight of the enemy, and taken prifoner A.D. 1205. He ſoon after died in priſon; but the time and manner of his death are not known. After the firſt year of his government of ſixteen months, he was generally ſuppoſed to be in poſſeſſion of his health and reaſon, and to be governing his kingdom with prudence and vigour. The Greeks have reported that he was blind; and about twenty years after his death, Conon de Bethune, a Flemiſh nobleman, who was acknowledged as the true Baldwin, the emperor of Conſtantinople, and lawful ſovereign of Flanders, by the French court detected the impoſtor, and he was puniſhed with an ignominious death. Baldwin, who was diſtinguiſhed for his private virtues, and for his military and princely qualities, was ſucceeded in the empire by his brother Henry; and in his county of Flanders by his daughter Joan or Jane, who has been accuſed, by ſome grave hiſtorians, of ſacrificing to her ambition the life of an unfortunate father. Gibbon's Hiſt. vol. xi. p. 190—262.

BALDWIN II. emperor of Conſtantinople, was the ſon of the emperor Peter of Courtenay; and in his eleventh year, ſucceeded his brother Robert, A.D. 1228. On account of his youth, John of Brienne, the veteran king of Jeruſalem, was appointed to be regent, and inveſted for his life with the title and prerogatives of emperor, on the ſole condition that Baldwin ſhould marry his ſecond daughter, and ſucceed, at a mature age, to the throne of Conſtantinople. The royal youth was ſent to viſit the weſtern courts, and to obtain ſome ſupplies of men and money, for the relief of the ſinking empire. He thrice repeated theſe mendicant viſits, in which he ſeemed to prolong his ſtay, and poſtpone his return. Of the twenty-five years of his reign, a greater number was ſpent abroad than at home; and in no place did the emperor deem himſelf leſs free and ſecure than in his native country and his capital. In his firſt viſit to England he was ſtopped at Dover, and checked by a ſevere reprimand for preſuming, without leave, to enter an independent kingdom. After ſome delay, he was permitted to proceed, and after a reception of cold civility, thankfully departed with a preſent of 700 marks. From the avarice of Rome he could only obtain the proclamation of a cruſade, and a treaſure of indulgences. By various humiliating and ruinous expedients, he at length returned to Romania, with an army of 30,000 ſoldiers, and obtained ſome partial and temporary ſucceſs. But his poverty and weakneſs admitted of no effectual relief; and by the ſale of ſacred relics, ſuch as the crown of thorns which had been placed on the head of Chriſt, a portion of the true croſs, the baby-linen of the ſon of God, the lance, the ſponge, and the chains of his paſſion, the rod of Moſes, and part of the ſcull of John the Baptiſt, he could only raiſe a treaſure of very limited extent, and of ſhort duration. His kingdom was ſoon reduced to the limits of Conſtantinople: and in 1261, this city was taken from him by Michael Palæologus. Baldwin, with ſome of the principal families, embarked on board the Venetian gallies, and ſteered firſt for the iſle of Eubœa, and afterwards for Italy, where the royal fugitive was entertained by the pope and Sicilian king with a mixture of contempt and pity. Having conſumed thirteen years in ſoliciting the Catholic powers to join in his reſtoration, without ſucceſs, he died in 1273, and his ſon Philip became the heir of an ideal empire; and by Catherine, the daughter of Philip, it was transferred, in conſequence of her marriage, to Charles of Valois, the brother of Philip the fair, king of France. Gibbon's Hiſt. vol. xi. 273—287.

Baldwin, archbiſhop of Canterbury, was born of obſcure parents at Exeter, where he received the rudiments of a claſſical education, and taught ſchool; and afterward's he took orders, and was preferred to the archdeaconry of his native place. But changing his courſe of advancement, he aſſumed the monaſtic habit in the Ciſtercian order, and roſe through the abbacy of his monaſtery to the epiſcopal ſee of Worceſter, and from thence, in 1184, to the metropolitan ſee of Canterbury. From the monks he met with ſome obſtruction in this laſt ſtage of his preferment; and therefore, in order to counteract their intereſt and power, he formed a plan for eſtabliſhing a church and monaſtery at Hackington near Canterbury, for the reception of ſecular prieſts; but the monks, by their intereſt with the pope, diſconcerted the deſign. Under the next pope the project was reſumed, and Baldwin purchaſed a manor at Lambeth, where, upon the ſpot where the archbiſhop's palace now ſtands, he began to build his college, with the materials collected at Hackington; but he did not live to complete his deſign. In 1189, he performed the ceremony of coronation for Richard I. at Weſtminſter; and upon the tranſlation of the biſhop of Lincoln to the ſee of York, he took occaſion to eſtabliſh the pre-eminence of the archbiſhop of Canterbury, by forbidding any Engliſh biſhop to receive conſecration from any other hands than thoſe of this metropolitan. Archbiſhop Baldwin took a part in the cruſade for the recovery of the holy land, and when Richard I. conducted an army into Paleſtine, this prelate appeared in his train; and by his private contributions and pious exhortations encouraged the enthuſiaſtic adventurers to perſevere. At the ſiege of Acre or Ptolemais, or, as ſome relate, at Tyre, the biſhop was ſeized with a violent diſorder, which terminated in his death, A.D. 1191, or A.D. 1193. During his illneſs, he directed his executor, the biſhop of Saliſbury, to diſtribute, at his diſcretion, all his effects among the ſoldiers. He was diſtinguiſhed by his humanity and generoſity; but the mildneſs of his temper betrayed him into remiſſneſs in his paſtoral offices; ſo that a letter was addreſſed to him by pope Urban III. with this ſuperſcription; "Urban, biſhop, ſervant of the ſervants of God, to Baldwin, a moſt zealous monk, a fervent abbot, a lukewarm biſhop, and a negligent archbiſhop." Baldwin wrote ſeveral tracts, chiefly theological, which were collected and publiſhed by father Tiſſier, and which may be found in the fifth volume of the "Bibliotheca Ciſtercienſis." Cave, H. L. vol. ii. p. 250. Biog. Brit.

Baldwin's *Phoſphorus*, in *Medicine*, a phoſphoreſcent ſubſtance, formed by calcining the nitrat of lime in a low red heat. See Phosphorus, *Baldwin's*.

BALE, John, in Latin *Baleus*, in *Biography*, an Engliſh divine and hiſtorian, was born at Cove, near Dunwich, in Suffolk, in the year 1495. From the monaſtery of Carmelites at Norwich, where he was entered at the age of twelve years, he was ſent to Jeſus college in Cambridge. Bale, probably illuminated by lord Wentworth, and partly conceiving a diſlike to celibacy, abandoned the church of Rome in which he was educated, and became a zealous proteſtant. The acrimony and virulence with which his writings againſt popery were tinctured, expoſed him to a variety of ſevere perſecution; and after the death of lord Cromwell, whoſe protection he enjoyed in early life, he was under a neceſſity of ſeeking an aſylum in the Netherlands. Upon the acceſſion of Edward VI. he returned to England, and, diſtinguiſhed by his zeal for the reformation, he was firſt preſented to the living of Biſhop's Stoke in the county of Southampton, and afterwards obtained, by nomination from the crown, the biſhoprick of Oſſory in Ireland; and in 1553, conſecrated by the archbiſhop of Dublin. In this ſituation, by his attachment to the doctrines of the reformation, he was ſubject to conſtant terror, and his life was frequently in danger. On occaſion of one tumult, five of his domeſtics were killed in his preſence, and he eſcaped by the ſeaſonable protection of an armed force. Of his alarms and troubles in Ireland, he has given a particular account in his "Vocacyon of John Bale to the Biſhopricke of Oſſory in Irelande, his Perſecutions in the ſame, and final Deliverance;" printed in black letter, folio, 1553. In making his eſcape, after temporary concealment in Dublin, the trading veſſel in which he was conveyed away was taken by a Dutch man of war, and he was ſtripped by the captain of all his money and effects. Being driven by ſtreſs of weather on the coaſt of Cornwall, the biſhop was ſeized on ſuſpicion of treaſon, in conſequence of the accuſation of a pilot, who wiſhed to ſhare his money; and a ſimilar charge was brought againſt him at Dover, whither he was conveyed in the ſame ſhip. Being removed as a priſoner to Holland, he was under a neceſſity of purchaſing his liberty by a large ranſom; and after his liberation he removed from Holland to Baſil in Swiſſerland, and remained abroad till the end of queen Mary's reign. Upon the acceſſion of Elizabeth, he returned to England; and fearful of encountering the difficulties and hazards of his Iriſh ſee, he retired to a prebendal ſtall in the church of Canterbury, to which he was preferred in 1560; and here he died in November 1563, in the ſixty-eighth year of his age. Before his converſion from popery, Bale compoſed many ſcriptural interludes, founded upon incidents recorded in the New Teſtament; ſuch as the life of St. John the Baptiſt, Chriſt in his twelfth year, baptiſm, and temptation, the reſurrection of Lazarus, the council of the high-prieſts, Simon the leper, the Lord's ſupper, and his waſhing the feet of his diſciples, Chriſt's burial and reſurrection, the paſſion of Chriſt, &c. His comedy of the three laws of nature, Moſes, and Chriſt, printed by Nicholas Bamburgh in 1538, was ſo popular, that it was reprinted by Colwell in 1562. In his "Vocacyon to the Biſhopricke of Oſſory," he informs us, that his comedy of "John the Baptiſt," and his tragedy of "God's promiſes to men," written in 1538, and firſt printed by Charlewood in 1577, 4to., were acted by the youths upon a Sunday, at the market-croſs of Kilkenny. But the faſhion of acting myſteries ſeems to have expired with this writer. He ſays that he wrote a book of hymns, and another of jeſts and tales, and that he tranſlated the tragedy of Pammachius, probably the ſame that was acted at Chriſt's college in Cambridge in 1544, and afterwards laid before the privy council as a libel on the reformation. After he renounced popery, the productions of his pen, both in Latin and Engliſh, were very numerous. Moſt of his Engliſh writings in proſe were pointed againſt popery; and two of his pamphlets againſt the papiſts, all of whom he conſidered as monks, are intitled the "Maſs of the Gluttons," and the "Alcoran of the Prelates." Next to expoſing the impoſtures of popery, literary hiſtory was his favourite purſuit. His "Chronicle concerning ſir John Oldcaſtle," was reprinted in 1729. The only work of biſhop Bale, which has given him diſtinction among authors, is his "Scriptorum Illuſtrium Majoris Britanniæ Catalogus," or, "An account of the lives of eminent writers of Great Britain," commencing from Japhet one of the ſons of Noah, and brought down through a ſeries of 3618 years, to the year of the Chriſtian æra 1557, the period at which the author was an exile in Germany. This work is compiled from various authors, and chiefly from the labours of the eminent antiquary, John Leland. The bitterneſs of his invectives againſt popery and papiſts gave great offence to

Roman

Roman catholic writers; and he has been charged with diſingenuity and credulity by ſeveral reſpectable critics; among whom we may reckon Wharton and Nicolſon. Granger (Biog. Hiſt. vol. i. p. 139, 8vo.) allows, that the intemperate zeal of this prelate often carried him beyond the bounds of decency and candour in his accounts of the papiſts; nevertheleſs, his ſufferings may furniſh ſome apology for his acrimony, and many things which he relates, though before deſignedly concealed or ingeniouſly gloſſed over by Roman catholic writers, might probably be true. His biographical work, with conſiderable allowances for the ſtrong bias of party zeal, may be read with advantage. Baleus de Scipſo, apud Script. Wharton, Pref. to Anglia Sacra, and Hiſt. of Engliſh Poetry, vol. iii. p. 79. Nicolſon's Eng. Hiſt. Library, p. 156. Biog. Brit.

BALE, in *Commerce*, a term denoting a quantity of merchandiſe wrapped or packed up in cloth, and corded round very tight, after having been well ſecured with hay or ſtraw, to keep it from breaking, or to preſerve it from the weather. Moſt of the merchandiſe, capable of this kind of package, that is ſent to fairs, or intended for exportation, ought to be in bales; and too much care cannot be taken in packing them, to ſecure them from damage. To ſell goods in the bale is to ſell them in the lump, on ſhewing a ſpecimen, without unpacking or taking off the cordage. Thus it is the Eaſt India company ſell their bale-goods.

BALE-*Goods*, in the *Eaſt India Trade*, the bulky goods, as ſalt-petre, pepper, red-earth, tea, &c. The bale goods ſtand oppoſed to piece goods.

BALES *of Camlet*, at Smyrna, are called *tables*, on account of their flat ſquare figure.

A bale of cotton yarn is from three to four hundred weight; of raw ſilk, is from one to four hundred; of lockram or dowlas, either three, three and a half, or four pieces, &c.

BALE *of Paper*, denotes a certain number of reams packed together in a bundle.

There are bales of more and fewer reams. Thoſe ſent from Marſeilles to Conſtantinople uſually contain twelve reams. A bale or ballon of crown paper manufactured in ſome parts of Provence, conſiſts of fourteen reams, and is ſold in the Levant for Venice paper.

BALE *of Dice*, denotes a little packet or paper, containing ſome dozens of dice for playing with.

BALE, in *Geography*. See BASLE.

BALEARES INSULÆ, or *Balearic Iſlands*, in *Ancient Geography*, the name by which the two iſlands of Majorca and Minorca, and ſome others in the Mediterranean ſea, were formerly diſtinguiſhed. They derived their name from that of the inhabitants, who were denominated Baleares, as ſome have ſuppoſed from βαλλειν, to *throw*, becauſe they were excellent ſlingers. Bochart (Geog. Sacr. apud, Op. t. i. col. 634.) deduces the appellation, as well as the people, from a Punic or Phœnician origin; and he ſays, citing the authorities of Polybius, Strabo, and Stephanus, that the name is formed of the two words בעל-ירה, *bal-jareh*, denoting a *maſter of throwing*, and thus he adds, the terms חציים בעלי, *baale chitſim*, Gen. xlix. 23. ſignify *ſkilful archers*. The Greeks called theſe iſlands *Gymnaſiæ*, either as Livy or Diodorus ſuggeſt, becauſe in ſummer the inhabitants were γυμνοι, *naked*, or rather, as Heſychius obſerves, becauſe they went to battle armed only with a ſling. M. Gebelin intimates, that *Baal* ſignified among the orientals, *the ſun*, and hence it became a denomination for *elevated* objects; ſo that the *Baleares* were perſons who projected darts or ſtones from ſlings to a very great height. Whatever be the preciſe etymology of the name, the Baleares were famous for their dexterity in the uſe of the ſling; and in order to attain perfection, they accuſtomed themſelves from their infancy to this kind of exercile; inſomuch that mothers did not put bread into the hands of their children, but obliged them to beat it down from a conſiderable diſtance with their ſlings. They alſo united force with this addreſs, and the beſt tempered arms were ſcarcely proof againſt the ſtones they diſcharged. When they went to battle they carried with them three ſlings of unequal length, according to the different diſtances at which they might have occaſion to uſe them againſt the enemy. They were originally Phœnicians or Carthaginians, who poſſeſſed themſelves of, and peopled by their name from ſuch remote antiquity, that their firſt arrival is prior to every thing related of them by every hiſtorian now extant, except their peopling the iſland Ebuſus or Ereſus, now Yvica, about 160 years, as Diodorus Siculus (l. v. c. 1 & 2.) informs us, after the foundation of Carthage. This iſland, according to Vitruvius, was reckoned to belong to the Balearic iſlands. We learn from Juſtin (l. xliv.), that the firſt expedition which the Carthaginians made to Spain, was in order to aſſiſt the city of Gades (now Cadiz); and as the Carthaginian fleet, ſailing from Carthage to Gades, might eaſily take Ebuſus and the other Balearic iſlands in its way, there is great reaſon to believe, that Gades was relieved, and Ebuſus, with the other Balearic iſlands, planted or reduced much about the ſame time. The Baleares lived for a long time in the ſimplicity of uncultivated nature. Caves under the rocks, or holes dug in the earth, ſerved them for habitations. They were almoſt naked, except that during the cold of winter they covered themſelves with ſheep-ſkins. The ſoil of their country was fertile, and ſupplied them with the neceſſaries of life; but being very eager for wine, ſuch of them as had ſerved in the Carthaginian armies did not fail at their return to lay out all the money they had acquired in this article: indeed, they were not allowed to bring money into their country, as the uſe of it was prohibited in both iſlands. They ſaid, as Diodorus Siculus informs us, that Geryon's riches had of old been fatal to him, in drawing Hercules upon him as an enemy; and that, taught by this example, they had from the moſt remote antiquity always dreaded introducing among them a metal, capable of exciting the avidity of other nations, and thus dangerous to their tranquillity. They were in general a pacific people. However, ſome individuals having leagued themſelves with the pirates that infeſted the ſeas, Metellus, who was conſul of Rome about the year of the city 630. B. C. 124, projected an expedition for invading their country. In order to ſecure his ſucceſs, he is ſaid to have rendered their ſlings uſeleſs, by placing ſkins on the ſides of the decks, which deadened the blows. As ſoon as the Roman troops landed, the inhabitants fled, and diſperſed themſelves over the country, ſo that it was more difficult to find than to defeat them. Metellus, for ſecuring his conqueſt, planted two colonies, viz. Palma and Pollentia, the one at the eaſt, and the other at the weſt extremity of *Balearis major*. He obtained a triumph A. U. C. 631. B. C. 123, and aſſumed the ſurname of *Balearicus*. Flor. l. iii. c. 8. The largeſt of theſe iſlands was called *Balearis major*, now Majorca, and the leaſt *Balearis minor*, now Minorca. They were diſtant from one another, according to Pliny, thirty miles; and in the latter of the two iſlands, the moſt conſiderable towns were Mago and Jamno. Theſe were at firſt caſtles or forts; but being erected near the mouths of two convenient harbours, they became conſiderable ſea-ports, eſpecially that of Mago, now known as Port Mahon. The Baleares formed a part of the provincia Tarragonenſis, and were denominated "Fortunatæ," on account of their ſituation and [illegible]

BALEARICA Briſſ. *grus baleorica* Aldr. *Balearic crane* Ray, Willughby, Sloane, &c., in *Ornithology*, a trivial name given by theſe and ſome other ornithological writers to the *crowned heron* of Latham, and *ardea pavonia* Gmelin.

BALECHOU, John Joseph, in *Biography*, a celebrated French engraver, flouriſhed about the year 1750, and died not many years ſince at Avignon. He was perfect maſter of the graver, with which he entirely worked; and diſtinguiſhed by the clearneſs of his ſtrokes, and the depth of colour which he produced; but for want of drawing well, his prints fail in point of freedom, correctneſs, and harmony. His two large plates from Vernet, one repreſenting a "Storm," the other a "Calm," are well known, and univerſally admired. Strutt.

BALEME Port, in *Geography*, is a port of North America, two leagues diſtant from Louiſbourg, on the coaſt of the iſland of cape Breton. The rocks, which are covered by a high ſea, render it difficult of acceſs.

BALEN, Hendrick Van, in *Biography*, a painter of hiſtory and portrait, was born at Antwerp, in 1560; and after having been a diſciple of Adam Van Oort, he purſued his ſtudies at Rome. By copying the antiques, and attending to the works of eminent modern artiſts, his improvement was ſuch, that, in his return to his own country, he obtained the eſteem of the ableſt judges. He was diſtinguiſhed by a good manner of deſigning, and his works are admitted into the cabinets of the curious, among thoſe of the principal painters. He particulaly excelled in the naked, and gave to his figures ſo much truth, roundneſs, and correctneſs of outline, that few of his cotemporaries could enter into competition with him. Several of his fine portraits are at the Hague; and particularly one adorned with the figures of wiſdom and juſtice, which is very highly commended. His deſigns of the deluge, of Moſes ſtriking the rock, and the drowning of Pharaoh, are grand and noble compoſitions. His "Judgment of Paris" is alſo accounted a maſterly performance; in which the figure of Venus is ſo elegantly deſigned, ſo full of life, and ſo round, that it ſeems to ſtand forth from the ſurface. He died in 1632. Pilkington.

BALEN, Jacob Van, a painter of hiſtory, landſcapes, and boys, was born at Antwerp, in 1611, and derived from his father Hendrick Van Balen his knowledge of the art, and his fine taſte of drawing and deſign. He afterwards travelled to Rome, and other cities of Italy. His particular merit was exhibited in his figures of boys, cupids, and nymphs bathing or hunting; and he gained wealth and fame by his landſcapes and hiſtories. His pictures were well handled, his trees touched with ſpirit, and his herbage and verdure appeared natural and lively. The carnations of his figures were clear and freſh, his colouring in general was tranſparent, and the airs of his heads were in the manner of Albano. Pilkington.

BALENBERG, in *Geography*, a town of Germany, in the circle of the Lower Rhine, and territory of Mentz, two miles north-weſt of Krautheim.

BALENGER, Balengaria, in *Middle Age Writers*, a kind of veſſel of war, but what in particular ſeems not well known. Blount ſays, that by the ſtat. 28 Hen. VI. cap. 5. balenger ſeems to have been a kind of barge.

BALES, Peter, in *Biography*, an extraordinary maſter of penmanſhip and fine writing, was born in 1547, and deſerves to be recorded on account of the ſkill which he acquired in the exerciſe of his art. Anthony Wood mentions him as "a moſt dexterous perſon in his profeſſion," and as having "ſpent ſeveral years in ſciences among the Oxonians, particularly as it ſeems in Glouceſter hall; but that ſtudy which he uſed for a diverſion only, proved at length an employment of profit." Holinſhed, in his Chronicle, A. D. 1575, records his ſkill in micrography or miniature writing; and Mr. Evelyn (Numiſmata, fol. 1697, p. 268.) ſays of him, that in 1557 he wrote the lord's prayer, creed, decalogue, with two ſhort Latin prayers, his own name, motto, day of the month, year of our Lord, and of the queen's reign, to whom he preſented it at Hampton Court, all within the circle of a ſingle penny, enchaſed in a ring and border of gold, and covered with cryſtal; ſo nicely wrote as to be plainly legible, to the admiration of her majeſty, her privy-council, and ſeveral ambaſſadors, who then ſaw it." He poſſeſſed alſo an extraordinary ſkill in imitating the writing of others; and he ſeems to have been employed in this and ſimilar ways for the ſervice of the ſtate, with a view to the complete diſcovery and conviction of traitors, between the years 1586 and 1589. At this time he had reaſon to expect ſome place or preferment at court; but being diſappointed in his expectations by the death of ſecretary Walſingham, he purſued the buſineſs of a writing-maſter in the Old Bailey; and in 1590, he publiſhed his "Writing Schoolmaſter, in three Parts," containing the art of brachygraphy, or ſwift writing; the order of orthography, or true writing; and the key of calligraphy, or fair writing. In 1595, he was engaged in a trial of ſkill with another performer in the ſame way, for a golden pen of 20l. value, which he gained; and in another more general competition, he obtained the arms of calligraphy, which are *azure, a pen, or*. By various exerciſes of his pen, he recommended himſelf to ſeveral perſons of knowledge and diſtinction; and Anthony Wood ſays, that he was engaged in the treaſons of the earl of Eſſex, in 1600; but the real fact was, that Bales was innocently employed in ſerving the treacherous purpoſes of one of the earl's mercenary dependants. Towards the cloſe of life, he ſeems to have been reduced to a deſtitute and diſtreſſed condition, either by his own extravagance, or by imprudent confidence in others; and to have died about the year 1610. Biog. Brit.

BALESCOU de Thararf, or *Valeſcus of Tarenta*, a Portugueſe. It appears from his own teſtimony, that he began writing in the year 1418, after thirty-ſix years experience. His firſt publication "De Philonio," was printed at Venice, 1490; then at Lyons, in folio, in 1521; and his work, "De Morbis Curandis," edited by Guido Deſiderius, at Lyons, in 1560, in 4to. and afterwards at Frankfort 1590. A ſhort tract, "Tractatus Chirurgiæ," is printed with the Philonium. He propoſes extirpating cancers by an application, in which arſenic is an ingredient. This drug, we know, formed the baſis of a preparation of late introduced, for the ſame purpoſe, by Plunket. Our author, however, admoniſhes practitioners, that arſenic is not uſed without danger. He ſaw a perſon who died ſuddenly in the night, whoſe head had been anointed with an arſenical preparation, for the cure of tinea capitis. It appears from his works, that he was well acquainted with the doctrine of Galen, and of the Arabic writers. Haller. Bib. Chirurg.

BALESIUM, in *Ancient Geography*, a town of Italy, in Magna Græcia, in the country called Meſſapia. Pliny and Mela.

BALESOS, an iſland of the Ægean Sea, between Thrace and the iſle of Crete. Anton. Itin.

BALESSAN, in *Botany*. See Balsam.

BALESTRA, Antonio, in *Biography*, an hiſtorical painter, was born at Verona, in 1666: at the age of twenty-one, entered himſelf in the ſchool of Antonio Belucci, at Venice, and afterwards viſited Bologna and Rome, at which latter place he became the diſciple of Carlo Maratti. Having

ing made great proficiency in deſigning after the antiques, after Raphael, Correggio, Annibal Caracci, and other admired painters, he obtained the prize of merit in the academy of St. Luke, in the year 1694, when he was only twenty-eight years of age. From that time his reputation was eſtabliſhed, and his paintings were admired in every part of Europe. His ſtyle is ſweet and agreeable, not unlike that of Maratti; and men of judgment obſerved, with delight and approbation, a certain mixture in his works of the ſeveral manners of Raphael, Correggio, and Caracci. At Venice there are two capital pictures of this maſter; one repreſenting the nativity of our ſaviour, in the church of Santa Maria Mater Domini; and another, a dead Chriſt in the arms of the Virgin, in a chapel belonging to the church of St. Geminiano. We have ſome etchings by him, in a bold, maſterly ſtyle, but very ſlight. According to Pilkington, he died in 1720; but Strutt ſays, he died in 1740, at the age of 74.

BALESTRINA, in *Geography*, a town of Italy, in the ſtate of Genoa, a fief of the empire, nine miles north of Albenga.

BALET DE LA ROYNE, in *Muſic*. This dance, more ancient than any mentioned in the long article on the ſubject, in the Encycl. Meth., where it has not been honoured with notice, merited a place, as a *curioſity*, if not for its ſuperior plan and execution.

Henry III. of France having, in 1581, married his favourite minion, the duc de Joyeuſe, to mademoiſelle de Vaudemont, ſiſter to his queen Louiſe de Lorraine, almoſt ruined his kingdom in balls, maſquerades, tilts, tournaments, and every ſpecies of expenſive feſtivity which could be deviſed on the occaſion.

The queen, likewiſe, in honour of her ſiſter's nuptials, gave an entertainment at the Louvre, in which a ballet was exhibited, called "Ceres and her Nymphs," which was then a new kind of ſpectacle in France, *avec une grande muſique*, compoſed by the celebrated Claude le Jeune. The *Entrées de Balets*, in this fete, were invented by Baltazar de Beaujoyeux, the famous Piedmonteſe performer on the violin, who having publiſhed an account of his deviſes in a book which is now become extremely ſcarce, we ſhall preſent our readers with its title, and a ſketch of its contents.

"Balet comique de la Royne, faiſte aux nopces de monſieur le duc de Joyeuſe et mademoiſelle de Vaudemont ſa ſœur. Par Baltaſar de Beauxjoyeulx, valet de chambre du Roy, et de la Royne ſa mere." A Paris, 1582, 4to. The types and paper equal in beauty thoſe of Elzevir in the next century; and the muſical characters, though cut in wood, are much more clear and neat than any we ever ſaw of the kind. But as to the muſic itſelf, it is more barbarous, in point of melody, than any we have ever ſeen on paper. The counterpoint, indeed, is not incorrect; nor can the French be juſtly accuſed of ever being deficient in the mechanical rules of compoſition, ſince they were firſt eſtabliſhed; but for fancy, air, and rhythm, there is not a paſſage in this whole performance, except in a few of the dances, by which we are reminded of their exiſtence. But it ſeems as if dancing could not ſubſiſt without a marked meaſure; indeed, when poetry is ſung without meaſure, it becomes worſe than proſe. In the operas of Lulli and Rameau, the muſic of the dances was always much more pleaſing to foreigners than that which was ſung, from its being neceſſarily more marked and accented; that is, in what was danced ſome determined meaſure and movement was always perceptible. But in the vocal part of de Beaujoyeux balet, there is nothing that reſembles an air, or that ſeems to imply a ſelection of notes, or to ſuggeſt a reaſon for one ſound being higher or lower, more quick or more ſlow, than another.

But it ſhould be remembered, that the muſic of this old French ballet was not compoſed by Baltazarini, the Italian, who only acted as balet maſter on the occaſion, but by Meſſrs. de Beaulieu and Salmon, of the king's band, whom his majeſty had ordered to aſſiſt him in compoſing and preparing all that was *moſt grand* in muſic for this feſtival; "and M. Beaulieu," ſays Baltazarini, "whom all profeſſors regard as an excellent muſician, has, on this occaſion, even ſurpaſſed himſelf, aſſiſted by Maiſtre Salmon, whom M. Beaulieu and others highly eſteem in his art."

We have dwelt the longer on this performance, as it is the only French theatrical muſic extant of the time. And in comparing it with that of Lulli, it appears that he did not diſdain to comply with the national taſte, which had been long eſtabliſhed, with reſpect to meaſure and melody; he certainly added much to both, but conformed to the *genre*.

As it will be no kindneſs to curious readers to refer them to ſo ſcarce a book for examples of this muſic, we may venture to mention the Gen. Hiſt. of Muſ. vol. iii. where copious extracts from it are inſerted.

BALEY, WALTER, in *Biography*, born in the county of Dorſet, in the year 1529, received his education at Winchester, and went thence to New college, Oxford. Applying himſelf to the ſtudy of medicine, in the year 1558 he was licenſed to practiſe. About the ſame time he was made a prebendary in the cathedral church of Wells, which office he reſigned the following year. He was then appointed Queen's profeſſor of phyſic at Oxford. In the year 1563, he was created doctor in medicine (Wood's Faſti Oxon. vol. i. p. 92.), and ſoon after, phyſician to queen Elizabeth. For the remainder of his life, which was extended to the age of 63 years, he enjoyed a conſiderable ſhare of reputation and practice. Of this phyſician we have the following works, three of which were publiſhed in his lifetime. "A Diſcourſe of three kinds of pepper in common uſe," 1588, 8vo. "A brief treatiſe on the preſervation of the eye-ſight," in which he attributes great virtues to the herb eye-bright. This was re-publiſhed in 1616, and in 1622 was added to Baniſter's treatiſe of 113 diſeaſes of the eyes and eyelids, but without the name of the author. "Directions for health, natural and artificial, with medicines for all diſeaſes of the eyes," 1626, 4to. "A brief diſcourſe of certain medicinal waters in the county of Warwick, near Newnham," 1587. In the library of Robert earl of Ayleſbury was a MS. of this author, intitled "Explicatio Galeni de potu convaleſcentium, et ſenum, et præcipué de noſtræ alæ et biriæ paratione." Biograph. Mem. of Med. J. Aikin.

BALFRUSCH, in *Geography*, a town of Perſia, the capital of the province of Maſanderan, ſituate at the ſouthern extremity of the Caſpian ſea. Hither the Ruſſians and Armenians convey their merchandiſe, though the traffic is much leſs conſiderable than it was, on account of the impoſitions of the khan of Maſanderan. The chief productions are ſilk, rice, and cotton, of which articles there is a large exportation. Merchants from Kaſkin, Iſpahan, Schiras, and Koraſan reſort to Balfruſch, and bring for ſale the Perſian and Indian commodities. N. lat. 33° 40'. E. long. 50° 30'.

BALGA, a town of Pruſſia, in the province of Natangen, 25 miles ſouth-weſt of Koenigſberg.

BALGUY, JOHN, in *Biography*, an Engliſh divine, was born at Sheffield in Yorkſhire, in the year 1686. Having received inſtruction firſt from his father, who was maſter of a free grammar ſchool in that place, and after his death from his ſucceſſor Mr. Daubuz, author of an eſteemed commentary on the revelations, he was admitted in 1702, of St. John's

John's college, Cambridge. From the frivolous occupation of reading romances, in which he loſt two years of his academic education, a circumſtance which he mentions with regret, he was diverted by reading Livy, and afterwards devoted himſelf with pleaſure to ſerious ſtudies. In 1711, he took orders, and diligently diſcharged the duties of his profeſſion in the living of Lameſly and Tanfield in Durham, compoſing for ſeveral years a new diſcourſe for the pulpit every week. Balguy was an early advocate for religious liberty in the Bangorian controverſy: and in 1718, wrote a vindication of biſhop Hoadly, intitled "An Examination of certain doctrines lately taught and defended by the Rev. Mr. Stebbing;" and in the following year, "A Letter to the Rev. Dr. Sherlock," both under the fictitious name of Silvius. In 1720, he publiſhed a third tract, intitled "Silvius's defence of a dialogue between a Papiſt and a Proteſtant." In a controverſy concerning the nature and foundation of virtue, occaſioned about this time by lord Shafteſbury, who, in his "Characteriſtics" referred it to an inſtinctive ſentiment; and by Hutcheſon, who, in his "Inquiry into the Original of our Ideas of Beauty and Virtue," maintains the ſame notion; Mr. Balguy took a principal part. In 1726, he wrote, in reply to Shafteſbury, "A Letter to a Deiſt, concerning the beauty and excellence of moral virtue, and the ſupport and improvement which it receives from the Chriſtian revelation;" and in 1728, he publiſhed a tract, intitled, "The foundation of moral goodneſs, or a farther inquiry into the original of our idea of virtue;" which in the next year was followed by a ſecond part, illuſtrating the principles and reaſonings of the former, and replying to certain remarks communicated by lord Darcy to the author. (See VIRTUE.) In 1730, he publiſhed a treatiſe, under the title of "Divine Rectitude; or a brief Inquiry concerning the moral perfections of the Deity, particularly in reſpect of Creation and Providence. (See ATTRIBUTES.) This treatiſe was followed by "A Second Letter to a Deiſt," occaſioned by Tindal's "Chriſtianity as old as the Creation;" and by another tract, intitled, "The Law of Truth, or the Obligations of Reaſon eſſential to all Religion." In 1741, Mr. Balguy publiſhed an "Eſſay on Redemption," explaining the doctrine of atonement in a manner ſimilar to that afterwards adopted by Dr. Taylor of Norwich. (See ATONEMENT.) Of this treatiſe, biſhop Hoadly expreſſed his opinion, that the author had been more ſucceſsful in reſcuing Chriſtianity from ſome abſurd doctrines, long conſidered as eſſential to it, than in ſubſtituting others in their ſtead. The only additional publication of Mr. Balguy was a volume of Sermons, to which has been ſince added a poſthumous volume; the ſubjects of both are chiefly practical, and the diſcourſes have been juſtly admired as models of the plain and ſimple ſtyle of preaching. Towards the cloſe of his life, his health declined, and he found it neceſſary to withdraw from company, except ſuch as he ſelected at Harrowgate, which he frequented every ſeaſon, and where he died in 1748, in the ſixty-third year of his age. The only church preferments which Mr. Balguy enjoyed were the vicarage of North-Allerton in Yorkſhire, worth about 270l. a year, and a prebend in the church of Saliſbury, to which he was collated by biſhop Hoadly in 1728. Mr. Balguy may juſtly be reckoned among the divines and writers who rank with Clarke and Hoadly, and who aſſociated with theſe illuſtrious characters in maintaining the cauſe of rational religion and Chriſtian liberty. Candid and liberal in his own ſentiments and diſpoſition, he cultivated friendſhip with worthy perſons of all denominations; and his writings very much contributed to promote liberal diſcuſſion and rational inquiry. Biog. Brit.

BALHARY, in *Geography*, a town of Hindoſtan, in the Myſore country, ſeventy miles north-eaſt of Chitteldroog, and twenty miles north-eaſt of Raidroog. N. lat. 15° 6′. E. long. 76° 54′.

BALI, or BALLY, one of the iſles of Sunda, ſituate in the Java ſea, on the eaſt ſide of the ſtrait of Balli, which ſeparates it from Java; 25 leagues long, and 15 wide, fertile and populous. It ſeems only remarkable for furniſhing ſlaves, cotton-yarn, and pickled-pork. S. lat. 8° 30′. E. long. 115° 10′.

BALI, or BALLY, *Strait*, lies on the weſt ſide of the iſland of this name, in the Indian ocean. Its north entrance is in S. lat. 7° 54′, and the ſouth entrance in S. lat. 8° 39′. E. long. 114° 25′. It is ſometimes called the *Balambuan* channel. Through this ſtrait the European Eaſt India merchant ſhips occaſionally paſs in their return from China. It is ſometimes called *Java ſtrait*.

BALI, a province which once belonged to Abyſſinia, and the firſt taken by the Galla. It lies to the north-eaſt of Narea, and to the weſt of the kingdom of Adel, which ſeparates it from the ſea, about N. lat. 10°, and E. long. 41°.

BALICASSE, balicaſſe des Philippines, in *Ornithology*. Under this name, Buffon deſcribes the *corvus balicaſſius*, Gmel. in his Nat. Hiſt. Birds; in the Planch. Enl. it is called *choucas des Philippines*.

BALICASSIUS, a ſpecies of CORVUS, of a greeniſh black colour, with a forked tail. Gmelin. Corvus ſplendide nigro-viridans. Briſſ. Av. The beak, legs, and claws, are black.

BALIKESRI, in *Geography*, a town of European Turkey, in the province of Natolia, fifty-two miles north-eaſt of Pergamo. N. lat. 39° 45′. E. long. 27° 50′.

BALINCAILACH, a cape on the weſt coaſt of Banbecula, one of the weſtern iſlands of Scotland.

BALINE *Head* and *Cove*, lie between cape Broyle and the bay of Bulls, on the coaſt of Newfoundland. The cove is a ſmall place behind a rock, called the Whale's back, and a ſtage for fiſhing, with two or three boats.

BALIOL, or BALLIOL, JOHN, in *Biography*, king of Scotland, was deſcended from an illuſtrious family, which poſſeſſed large eſtates in Scotland and France, as well as England. He is ſuppoſed to have been born about the year 1260, or at a ſomewhat earlier period; and was a competitor with Robert Bruce for the crown of Scotland; the right of ſucceſſion to which belonged to the deſcendants of David earl of Huntingdon, third ſon of king David I. Bruce was the ſon of Iſabel, the ſecond daughter of earl David; and Baliol, the ſon of John Baliol, who founded Baliol college in Oxford, was the grandſon of Margaret, the eldeſt daughter of earl David. According to the rules of ſucceſſion which are now eſtabliſhed, the right of Baliol was preferable; and notwithſtanding Bruce's plea of being nearer in blood to earl David, Baliol's claim, as the repreſentative of his brother and grandmother, would be deemed inconteſtible. But in that age, the order of ſucceſſion was not aſcertained with the ſame preciſion; and though the prejudices of the people, and perhaps the laws of the kingdom, favoured Bruce, each of the rivals was ſupported by a powerful faction. In order to avoid the miſeries of a civil war, to which it was feared recourſe would be had for deciding a diſpute which the laws could not ſettle, king Edward of England was choſen umpire, and both parties agreed to acquieſce in his decree. Under pretence of examining the queſtion with due ſolemnity, this prince ſummoned all the Scottiſh barons to Norham, May 10th, 1291; and having gained ſome, and intimidated others, he prevailed on all who were preſent, not excepting

excepting Bruce and Baliol, the competitors, to acknowledge Scotland as a fief of the Engliſh crown, and to ſwear fealty to him as their ſovereign or liege lord. He alſo demanded poſſeſſion of the kingdom, that he might be able to deliver it to him whoſe right ſhould be preferable. This ſtrange demand obtained aſſent; and Edward finding Baliol the moſt obſequious, and the leaſt formidable of the two rivals, ſoon after gave judgment in his favour. Baliol once more profeſſed himſelf the vaſſal of England, A. D. 1292, and ſubmitted to every condition which the ſovereign whom he had now acknowledged was pleaſed to preſcribe. Edward having thus, as he conceived, eſtabliſhed his dominion, began too ſoon to aſſume the maſter: but his new vaſſals, fierce and independent, bore with impatience a yoke to which they were not accuſtomed. The paſſive ſpirit even of Baliol began to mutiny, upon which Edward forced him to reſign the crown, and openly attempted to ſeize it as fallen to himſelf by the rebellion of his vaſſal. At this critical period, ſir William Wallace, to whom his countrymen have aſcribed many fabulous acts of proweſs, ventured to take up arms in defence of the kingdom, and by his boldneſs revived the ſpirit of the nation. At laſt Robert Bruce, the grandſon of Baliol's competitor, appeared to aſſert his own rights, and to vindicate the honour of his country. The nobles, aſhamed of their former baſeneſs, and enraged at the many indignities offered to the nation, crowded to his ſtandard. In order to cruſh them at once, the Engliſh monarch entered Scotland, at the head of a mighty army; many battles were fought, but the Scots, though often vanquiſhed, were not ſubdued. The ardent zeal with which the nobles contended for the independence of the kingdom, the prudent valour of Bruce, and above all, a national enthuſiaſm inſpired by ſuch a cauſe, baffled the repeated efforts of Edward, and counterbalanced all the advantages which he derived from the number and wealth of his ſubjects. And though the war continued, with little intermiſſion, upwards of 70 years, Bruce and his poſterity kept poſſeſſion of the throne of Scotland, and ruled with an authority not inferior to that of its former monarchs. During the conteſt in favour of Bruce, John Baliol lived quietly as a private man on his own eſtates, which were very conſiderable, in France, without interfering in the affairs of Scotland. Some writers ſay, that he lived till he was blind, which, if true, muſt have been the effect of ſome diſeaſe, ſince it is certain that he died A.D. 1314, when he could not be above 55 years of age at moſt. "Thus ended," ſays ſir David Dalrymple, in his Annals of Scotland, "the ſhort and diſaſtrous reign of John Baliol; an ill-fated prince! cenſured for doing homage to Edward, never applauded for aſſerting the national independency. Yet, in his original offence, he had the example of Bruce; at his revolt, he ſaw *the royal family* combating under the banners of England. His attempt to ſhake off a foreign yoke, ſpeaks him of a high ſpirit, impatient of injuries. He erred in enterpriſing beyond his ſtrength; in the cauſe of liberty, it was a meritorious error. He confided in the valour and unanimity of his ſubjects, and in the aſſiſtance of France. The efforts of his ſubjects were languid and diſcordant; and France beheld his ruin with the indifference of an unconcerned ſpectator." Robertſon's Hiſt. of Scotland, vol. i. p. 10, &c. Biog. Brit.

BALIPATNA, or PALÆ-PATNA, in *Ancient Geography*, a maritime town of India, nearly at an equal diſtance from the gulf of Canthi-Colpus, and that of Barigazenus. The periplus of the Erythræan ſea places it to the ſouth-eaſt of Mandagora. See PATNA.

BALIPATUA, a town of India, on this ſide of the Ganges. Ptolemy.

BALIS, a town of Africa, in Libya, and in the vicinity of Cyrene, which had its name from a temple dedicated to *Baal*.

PALIS, in *Geography*, a town of Aſiatic Turkey, in Syria, on the frontiers of Diarbekir, on the weſt bank of the Euphrates, twenty leagues eaſt of Aleppo.

BALISBIGA, in *Ancient Geography*, a town of Aſia, ſituate in the mountains north of the river Arſanias, placed by Ptolemy in Armenia Major.

BALISSUS, a ſtream in the deſerts which anciently ſeparated Aſſyria from Arabia, near the place where Craſſus was defeated by the Parthians.

BALISTA, in *Artillery*. See BALLISTA.

BALISTA, in *Ancient Geography*, a mountain of Italy, in Liguria. Livy.

BALISTES, in *Ichthyology*, the name of a genus of branchioſtegous fiſhes, in the Linnæan ſyſtem. The character of the genus is, to have the head compreſſed, continued cloſe to the body; and ſometimes a ſpine between the eyes; mouth narrow; teeth in each jaw eight in number, of which the two anterior ones are longeſt, and three interior ones againſt the intervals between thoſe on the ſide; aperture of the gills narrow, above the pectoral fins; no operculum; rays of the membrane two; body compreſſed, and carinated on each ſide; ſcales joined together, coriaceous, and rough, with minute prickles. Nearly all the fiſhes of this genus are remarkable for their ſplendid colours. The ſpecies mentioned by Linnæus and Gmelin are the following: monoceros, ſcriptus β, hiſpidus, tomentoſus, papilloſus, verrucoſus, biaculeatus, aculeatus, vetula, maculatus, ringens, ſinenſis, aſſaſſi, capriſcus, forcipatus, punctatus, Kleinii, curaſſavicus, and Americanus; which ſee.

Lacepede has deſcribed twenty-four ſpecies of baliſtes, in his work on fiſhes, and which he divides into four ſections; le baliſte mamelonné, le baliſte pralin, le baliſte verdatre, le baliſte Mungo-Parck (Park); le baliſte métallique, &c. are new or intereſting ſpecies deſcribed by Lacepede, Boſc. &c. as will be noticed hereafter.

BALITO (*Guiſſo Balito*), in *Ornithology*, the name of emberiza tridactyla, or three-toed groſbeak, in Buffon's Hiſt. Birds.

BALIVIS, a name given by the people of the Philippine iſlands to a kind of duck that is ſmaller than the common wild duck of this country. The ſpecies is unknown.

BALIVO *amovendo*, in *Law*, a writ to remove a bailiff from his office, for want of ſufficient land in the bailiwick.

BALIZE, in *Geography*, a fort at the mouth of the Miſſiſippi river.

BALK, in *Agriculture*, a ridge or bank between two furrows, or pieces of arable land.

BALKS, among *Builders*, denote large pieces of timber brought from abroad in floats; or a ſort of beams imported from five to twelve inches ſquare. The greater balks are accounted timber, if above eight inches ſquare.

BALK, or *Bawk*, is alſo uſed in ſome parts of England for the ſummer-beam of a building, for the poles or rafters laid over outhouſes or barns; and among bricklayers, for the pieces of timber that are uſed in making ſcaffolds.

BALK, in *Geography*, a province of Great Bucharia, in Independent Tartary, correſponding to the ancient Bactria or Bactriana. It lies to the ſouth of the province of Samarcand, and eaſt of Proper Bucharia, and has been eſtimated at 360 miles in length, and 250 in breadth. Bentink obſerves, that though this province is the ſmalleſt of the three into which Great Bucharia was formerly divided, the other two being Samarcand and Bucharia Proper; yet, being very

fertile and well cultivated, the prince draws from it a conſiderable revenue. The country abounds with ſilk, which furniſhed the inhabitants with a valuable article of manufacture. The Uſbecks, ſubject to the khan of Balk, are the moſt civilized of all the Tartars inhabiting Great Bucharia, which circumſtance is attributed to their commerce with the Perſians. This country has been divided into ſeveral provinces, of which the moſt remarkable are Khotlan, Tokareſtan, and Badakſhan. Its chief cities are Balk, Fariyab, Talkan, Badakſhan, and Anderab. Mod. Un. Hiſt. vol. iv. p. 358.

Balk, a diſtinguiſhed city of the above-mentioned province, ſeated towards the borders of Perſia, on the river Dewaſh, which flows into the Amu from the mountains of Gaur or Paropamiſus. It was probably the ancient Bactria, which ſee. The hiſtorians of Perſia ſay that it was founded by Kaiumurath, the firſt king of Perſia, and that he gave it this name becauſe he had found his brother, whom he had loſt, on this ſpot: *balkhiden*, or *balgiden*, ſignifying, in their language, *to receive and embrace a friend*. The firſt kings of Perſia, who inhabited the province of Aderbijan in Media, conſidered this city of Bactriana as the frontier of their country. After ſevere conteſts between the oriental Turks and Perſians, the kings of Perſia of the ſecond dynaſty made this city the capital of their empire, as it ſerved to prevent the people of Turqueſtan or Tokareſtan from obtaining the paſſage of the river Oxus or Gihon. The kings of the ſucceeding dynaſties eſtabliſhed other principal cities, and Balk was merely the capital of Khoraſan, which pre-eminence belonged to it when it was taken by Ahnaf, the ſon of Alkais, the Arabian commander, under the caliphate of Othman. Under the Abaſſide caliphs, and ſucceeding ſultans, Balk was a city of peculiar diſtinction; it was called *Cubat al Iſlam*, or the *Metropolis of Muſſulmaniſm*, and extended its juriſdiction over the countries of Badakſhan, Khotlan, and Tokhareſtan. It was taken by the Moguls or Tartars, under Jenghiz Khan, in the year of the Hegira 618, A. D. 1221, and by his orders its inhabitants were removed out of the walls of the city, and cruelly maſſacred. In the year of the Hegira 771, A. D. 1369, Tamerlane compelled ſultan Huſſain, the laſt of the race of Jenghiz Khan, to ſurrender the city; and his ſucceſſors retained poſſeſſion of it till they were expelled by the Uſbecks in the fifteenth century. Between the Uſbeck Tartars and the Perſians it has been the occaſion of continual wars. The principal moſque of this city is conſtructed upon the model of that at Mecca. Herbel. Bibl. Orient. p. 167.

In the beginning of the laſt century, Balk was the moſt conſiderable of all the towns poſſeſſed by the Mahometan Tartars, as Bentink informs us, being large, handſome, and well peopled. Moſt of its buildings are of brick or ſtone; and its fortifications conſiſt of earthern bulwarks, lined on the outſide with a ſtrong wall. The khan's caſtle is a magnificent ſtructure, after the eaſtern faſhion, built wholly of marble, dug out of the neighbouring mountains. In 1739, Balk was obliged to ſubmit to the arms of Nadir Shah, or Kuli Khan; but has ſince recovered its independency. As foreigners have free liberty to trade in this city, it is the chief ſeat of the commerce between Great Bucharia and Hindoſtan. N. lat. 36° 21'. E. long. 65° 31'.

BALKAN, a bay on the eaſtern coaſt of the Caſpian ſea, in which are iſlands inhabited chiefly by pirates of the race of Turcoman Tartars. Theſe iſlands produce rice and cotton, and one of them, called Naphthonia, abounds in naphtha. The traffic, ſays Mr. Coxe (Trav. in Ruſſia, vol. iii. p. 332.) might be increaſed to the advantage of Ruſſia; as it would be far more commodious to trade with the Tartars of Khiva and Bucharia from theſe parts than from Orenburg, through the country of the warlike and independent Kirghees.

BALKAN, a mountain of European Turkey, which divides Romania from Bulgaria.

BALKEE, a town of Hindoſtan, in the country of Dowlatabad, 15 miles W.N.W. of Beder.

BALKERS, in the *Fiſhery*, perſons placed on rocks and eminences at ſea, to ſpy the herring-droves, and give notice to the fiſhermen by waving boughs, what way they go, and where they may be found. 1 Stat. Jac. I. cap. 23.

BALL, John, in *Biography*, an Engliſh divine, was born at Caſſington, near Woodſtock, in Oxfordſhire. Although educated at Oxford, he attached himſelf to the cauſe of the Puritans. Ordained by an Iriſh biſhop without ſubſcription, he ſerved a curacy of 20l. a year at Whitmore in Staffordſhire, and with this, together with the produce of a ſmall ſchool, he lived contentedly. In this obſcure and lowly condition, he diſtinguiſhed himſelf by his writings. His chief work was "A ſhort Treatiſe concerning all the principal grounds of the Chriſtian religion;" and ſo popular was this treatiſe that it paſſed through fourteen editions before the year 1632, and was tranſlated into the Turkiſh language. He alſo wrote "A Treatiſe on Faith," 4to. 1631; "A Friendly Trial of the Grounds of Separation," 4to. 1640; and ſeveral devotional pieces. Although he diſliked ceremonies, he wrote againſt thoſe who thought them a ſufficient ground of ſeparation. He died in 1640, with the character of a laborious preacher, and an ingenious writer. Biog. Brit.

Ball, in a general ſenſe, a round body, found naturally, or formed by art, of this figure.

Ball, in *Antiquity*, gives the denomination to a ſpecies of game or ſport frequent among the ancients.

The Romans had four kinds of *pilæ*, or balls: the firſt called *trigon*, or *trigonalis*, becauſe the three gameſters at it were placed in a triangle: theſe alternately caught and toſſed the ball, and he who firſt let it fall to the ground, was the loſer. The ſecond called *follis*, or *folliculus*, was made of leather, blown up like our foot-balls: the largeſt ſort of theſe were ſtruck with the arm, the ſmaller with the fiſt: the former ſeems to have been diſtinguiſhed by the appellation *paganica*, as being much uſed in country villages: the fourth was the *harpaſt*, a kind of ſmall ball, ſo called, becauſe the gameſters endeavoured to ſnatch it from each other.

Galen has an entire treatiſe on the exerciſe of the leſſer ball.

Balls, in *Architecture*, are repreſented at C, in the figure of the baſilic (ſee Basilic); and are uſed for ſupporting Attic pedeſtals.

Balls, in *Brewing*. They are either *brown* or *pale*, and uſed to fine, feed, preſerve, and colour malt-drinks, wines, and cyders. See the compoſition of them deſcribed under Brewing.

Balls, *Martial*, in *Chemiſtry*, a preparation of iron now entirely diſuſed in this form, but retained in the Materia Medica as a powder. It is the *ferrum tartarizatum*, *tartrite of iron*; or this metal united with, and partly diſſolved by, cream of tartar.

To make martial balls, take one part of filings of iron, and two parts of powdered cream of tartar; mix them well together, and put them into an earthen or iron veſſel with ſome water; ſtir the mixture from time to time, till it becomes almoſt dry; add more water, and ſtir it as before, till it acquires, when nearly dry, ſomewhat of the conſiſtence and

and tenacity of ſoftened roſin; then it is rolled into the form of a ball, generally kept tied up in a rag, and when it is uſed, infuſed into water, till it gives ſome colour to that liquid. Mac. Chem. Dict. Eng. Ed.

Balls, *Mercurial*, an amalgam of mercury and tin ſufficiently ſolid to be moulded, and to preſerve a ſolid form.

To make mercurial balls, add mercury to its weight of melted tin, and pour the fluid maſs into a round and hollow mould.

Theſe balls have been employed to purify water in which they are boiled, an opinion which is perhaps in ſome degree well-founded, ſince mercury even in imperceptible quantity is known to deſtroy animalculæ. However, the boiling alone would probably produce nearly the ſame effect, and the mercurial balls are no longer in uſe. The tin is not an uſeleſs addition, ſince beſides giving the maſs a proper conſiſtence, it aſſiſts moſt materially in the oxydation, and therefore the ſolubility, of the mercury.

Balls, in *Electricity*, are two pieces of cork, or pith of elder, nicely turned in a lathe, to the ſize of a ſmall pea, and ſuſpended by fine linen threads; intended by Mr. Canton as electrometers, and of excellent uſe to diſcover ſmall degrees of electricity, to obſerve the changes of it from poſitive to negative, and *vice verſâ*; and to eſtimate the force of a ſhock before the diſcharge, ſo that the operator ſhall always be able to tell very nearly before the diſcharge, by knowing how high he has charged his jars, what the exploſion will be.

Balls, *Cryſtalline*, in *Natural Hiſtory*. There are two ſorts of foſſile bodies mentioned in authors by this name, and diſtinguiſhed into the echinated and concave. The firſt are roundiſh nodules of ſtrong matter, covered over with points of cryſtal; and the other, flints and other ſtones, having cavities in their middles, which are lined, or cruſted over with theſe cryſtals.

Ball, *Vegetable*, a very particular kind of plant of a deep green colour, of an irregularly ſpherical ſhape, hollow within, and of different ſizes, from an inch and a half to three inches in diameter. It probably belongs to the Conferva genus, in the claſs of moſſes; though Mr. Ray has ranged a ſimilar plant under the genus of Alcyonium. (See Coral.) Phil. Tranſ. vol. xlvii. art. 83. an. 1752.

Ball, *Puff*. See Lycoperdon.

Ball, *Hero's*, *Pila Heronis*, in *Hydraulics*, is a kind of artificial fountain, wherein the water is made to ſpout from a hollow ball or globe.

It takes the denomination from the inventor, Hero of Alexandria, who has left the deſcription of it in his Spiritalia. See Fountain.

Balls *of Fire* in the air, in *Meteorology*, are meteors ſometimes ſeen paſſing over countries, and computed by philoſophers to be at a very conſiderable height in the atmoſphere. They ſometimes burſt at that height; and though the air muſt be exceeding rare there, yet the exploſion is heard at that diſtance, and for ſeventy miles round on the ſurface of the earth, &c. Does not this look as if a rare atmoſphere, almoſt a *vacuum*, was no bad conductor of ſound? Dr. Franklin's Works, p. 437.

Among the phenomena of the atmoſphere, the large meteors called fire-balls, and *bolides*, have in modern times excited particular attention. Mr. C. F. Fulda has collected a variety of obſervations reſpecting theſe phenomena, in a paper read to the Phyſical Society of Gottingen, Dec. 7, 1796, and publiſhed in profeſſor Gmelin's "Gottingiſches Journal der Naturwiſſenſchafften, vol. i. part 2. Theſe meteors, he obſerves, appear in every climate in ſouthern and northern latitude, as well as under the equator. They are alſo ſeen at every ſeaſon of the year, and at every [illegible] the day, and for the moſt part when the ſky is ſerene, ſome of them proceeding from ſmall clouds, which has given occaſion for ſuppoſing that they exiſted at a greater height than theſe clouds; and they have been obſerved to move with different degrees of rapidity, ſome proceeding at about 1530 feet in a ſecond or even with a ſlower motion, and others moving at the rate of [illegible] light makes in the ſame time, or with a velocity greater by 3½ miles in a ſecond than that of the earth in its orbit. They proceed from, as well as towards, all points of the compaſs: however, moſt of them have appeared in the northern or ſouthern parts of the horizon; and yet no general concluſion, in regard of their connection with the northern or ſouthern lights, can be deduced from this circumſtance, though ſome obſervations made in Sweden ſeem to favour ſuch an hypotheſis. They do not always move according to the direction of the winds nor is their velocity proportioned to that of the wind. When, indeed, they have appeared, it has generally been calm; but ſome of them have been ſucceeded by even a violent wind. They almoſt all deſcend towards the earth, and from a rarer to a denſer atmoſphere, as may be inferred from their ſoon becoming conſiderably enlarged. Some, however, have proceeded in an horizontal direction over the ſurface of the earth, but none of them appear to move upwards. Their form is ſometimes perfectly globular, and ſometimes more ſpindle-ſhaped, ſo that their length has occupied ſeven or eight degrees of the heavens. When they move with a great velocity, they have been followed by a long tail, which has been aſcribed to the continuance of the impreſſion made on the eye. Others, that have moved ſlowly, appeared as if the tail, or part of it, belonged to the body itſelf; and it ſhould ſeem that the long train, which marks their courſe, ought often to be accounted for by traces left behind them rather than by mere impreſſion. Their apparent magnitude has been very different; but frequently larger than that of the moon. Few of them have had an apparent motion round their axes. Moſt of them diffuſed a very lively dazzling light; but the ſmaller number have exhibited a faint light; their colour and ſplendor have been very different and variable, ſometimes red, ſometimes blue, ſometimes violet, ſometimes in part yellow or dazzling white, and ſometimes exhibiting the priſmatic colours. Some have been ſeen to burn with a bright flame, and others as if in a ſtate of ignition. Their real diameter, aſcertained by actual meaſurement or by conjecture, has been always very conſiderable. The diameter of that concerning which ſir John Pringle made calculations from various obſervations which he collected (Phil. Tranſ. vol. LI. pt. 1. p. 218.), and that of the meteor ſeen by Mr. Rittenhouſe at Philadelphia, in October 1779 (Americ. Tranſ. vol. ii. p. 175.), were at moſt about half a German mile. Theſe meteors ſeem to originate at a very different, but moſt of them at a very conſiderable, height above the ſurface of the earth. All of them, whoſe mean or greateſt height has been the ſubject of calculation, were elevated above the highest clouds, as clouds are ſcarcely perceptible at the height of 13,500 toiſes; and Saberſchlag found the greateſt height of the fire-ball, which appeared in July 1762, to be 72,276 toiſes. On this account their origin, as Reimarus and Chladni have ſuppoſed, is not to be aſcribed merely to electricity; but others have conſidered them as produced by the action of the electric fluid between the clouds and the northern lights; and this hypotheſis ſufficiently correſponds to their actual height, becauſe by the meaſurement

of Bergman, Kaſtner, and Lambert, the northern lights have an altitude of more than 20 or 30 German miles, and according to every appearance, no fire balls have been ſeen higher. (See Aurora Borealis.) On the other hand, this general concluſion led Halley, Franklin, and Rittenhouſe, to adopt the notion ingeniouſly defended by Chladni, that theſe phenomena, as well as ſhooting ſtars, are coſmical meteors belonging to the atmoſphere of the ſun, which, meeting our earth in its courſe round that luminary, are inflamed, by ſome cauſe or other, when they enter the earth's atmoſphere. The time of their duration has been very different; ſome of them having continued half an hour, and others not longer than half a minute. Many of them in their courſe have thrown out ſparks, and moſt of them have been ſeen to ſeparate into ſeveral larger and ſmaller parts before they entirely diſappeared. From this diviſion it has been inferred, that theſe phenomena cannot be accounted for by the hypotheſis of a tract of inflammable air ſet on fire; to which hypotheſis Chladni has objected on other grounds. This ſeparation has been accompanied with a rumbling noiſe like thunder, or a ſudden report. Several, after burſting, ſeemed to diſſolve into ſmoke; but moſt of them, after exploding, have left behind them no viſible traces. In ſome caſes, after their diſappearance, a ſulphureous ſmell has been perceived, which led Muſchenbroeck to form his hypotheſis of an accumulation of ſulphureous inflammable vapours that ariſe from volcanoes and ſubterranean pits, which, being driven together by the winds, form clouds that are by ſome accident or other ſet on fire; but this hypotheſis cannot be reconciled with their prodigious height any more than that of Silberſchlag's oily and ſlimy vapours. As ſcoriaceous maſſes have frequently been either actually ſeen to fall at the time of the diſappearance of theſe phenomena, or have been ſoon after found on the ſurface of the earth; and as it has been ſufficiently proved by various accounts, that ſtones have fallen from the atmoſphere, Dr. Chladni concludes, that both theſe phenomena are connected; but this point can be determined only by future accurate obſervations.

This ingenious profeſſor of Wittenberg, in his "Obſervations on a Maſs of Iron found in Siberia by Profeſſor Pallas, &c." has inveſtigated the origin of fire-balls in general. This maſs, deſcribed by Pallas in his "Travels," vol. iii. p. 311. was found between Kraſnojarſk and Abekanſk, in the high ſlate mountains, open and uncovered. It weighed 1600 pounds; reſembled in figure a rough granite; was covered externally with a ferruginous kind of cruſt; and within conſiſted of malleable iron, brittle when heated, porous like a large ſea ſponge, and having its interſtices filled with a brittle hard vitrified ſubſtance of an amber yellow colour. This texture and the vitrified ſubſtance appeared uniformly throughout the whole maſs, and without any traces of flag or artificial fire. This maſs, which the Tartars conſider as a ſacred relic dropped from heaven, Chladni refers to the ſame origin, and ſuppoſes to be of the ſame nature with the bolides, or fire-balls. From a variety of obſervations relating to theſe phenomena, he endeavours to prove that they do not ariſe from an accumulation of the matter of the aurora borealis; a tranſition of electricity from one part of the atmoſphere to another; an accumulation of porous inflammable ſubſtances in the higher regions; or the catching fire of a long train of inflammable air; but that their component parts muſt be conſiderably denſe and heavy, as their courſe ſhews in ſo apparent a manner the effects of gravity; and becauſe their maſs, though it diſtends to a monſtrous ſize, retains ſufficient conſiſtency and weight to continue an exceedingly rapid movement through a very large ſpace, without being decompoſed or diſſolved, notwithſtanding the reſiſtance of the atmoſphere. It ſeems to him probable, that this ſubſtance is by the effect of fire reduced to a tough fluid condition; becauſe its form appears ſometimes round and ſometimes elongated, and as its extending till it burſts, as well as the burſting itſelf, allows us to ſuppoſe a previous capability of extenſion by elaſtic fluidity. At any rate, it appears to be certain, that ſuch denſe matter at ſo great a height is not collected from particles to be found in our atmoſphere, or can be thrown together into large maſſes by any power with which we are acquainted; that no power with which we are acquainted is able to give to ſuch bodies ſo rapid a projectile force in a direction almoſt parallel to the horizon; that the matter does not riſe upwards from the earth, but exiſts previouſly in the celeſtial regions, and muſt have been conveyed thence to our earth. In the opinion of Dr. Chladni, the following is the only theory of this phenomenon that agrees with all the accounts hitherto given; which is not contrary to nature in any other reſpect; and which beſides ſeems to be confirmed by various maſſes found on the ſpot where they fell.

As earthy, metallic and other particles form the principal component parts of our planets, among which iron is the prevailing part, other planetary bodies may therefore conſiſt of ſimilar, or perhaps the ſame component parts, though combined and modified in a very different manner. There may alſo be denſe matters accumulated in ſmaller maſſes without being in immediate connection with the larger planetary bodies, diſperſed through infinite ſpace, and which, being impelled either by ſome projecting power or attraction, continue to move until they approach the earth or ſome other body; when being overcome by their attractive force, they immediately fall down. By their exceedingly great velocity, ſtill increaſed by the attraction of the earth, and the violent friction in the atmoſphere, a ſtrong electricity and heat muſt neceſſarily be excited, by which means they are reduced to a flaming and melted condition, and great quantities of vapour and different kinds of gaſes are thus diſengaged, which diſtend the liquid maſs to a monſtrous ſize, till by a ſtill farther expanſion of theſe elaſtic fluids, they muſt at length burſt. Dr. Chladni thinks alſo, that the greater part of the ſhooting ſtars, as they are called, are nothing elſe than fire-balls, which differ from the latter only in this, that their peculiarly great velocity carries them paſt the earth at a greater diſtance, ſo that they are not ſo ſtrongly attracted by it as to fall down, and therefore in their paſſage through the high regions of the atmoſphere, occaſion only a tranſient electric flaſh, or actually take fire for a moment, and are again ſpeedily extinguiſhed, when they get to ſuch a diſtance from the earth that the air becomes too much rarefied for the exiſtence of fire. The profeſſor illuſtrates and vindicates this theory, romantic, as he allows, ſome may be diſpoſed to denominate it, by a variety of reflections; and in ſome ſubſequent publications, he has endeavoured to confirm it by adducing a great number of other phenomena of a ſimilar kind. He concludes the whole elaborate detail with obſerving, that the accounts of ſcoriaceous maſſes, which contained iron, earth, ſulphur, &c. having fallen from the heavens, with violent exploſions, are not fictions, but true relations of real natural phenomena actually obſerved at various times; and that fire-balls, and the falling of ſuch maſſes, are the ſame meteor. "Reſpecting the queſtion," he ſays, "whence fire balls and ſuch fallen maſſes proceed, opinions are very different. Moſt people believe that they are owing to accumulations in the atmo-

atmoſphere. But even when it is allowed that a great many foreign ſubſtances are diſſolved in the atmoſphere, the quantity of them, eſpecially in regions at the diſtance of eighty miles or more, from which ſuch fire-balls are ſeen to fall in the form of a luminous point, is too ſmall to admit of our ſuppoſing ſuch large maſſes to be formed of it. Should the ſolid particles, which may perhaps be diſſolved in the atmoſphere, precipitate themſelves, it would be rather in the form of a fine powder. I conſider it, therefore, with Anaxagoras, Maſkelyne, Halley, &c. as more probable that theſe maſſes come to our regions from the common expanſe of the univerſe; and that, beſides planetary bodies, there are ſmaller accumulations of matter, which when they approach too near our earth muſt fall down. That material bodies actually exiſt in the remoteſt regions, is ſhewn both by the ſingle and accumulated luminous ſparks which Dr. Schröter ſaw paſs over the field of his teleſcope; as alſo by the ſhooting ſtars which paſs by our earth, probably at a greater diſtance and with greater velocity than to allow their being attracted by it, and made to fall to its ſurface; and to which fire-balls, on their firſt appearance, when they ſeem to approach like a luminous point, have a perfect reſemblance. There are many reaſons for inducing us to believe that ſhooting ſtars cannot be mere electric phenomena, without the preſence of ſome coarſer ſubſtances.

The paradoxicalneſs of this mode of explanation, which is contrary to no known obſervations of nature, is rather apparent than real, and conſiſts only in this, that people have not been accuſtomed to it; or that, on account of the rarity of theſe phenomena, many facts of this kind have been denied, or have eſcaped notice. For this reaſon, after I had written the Treatiſe on the Maſs of Iron diſcovered by Profeſſor Pallas, I heſitated whether I ſhould publiſh it, becauſe I expected that it would meet with conſiderable oppoſition. The more I endeavoured however to compare, without partiality for any ſyſtem, the obſervations already made, which correſpond ſo much with each other, the more I found that theſe phenomena could not be properly explained in any other manner, without either contradicting obſervations already made, or well-known laws of nature: ſo that I ſee no grounds for retracting any thing I have advanced on this ſubject." See *Height of the* ATMOSPHERE, and METEOR.

BALL, in the *Military* and *Pyrotechnical Arts*, is a compoſition of divers ingredients, generally of the combuſtible kinds, ſerving to burn and deſtroy, give light, ſmoke, ſtench, or the like.

In this ſenſe we read of fire-balls, light-balls, ſmoke-balls, ſtink-balls, ſky-balls, water-balls, land-balls, &c.

Balls are likewiſe uſed for all ſorts of fire-arms; thoſe for cannon are made of iron, and are diſtinguiſhed by their reſpective calibres; and thoſe for muſkets, &c. of lead.

BALLS, *Fire*, are bags of canvas filled with gunpowder, ſulphur, ſaltpetre, pitch, &c. to be thrown by the ſoldiers, or out of mortars, in order to fire houſes, incommode trenches, advanced poſts, or the like.

The Greeks had divers kinds of fire-balls made of wood, ſometimes a foot, or even a cubit long; their heads being armed with ſpikes of iron, beneath which were hemp, pitch, and other combuſtibles, which being ſet on fire, were caſt among the enemy.

The preparations of fire-balls, among the moderns, conſiſts of ſeveral operations, viz. making the bag, preparing the compoſition, tying, and, laſtly, dipping the ball.

The bags for this purpoſe are either oval or round.

The compoſition wherewith fire-balls are filled is various. To ten pounds of meal gunpowder, add [illegible] one of ſulphur, and one of colophony: or, [illegible] of gunpowder, add four of ſaltpetre, four of [illegible] of powdered glaſs, half a pound of antimony, as [illegible] phor, an ounce of ſal ammoniac, and four of [illegible], all pulverized. Sometimes they even fill fire-balls with hand granadoes. For tying the fire-balls, they prepare two iron rings, one fitted round the aperture, where the ball is to be lighted, the other near its baſe. A cord is tied to theſe rings in ſuch manner as that the ſeveral turns repreſent ſemicircles, or meridians of the ſphere, cutting the globe through the poles: over the cords, extended according to the length of the ball, others are tied, cutting the former at right angles, and parallel to each other, making a knot at each interſection. Laſtly, putting in a leaden bullet, the reſt of the ſpace is filled with tow or paper. Thus completed, the fire-ball remains to be dipped in a compoſition of melted pitch, colophony, and linſeed oil, or oil of turpentine; after dipping, they cover it round with tow, and dip again, till it be brought to the juſt diameter required.

BALLS, *Land*, thoſe which, being thrown out of a mortar, fall to the ground, burn, and burſt there. The ingredients are much the ſame as in the water-balls, only the ſpecific gravity is not attended to.

BALLS, *Light*, are ſuch as diffuſe an intenſe light around: or they are balls which, being caſt out of a mortar, or the hand, burn for ſome time, and illuminate the adjacent parts.

Thoſe for the hand are made of ground powder, ſaltpetre, brimſtone, camphor, and borax, all ſprinkled with oil, and moulded into a maſs with ſuet, common and Greek pitch, to the ſize of an ordinary granado: this is wrapped up in tow, with a ſheet of ſtrong paper over it. To fire it, a hole is made into it with a bodkin, into which is put ſome priming that will burn ſlowly. Its uſe is, to caſt into any works that are to be diſcovered in the night time.

For the larger light-balls, or thoſe to be thrown to a greater diſtance, they are prepared by melting equal quantities of ſulphur, turpentine, and pitch; and by dipping in this compoſition an earthen or ſtone ball, of a diameter much leſs than that of the mortar out of which the fire-ball is to be caſt; then rolling it in gun-powder, and covering it round with gauze, the dipping is repeated till it comes to fit the cavity of the mortar; laſtly, it is ſprinkled around with gun-powder. This being once kindled, will ſtrongly illuminate all round the place where it is thrown, and give opportunity for examining the ſtate and condition thereof.

BALLS, *Sky*, thoſe caſt on high out of mortars, and which, when arrived at their height, burſt like rockets, and afford a ſpectacle of decoration. Sky-balls are made of a wooden ſhell, filled with various compoſitions, particularly that of the ſtars of rockets.

Theſe are ſometimes intermixed with crackers and other combuſtibles, making rains of fire, &c.

BALLS, *Smoke*, or *Dark*, thoſe which fill the air with ſmoke, and thus darken a place, to prevent diſcoveries. To prepare a darkening ball, make an oval or ſpherical bag; melt roſin over the coals, and add an equal part of ſaltpetre not purified, alſo of ſulphur, and a fifth part of charcoal. The whole being well incorporated, put in tow firſt ſhred, and fill the bag with this compoſition, and dip it after the ſame manner as a fire-ball.

BALLS, *Stink*, thoſe which yield a great ſtink where fired to annoy the enemy.

Their preparation is thus: melt ten pounds of pitch, ſix of

of roſin, twenty of ſaltpetre, eight of gun-powder, and four of colophony; to theſe add two of charcoal, ſix of horſe-hoofs cut ſmall, three of aſſa-fœtida, one of ſtinking ſaracen, and any other offenſive ingredients. Then proceed as in making ſmoke and fire-balls.

Balls, *Water*, thoſe which ſwim and burn a conſiderable time in the water, and at length burſt therein.

Theſe are made in a wooden ſhell, the cavity of which is filled with a compoſition of refined ſaltpetre, ſulphur, ſawduſt boiled in water of ſaltpetre, and dried; to which ſometimes other ingredients are added, as iron-filings, Greek pitch, amber-duſt, glaſs powdered, and camphor. The ingredients are to be ground and mixt up, and moiſtened with linſeed-oil, nut-oil, olive-oil, hempſeed-oil, or petrol. At the bottom is placed an iron coffin, filled with whole gun-powder that the ball may at laſt burſt with a great noiſe; and laſtly, the ball is, by the addition of lead, or otherwiſe, made of the ſame ſpecific gravity with water.

Balls, *Anchor*, are made in the ſame manner as light balls, and filled with the ſame compoſition; and, beſides, they have an iron bar two-thirds of the ball's diameter in length, and three or four inches ſquare. One half is fixed within the ball, and the other half remains without; and the exterior end is made to grapple with a hook. Theſe are uſeful for firing wooden bridges or buildings, the rigging of ſhips, &c.; as the pile end being the heavieſt, flies foremoſt, and wherever it touches, faſtens, and ſets fire to all about it.

Balls, *Chain*. See Chain-balls.

Balls, *Stang*. See Stang-balls.

Ball, in *Mineralogy*, is alſo uſed in Cornwall, &c. for a tin-mine.

In this ſenſe Godolphin's ball is ſaid to be the moſt famous of all the balls or mines in Cornwall, for quantity of metal. Phil. Tranſ. N° 138. p. 951.

Ball-*Vein*, a name given by the miners in Suſſex to a ſort of iron ore, common there, and wrought to conſiderable advantage. It yields not any great quantity of metal, but what it has runs freely in the fire; it is uſually found in looſe maſſes, not in form of ſtrata, and is often covered with one or more cruſts. It generally contains ſome ſparkling particles, and is uſually of a circular form in the perfect maſſes; thickeſt in the middle, and gradually thinner as it approaches the ſides. The ores of Suſſex in general are poor, but they require very little trouble in the working, ſo that a conſiderable profit is annually made from them

Ball *of a Pendulum*, the weight at the bottom. In ſhorter pendulums, this is called the *bob*.

Ball, among *Printers*, a kind of wooden tunnel ſtuffed with wool, contained in a cover of ſheep's ſkin, which is nailed to the wood; with which the ink is applied on the forms, to be wrought off.

The preſſman holding one of theſe balls in either hand, firſt daubs them on the ink-block, then working them on each other, he applies them afterwards on the forms, which retain the ink neceſſary to make an impreſſion.

Balls *for Horſes*, in *Veterinary Science*, maſſes made into this form which is the moſt uſual and moſt convenient mode of adminiſtering medicine to theſe animals.

Being mixed with ſome viſcid ſubſtance, the propoſed medicine is formed into maſſes of an oblong or oval form, which are conveyed by the hand or otherwiſe to the root of the tongue, from whence they readily paſs to the ſtomach.

This mode of adminiſtering medicines to horſes is of great antiquity. Theſe balls were termed by the Romans *offa*; by the Greeks, προχισκος. They, however, generally preferred giving their remedies as a potion or drink. The kinds of balls will neceſſarily be as various as the nature of the medicine which is adminiſtered; as purging balls, cordial balls, diuretic, diaphoretic, febrifuge, worm-balls, cough-balls, alterative balls, &c. Any tenacious ſubſtance not poſſeſſing active properties, will ſerve for the admixture of them, as paſte made of boiled flour, or boiled linſeed meal; theſe particularly ſerve for balls that are to be immediately given, and not kept for any length of time, as they are apt to grow hard and dry, and ſometimes mouldy. To prevent this, they may be immerſed in melted wax, which will effectually coat them over and preſerve them, and this was a mode alſo well known to the ancients. Honey, treacle, turpentine, and tar, are not ſubject to the above objection, and are all uſed by different perſons for this purpoſe. The two laſt, however, cannot be ſuppoſed devoid of effect as a medicine; and therefore ſhould not be employed, unleſs when they co-operate with, or do not deſtroy, the effect of the medicine preſcribed.

Soft ſoap is alſo an adheſive particularly uſeful in the admixture of diuretic and purging balls for horſes, as not drying nor being particularly expenſive. Aloes, almoſt the only purgative at preſent known for horſes, operates better when united with this ſubſtance than in any other way that we have tried. Calomel alſo operates as a purgative on horſes. For the particular method of preparing them, ſee Pharmacopœia *Equina*.

Theſe balls ſhould not be made too large, or be ſuffered to get too hard; in either caſe, by lodging in the œſophagus, they may prove fatal.

It may not be unneceſſary alſo to obſerve, that for the eaſy adminiſtration of them the following circumſtances ſhould be obſerved. The tongue ſhould be drawn from the mouth with the left hand over the grinder teeth, the right hand holding the ball between the thumb and firſt finger, the ball ſhould then ſuddenly and at once be thruſt into the throat by gliding the hand along the roof of the mouth; when this is done ſlowly, the tongue riſes, oppoſes the hand, and renders it difficult. An iron ring with a handle is ſometimes uſed to diſtend their jaws; but in this country theſe balls are generally given without.

When the jaw is very narrow ſo as not conveniently to admit the hand, the ball is placed on the end of a pointed ſtick, or it might be placed looſely in a cup or ſocket at the end of a ſmall cane or whalebone, and be thus very conveniently given.

Balls, in *Zoology*, various ſubſtances under this form found in the ſtomach and inteſtines of ſeveral animals; they occur moſt frequently in thoſe quadrupeds which lick the ſurface of their bodies, in which caſe they are compoſed of the hair that has been removed by the tongue; the hair, partly by the operation of licking, and ſtill more by the motion of the ſtomach, becomes mixt and interwoven in ſuch a manner, that it reſembles the texture of a hat, and when moulded into a round figure, receives a ſmooth, ſhining coat, or calculous incruſtation. Theſe are the ſort of balls uſually met with in the cow, ſheep, and goat kind, eſpecially the chamois. Every indigeſtible ſubſtance that is ſwallowed is liable, however, to give origin to theſe balls, or to form a nucleus for calculous concretion; hence we meet with them compoſed of the reedy fibres of vegetables, huſks of ſeeds, feathers, and different animal and vegetable exuviæ. When ſuch ſubſtances as ſtones of fruit, nuts, or inorganic ſubſtances, as pebbles, coins, &c. are long detained, and have been covered with a deep incruſtation, they conſtitute the bezoardic ſtones. See Bezoar. See alſo Ægagropila.

Accord-

According to authors, the human ſubject is liable to the formation of balls in the inteſtines, in conſequence of indigeſtible matters not being regularly expelled. Thus caſes have been related of death enſuing from accumulations of gooſeberry ſeeds, which had been rolled into a ſolid ball in the ſtomach; and ſir Hans Sloane gives the hiſtory of a ball found in the inteſtines of a man, much afflicted with the colic, ſix inches in circumference, of a ſpongy ſubſtance, and which, when viewed with a microſcope, appeared made up of ſmall tranſparent hairs or fibres, wrought together like the *tophus bovinus*; in the middle was a common plumb ſtone, which made, as it were, the core or nucleus upon which the fibrous matter had collected, ſtratum ſuper ſtratum. Phil. Tranſ. N° 309. p. 2387. Sloane, in Phil. Tranſ. N° 252. p. 1283.

Balls *of Silk-worms and Spiders*, are little caſes or coats woven of ſilk, wherein thoſe inſects depoſit their eggs. See Silk.

Spiders are extremely tender of their balls, which they carry about with them, adhering to the papillæ about their anus. Grew ſpeaks of balls or bags of a ſpecies of ſilk-worms in Virginia, as big as hen's eggs, and containing each four *aureliæ*. Phil. Tranſ. N° 362. p. 1037.

Ball *of the Foot of a Dog*, is the prominent part of the middle of the foot, called by Latin writers of the middle age, *pelota*, which is to be taken away in expeditation. Du-Cange Gloſſ. Lat.

Balls, *Billiard*, are ivory balls uſed in the game of billiards. Moxon deſcribes the method of turning hollow ivory balls one within another. Mechan. Exerc. p. 219.

Ball, *Tennis*, is a little globe, made and covered with cloth or leather, uſed in playing at the game of tennis.

Ball is alſo uſed, in a well-known ſenſe, for an aſſembly of both ſexes, who dance to the ſound of inſtruments.

Balls, *Glaſs*. See Glass-*Balls*.

Ball-*Soap*. See Soap.

Ball *and Socket*, a machine contrived to give an inſtrument full play and motion every way. It conſiſts of a ball or ſphere of braſs, fitted within a concave ſemi-globe, ſo as to be moveable every way, horizontally, vertically, and obliquely. It is carried by an endleſs ſcrew, and is principally uſed for the managing of ſurveying inſtruments; to which it is a very neceſſary appendage.

The ancient balls and ſockets had two concaves, or channels, the one for the horizontal, the other for the vertical direction.

Balls, *Wool*. See Wool.

Ball's *Pyramid*, in *Geography*, a rock in the great Southern Pacific ocean. S. lat 31° 30′. E. long. 159° 8′.

BALLABUAN, *Straits of*. See Bali.

BALLAD, or Ballet, a popular ſong containing the recital of ſome action, adventure, or intrigue.

The French confine their ballads to ſtricter terms. A ballad, according to Richelet, is a ſong conſiſting of three ſtrophes, or ſtanzas, of eight verſes each, beſides a half ſtrophe; the whole in rhime, of two, three, or four verſes, with a burden repeated at the end of each ſtrophe, as well as of the half ſtrophe.

In the old Engliſh verſion of the Bible, the book of Canticles is intitled the *ballad* of *ballads*, which has given ſcandal to ſome Romiſh writers as countenancing the opinion of thoſe who hold that book a ballad of love, or a recital of the amours between Solomon and his concubine, as Caſtalio and ſome others have conceived it to be.

Some have ſuggeſted that a collection of ballads is neceſſary to a miniſter, in order to learn the temper and inclinations of a people, which are here frequently uttered with great ſimplicity. The great Cecil, chief miniſter to queen Elizabeth, is ſaid to have made a moſt ample collection of ballads on this account.

A very ingenious political writer, Mr. Fletcher of Saltoun, ſays, that if he could but make the ballads of a nation, he would care very little who made the *religion* of it. There is a very curious collection of old Engliſh and Scottiſh ballads, publiſhed in 3 vols. 8vo. by Dr. Percy; in which, and in a diſſertation prefixed to Aikin's Collection of Songs, &c. the curious in this way may find abundance of entertainment and information concerning the old ballads, and ballad-makers.

Ballad, a mean and trifling ſong, generally, ſuch as is ſung in the ſtreets. In the new French Encyclopedie we are told, that we dance and ſing our ballads at the ſame time, as the French do their *vaudevilles*. We have often heard ballads ſung, and ſeen country-dances danced; but never at the ſame time, if there was a fiddle to be had. The movement of our country-dances is too rapid for the utterance of words; though the term ballad, we have no doubt, was derived from the Italian *ballata*, a ſong to be ſung and danced at the ſame time, as it is defined in the Cruſca Dictionary: *canzone, che ſi canta ballando. Ballatella*, and *Ballatetta*, are diminutives of the ſame word: *piccola canzonetta a ballo*. The Engliſh ballad has long been dedetached from dancing, and, ſince the old tranſlation of the Bible, been confined to a lower order of ſong. In Shakeſpeare's time this ſpecies of vulgar and popular poetry was wholly degraded and turned into the ſtreets:

"An I have not ballads made on you all, and ſung to filthy tunes, may a cup of ſack be my poiſon." Hen. IV.

BALLADUK, in *Geography*, a town of Arabia Deſerta, 140 miles E. N. E. of Damaſcus.

BALLA-GAUT, denoting the *higher* or *upper Gauts*, an elevated tract of the peninſula of India, being the weſtern part of the Carnatic, or of that part of the peninſula that lies ſouth of the Gondegama and Toombuddra (or Tungebadra) rivers, from the coaſt of Coromandel eaſtward to the Gaut mountains weſtward, and containing the diſtricts which lately compoſed the country of Tippoo. The other or eaſtern part, which is the Carnatic according to its preſent definition, is denominated *Payen-Gaut*, or the lower Gauts. (See Balagat.) The *Balla-Gaut* mountains denote that elevated tract, acroſs which goods were formerly conveyed from Tagara, or the modern Dowlatabad, to Barcaur. See Aſiatic Reſearches, vol. i. p. 369, &c. 8vo.

BALLAGHAN *Point*, a cape on the eaſt coaſt of Ireland, in the county of Louth, at the ſouth-weſt entrance of Carlingford bay; eleven miles ſouth-eaſt of Newry. N. lat. 53° 58′. W. long. 6° 4′.

BALLANTRE, or Ballantrae, a ſea-port town or rather populous village of Scotland, on the weſt coaſt of the county of Ayr, in that ſubdiviſion called Carrick, on the frith of Clyde, containing about eighty houſes, and 300 inhabitants. They have a good ſalmon fiſhery at the mouth of a ſmall river called Ardſtinchar which joins the frith near the town; but the principal fiſhery of this diſtrict is that of haddocks, whitings, cod, ling, ſkate, &c.: twenty-eight miles S. S. W of Ayr.

BALLARD, *Cape*, lies on the eaſt coaſt of Newfoundland, four leagues N. N. E. from cape Race, and four miles from Freſh-water bay. N. lat. 46° 49′. W. long. 52° 40′.

Ballard's *Point*, a cape on the weſt coaſt of Ireland, in the county of Clare. N. lat. 52° 42′. W. long. 9° 32′.

BALLARINA, in *Ornithology*, a name under which Olina deſcribes the white-wagtail, motacilla alba.

BALLAS, a town of Egypt, ten miles ſouth of Dendera.

BALLAST, in *Navigation*, any heavy matter uſed to ſink a veſſel to its proper depth in water, or to give it a juſt weight and counterpoiſe, and enable it to bear ſail upright, without overturning.

The word comes from the Flemiſh *belaſt*, formed of *be*, and *laſt* or *laſt*. The French call it ſimply *laſt*. In the Mediterranean, *quartelage*. In Latin writers of the lower age it is denominated *laſtagium*.

The ordinary ballaſt is ſand or ſtones, ſtowed in the bottom, or hold, next the falſe keel of a veſſel: ſometimes, iron, lead, corn, or other heavy goods, ſerve for ballaſt.—Ships are ſaid to be in ballaſt, when they have no other loading.

That ballaſt is beſt which is heavieſt, lies cloſeſt and faſteſt, and drieſt, both for the ſhip, bearing a ſail, ſtowing of goods, health of the company, and ſaving of caſks and other goods. If a ſhip have too much ballaſt, ſhe will draw too much water; if too little, ſhe will bear no ſail. The ballaſt is ſometimes one-half, ſometimes a third, and ſometimes a fourth part of the burden of a veſſel. But there is often great difference in the proportion of ballaſt required to prepare ſhips of equal burden for a voyage; the quantity being always greater or leſs, according to the ſharpneſs or flatneſs of the ſhip's bottom, which ſeamen call the *floor*.

Although ſhips in general will not carry a ſufficient quantity of ſail till they are laden ſo deep that the ſurface of the water will nearly glance on the extreme breadth amidſhip, yet a great weight of heavy ballaſt, as iron, lead, &c. in the bottom, will place the centre of gravity too low in the hold; and in this caſe, though they may be able to carry a great ſail, they will move heavily, and hazard being diſmaſted by their violent rolling. The art of properly ballaſting a ſhip is that of diſpoſing the materials of which it conſiſts, &c. ſo that it may be duly poiſed, and maintain a juſt equilibrium on the water, and be neither too *ſtiff* nor too *crank*. In the firſt caſe, though the ſhip may be able to carry a great ſail, yet its velocity will not be proportionably increaſed, whilſt her maſts are more endangered by her ſudden jerks and exceſſive labouring; and in the laſt caſe ſhe will be incapable of carrying ſail, without the danger of overſetting. Stiffneſs in ballaſting is occaſioned by laying a great quantity of heavy ballaſt, as lead, iron, &c. in the bottom, which of courſe will place the centre of gravity very near the keel; and crankneſs is occaſioned by having too little ballaſt, or by diſpoſing the ſhip's lading in ſuch a manner as to raiſe the centre of gravity too high.

As the tendency of a ſhip to pitch or roll depends, not only on her form, but alſo in a greater degree upon the due diſtribution of the heavieſt part of her cargo, the knowledge of properly ballaſting a ſhip, as well as of ſtowing her cargo, is of great importance to the mariner. Particular attention ſhould be paid to moderate her pitching, as this moſt fatigues a ſhip and her maſts; and it is uſually in one of theſe motions that maſts break, particularly when the head riſes after having pitched. Rolling, indeed, is a more conſiderable movement than pitching; but it is ſlow, and ſeldom attended with any accident. However, it ſhould be prevented as much as poſſible; and this may be eaſily done in general, without any detriment to the ſhip's ſtiff carrying of ſail, by ſtowing up the ballaſt, when it is iron, to the floor-heads; becauſe the ſhip will be reſtored by it with leſs violence after ſhe has inclined, and it will act on a point at a little diſtance from the centre of gravity.

For the farther illuſtration of this important ſubject, let it be premiſed, that various methods have been recommended for finding the following points of a ſhip; viz. its centre of gravity, centre of cavity, centre of motion, and metacentre. (See theſe articles.) Some of theſe points are fixed; others are variable. When a ſhip is completely loaded, the centre of gravity is fixed, howſoever the veſſel may alter her poſition. The centre of motion is always in a line with the water's edge, when the centre of gravity is even with or below the ſurface of the water; but, whenever the centre of gravity is above the water's ſurface, the centre of gravity is then the centre of motion. In circular bodies the centre of motion will be the centre of the circle. The centre of cavity varies with every inclination of the ſhip, becauſe that depends upon the ſhape of the body immerſed. The metacentre, called the ſhifting centre, depends upon the ſituation of the centre of cavity; for it is that point where a vertical line drawn from the centre of cavity cuts a line paſſing through the centre of gravity and perpendicular to the keel. The centre of gravity muſt not by any means be placed above this point; becauſe, if that were the caſe, the veſſel would overſet.

Let the ſegment of a circle 1 2 3 (*fig.* 14. *Plate* II. MECHANICS), repreſent the tranſverſe ſection of a veſſel's bottom; W L the ſurface of the water; M the metacentre as well as the centre of motion, becauſe this is a circle; C the centre of cavity; G the centre of gravity; and the line 2 4 the vertical axis of the veſſel which may be turned round the point M, as on a fulcrum, ſupported by the centre of cavity. By thus ſimply conſidering the veſſel as a lever in the direction of her vertical axis playing round her centre of motion, it is plain, that if the centre of gravity was placed above the point M, being the metacentre too, the veſſel would upſet; therefore that the ſhip may have ſtability, the centre of gravity muſt be below this point: and it may be obſerved, that the farther G is removed from the metacentre, the greater muſt be its force, as the gravity then acts with a greater length of lever, conſidering the fulcrum of that lever to be at the centre of motion; or, if the weight at G be augmented, it will likewiſe increaſe the force; therefore the force of G may be expreſſed, by multiplying the balance of weight beneath the centre of motion, by the diſtance of the centre of gravity from the centre of motion.

The centres of cavity and motion (in circular bodies) will ever be in a line perpendicular to the horizon, but the centre of gravity may be either on one ſide or the other of this line. When ſuch a body is at reſt, the centre of gravity will be in this line; but if in motion it will be diverted from it. Thus the points M and C, will always be perpendicular to W L; but the point G, by the body's rolling, may be on either ſide; for inſtance at *g*. While G is perpendicularly beneath the centre of motion, its action can only tend to *preſerve* this circular body in her erect poſition; but if it is removed to either ſide as to *g*, its action is to *return* it to the erect poſition; and this action increaſes as the diſtance G *g*, which is the ſine of the angle of roll *g* M G, the diſtance M G being conſidered as the radius. Thus, to gain the force of gravity with any roll as *g* M G, let the balance of weight beneath the centre of motion be multiplied by the ſine of the angle of roll G *g*.

But the tendency to roll may be alſo diminiſhed by the ſhape of the hull: for, let us ſuppoſe that the tranſverſe ſection be allowed more beam, and increaſed by the dotted lines. Now when this veſſel is rolled over, it is plain that the cavity will be augmented towards the ſide L, of courſe

its

its centre muſt remove towards L, ſay to *c*; and, if from *c* be erected a perpendicular to the horizon, it will cut the vertical axis at *n*, which will, in this caſe, be the metacentre, above which, if the centre of gravity were placed, it would act in conjunction with the centre of cavity to overſet the veſſel: but, as the centre of gravity is here below it at *g*, her ſtability will be increaſed by the increaſed diſtance of G from *n*, the metacentre; and the veſſel will roll round the point M as her centre of motion.

When ſailing in ſmooth water, the greater the ſtability the better; but if a veſſel with a heavy cargo, ſtowed low in her bottom, be ſent out into a rough tempeſtuous ſea, where every wave will throw her from her equilibrium, ſhe will return with ſuch violence as to endanger her maſts; and ſhould ſhe be diſmaſted, her roll will then be with ſtill greater force, poſſibly to the deſtruction of her hull. Was the cargo in this labourſome veſſel to be removed higher up towards the centre of motion, ſo as to leſſen her ſtability, ſhe would be found conſiderably eaſier; her roll would be by ſuch deliberate motions, as to leſſen the danger to her maſts and hull.

The ballaſt is placed round and very near the centre of gravity of the ſhip, becauſe it will prevent the motion of the pitching being ſo hard as it would be, if that weight were diſtant either afore or abaft that point. Whenever the ſea runs a little high, the ſhip is never carried by a ſingle wave; there are generally two or three always paſſing under at the ſame time, unleſs when the ſea is extremely long, the ſwells coming from a great diſtance, and in latitudes very remote from land; for, then, it happens that the largeſt ſhips are ſometimes carried by one ſingle wave. But, in either circumſtance, the ballaſt ought not to be ſtretched afore or abaft the centre of gravity, as ſoon as the ſhip is in the parallel to her draught of water marked for the ballaſt, which it is abſolutely eſſential to pay attention to. To prove this principle, ſuppoſe in either caſe a long or ſhort ſurge, and that the water ſtrikes the ſhip forward, that thereby ſhe may be expoſed to the greateſt and hardeſt pitching; for when the wave takes a ſhip under the ſtern, her motions, if ſhe has got a little head-way, are not dangerous; becauſe, as ſhe flies before the wave, ſhe recedes in ſome meaſure from its impulſe; while, in the firſt caſe, ſhe increaſes on the contrary that ſame impulſe in the ratio of the ſquare of all her velocity.

Firſt, the ſhip whoſe extremities are light or little loaded, being ſuppoſed to run with any velocity whatever againſt the wave which comes to her a-head, ſhocks that wave with a force expreſſed by the ſquare of the ſum of the two velocities; ſhe divides it and goes through it, at the ſame inſtant that ſhe is raiſed by the vertical impulſe of that column of water, which oppoſes to her a ſupporting power too conſiderable for her weight to diſplace; the wave which follows produces the ſame effect in receiving the fall of the ſhip, becauſe the firſt is already under the middle of the ſhip, whence it paſſes to the ſtern, which is ſupported by it, while the ſecond takes its place in the middle, and the third is come to ſupport the head; and this is an uninterrupted ſucceſſion. This motion continuing thus as long as the ſea is agitated, it follows that the ſhip is never at reſt; no ſooner has ſhe been raiſed by a wave, but ſhe falls again when that wave is gone, which falling is proportionably leſs ſharp as her head is leſs heavy; the ſhake is then leſs violent, ſince ſhe ſhocks the water with a leſs maſs, which prevents her pitching ſo deep as ſhe would do, if ſhe were more heavy; conſequently, the maſting does not ſuffer, and the head-way is leſs delayed, as the fulleſt part of the bows is not ſo much expoſed to the ſhock of the water.

Secondly, when the ſhip is overtaken by a large wave, her fall is ſtill leſs ſharp, if little loaded a-head, than when ſhe is carried only by [illegible] more eaſily at the moment [illegible] the ſhake is not ſo violent. Was ſhe to plunge deeper into the fluid, it might happen that the column of water would become higher than her head, and, paſſing partly over it, would expoſe her to the danger of foundering.

In the ſtowing of the cargo, it is proper to place the heavieſt part of the ſtowage as low as poſſible, taking care to preſerve that draught of the ſhip which is moſt advantageous for her, whether ſhe be in ballaſt or when laden. Thoſe points are marked both at the head and ſtern: in a word, the great art of ſtowing lies, in endeavouring that each of the vertical parts, in which the extremities of a ſhip may be ſuppoſed to be equally divided, be lighter, when her lading his complete, than the weight of the maſs of water they are to diſplace; obſerving always, that the vertical parts of the middle admit of being loaded more heavily than the weight of water they are able to diſplace.

In the royal navy, the iron ballaſt is firſt ſtowed fore and aft, from bulkhead to bulkhead in the main hold, next to fir cants nailed on the limber-ſtrakes on each ſide the kelſon, five or more inches clear of the limber-boards; and is winged up three or more pigs above the floor-heads in the midſhips, or bearing part of the ſhip, and there are two tiers of pigs in the wake of the main hatchway and well-wings. Ships, built with a very clean run aft, ſeldom have any iron ballaſt ſtowed abaft the pump-well or after-hold. Ships that have floor and futtock riders, have the iron ballaſt ſtowed either lengthways or athwart ſhips, agreeably to the length of the chambers, which are the clear ſpaces between the riders.

The ſhingle ballaſt is next ſpread and levelled over the iron ballaſt; on which is ſtowed the ground tier of water, bung up and bilge free from the ſides, either chine and chine, or bouge and chine, beginning at the coal-room bulkhead, that being the foremoſt, and making the breakage, if any, at the main hatch. The midſhip tiers, fore and aft, are the firſt laid down, and the caſks are ſunk about one quarter of their diameter into the ſhingle; the ſides are filled-in with wingers of ſmall caſks, as half-hogſheads, gang caſks, or breakers; obſerving not to raiſe the wingers above the level of the tier, to cauſe a breakage in the next tier above, which is ſtowed in the cuntline of the ground tier, bung up and bilge free; and ſo on, for as many tiers as can be ſtowed ſufficiently clear of the beams.

In the after hold, between the aft-ſide of the pump-well and fiſh-room bulkhead, are ſtowed the proviſions above the ground tier; between the caſks, billet, or other wood, and ſhingle ballaſt.

In the fiſh-room are ſtowed ſome of the ſpirits, or wine, and ſometimes coals; and in the ſpirit room, are ſtowed the wine and ſpirits for the ſhip's uſe.

In the merchant ſervice, the ſtowage conſiſts, beſides the ballaſt, of caſks, caſes, bales, boxes, &c. which are all carefully wedged off from the bottom, ſides, pump well, &c. and great attention paid that the moſt weighty materials are ſtowed neareſt to the centre of gravity, or bearing of the ſhip; and higher or lower in the hold agreeably to the form of the veſſel. A full low-built veſſel requires them to be ſtowed high up, that the centre of gravity may be raiſed, to keep her from rolling away her maſts, and from being too ſtiff and labourſome; as, on the contrary, a narrow high-built veſſel requires the moſt weighty materials to be ſtowed low down, neareſt the kelſon, that the centre of gravity may be kept low, to enable her to carry ſail, and to prevent her overſetting.

Ballaſt allowed to the following Ships.

Guns.	Tonnage.	Iron Tons.	Shingle Tons.	Guns.	Tonnage.	Iron Tons.	Shingle Tons
110	2290	180	370	36	870	65	160
100	2090	180	370	32	700	65	140
98	2110	160	350	28	600	60	100
90	1870	160	350	24	500	50	80
80	1620	140	300	22	450	50	70
74	1700	80	270	20	400	50	60
64	1370	70	260	Sloop	300	50	40
50	1100	65	170	Brig	160	30	15
44	930	65	160	Cutter		20	Seldom
38	930	70	170	Sloop		15	any.

By the 19th Geo. II. it is enacted, that if after June 1, 1746, any maſter or owner, or any perſon acting as maſter of any ſhip or other veſſel whatſoever, ſhall caſt, throw out, or unlade, or if there ſhall be thrown out, &c. of any veſſel, being within any haven, port, road, channel, or navigable river within England, any ballaſt, rubbiſh, gravel, earth, ſtone, wreck, or filth, but only upon the land, where the tide or water never flows or runs; any one or more juſtices for the county or place where or near which the offence ſhall be committed, upon the information thereof, ſhall ſummon or iſſue his warrant for bringing the maſter or owner of the veſſel, or other perſon acting as ſuch, before him; and upon appearance or default, ſhall proceed to examine the matter of and upon proof made thereof, either by confeſſion of the party, or on view of the juſtice, or upon the oath of one or more creditable witneſſes, he ſhall convict the ſaid maſter, &c. and fine him at his diſcretion for every ſuch offence any ſum not exceeding 5l. nor under 50s. &c.; and for want of ſufficient diſtreſs, the juſtice is to commit the maſter, or perſon acting as ſuch, and convicted as aforeſaid, to the common gaol or houſe of correction, for the ſpace of two months, or until payment of the penalties.

Beſides the above general act relating to ballaſt, there are the 6 Geo. II. c. 29. and the 32 Geo. II. which regulate the ballaſting of merchant veſſels in the river Thames, placing it under the direction of the corporation of Trinity-houſe. Elements and Practice of Rigging and Seamanſhip, vol. ii. p. 283, &c.

Ballast, *to trench the*, denotes, to divide the ballaſt into two ſeveral parts or more, in the ſhip's hold, commonly done to find a leak in the bottom of a ſhip, or to undock her.

Ballast, *the, ſhoots*, that is, runs over from the one ſide to the other. Hence it is that corn, and all kinds of grain, is dangerous lading, for that is apt to ſhoot. To prevent which, they make *poucles*, that is, bulk-heads of boards, to keep it up faſt, that it may not run from ſide to ſide, as the ſhip heels upon a tack.

BALLASTAGE. See Lastage.

BALLATOONS, large, heavy luggage-boats, carrying goods by the river from Aſtracan and the Caſpian ſea to Moſcow. Theſe will carry from a hundred to two hundred ton; and have from a hundred to a hundred and ten, or twenty men employed to row, and tow them along.

BALLENDEN, or Bellenden, *ſir John*, in *Biography*, an elegant Scots writer of the ſixteenth century, deſcended of an ancient and honourable family in Scotland, was probably born and educated in France. Having in his youth ſerved in the court, and, as ſome writers ſuggeſt, having been employed in the education of James V., he was diſtinguiſhed by the favour and patronage of that prince, and obtained extraordinary preferment in the church, as well as the office of clerk of accounts, occupied by his father Mr. Thomas Ballenden of Auchinoul, in 1541. The work by which he gained the higheſt reputation, was his tranſlation of Hector Boethius out of Latin into the Scots tongue, performed by the command of his royal maſter, intitled, "The Hiſtory and Chronicles of Scotland, &c.," and publiſhed in folio at Edinburgh, A. D. 1536. This verſion, in which the tranſlator took the liberty of augmenting and amending the original as he thought proper, was well received both in Scotland and England, and ſoon became the ſtandard of that hiſtory. In the ſucceeding reign, he was one of the lords of ſeſſion; and being a zealous Romaniſt, he aſſiduouſly laboured, in conjunction with Dr. Laing, to hinder the progreſs of the reformation. His zeal involved him in diſputes, which obliged him to quit Scotland, and remove to Rome, where, it is ſaid, he died A.D. 1550. He was a man of great parts, and one of the fineſt poets of which his country could boaſt. His works, that are ſtill extant, are diſtinguiſhed by that noble enthuſiaſm which is the ſoul of poetry. His poem, intitled "Vertue and Vyce," was addreſſed to the monarch of the Scots, James V.; and his other pieces, both printed and in MS. are now buried in oblivion. In Carmichael's collection of Scottiſh poems, there are ſome of this author on various ſubjects. Biog. Brit.

Ballenden *Point*, in *Geography*, a projecting point in the bottom of Donegal bay, on the north-weſt coaſt of Ireland, ſouth-weſt by ſouth ½ ſouth. 8 miles from Eniſmurry iſland.

BALLENESS Islands, are four ſmall iſlands on the ſouth of Troy iſland, off the N.W. point of Ireland, called Beg, Doway, Boſin, and Maghere Welley. Between Troy iſland and Balleneſs, there is a good road and ſafe anchorage from a ſoutherly or eaſterly wind.

BALLENTAY Port, is about 2½ leagues eaſt from Skerries iſland, or port Ruſch, upon the main, on the north coaſt of Ireland; ſouth and ſomewhat weſt from Rathlin iſland, and Dummer's rocks.

BALLEROY, a town of France, in the department of the Calvados, and chief place of a canton in the diſtrict of Bayeux, ſix leagues ſouth of Caen, and 2¾ S.S.W. of Bayeux.

BALLERUS, in *Ichthyology*, the name under which the Gmelinian *cyprinus latus* is noticed by Jonſt. and other old authors.

Ballerus, a ſpecies of Cyprinus, with forty rays in the anal fin. Linnæus Fn. Suec. This fiſh inhabits the lakes in ſome parts of Europe, and near the Caſpian ſea. The head is ſmall, obtuſe, and brown in the front; checks and gill-covers alternately blue, yellow, or red; eyes large; iris yellow, with two black ſpots; jaws equal, lower one curved; back carinated; lateral line ſtraight, variegated with brown dots; edges of the fins blue; dorſal fin placed farther back from the head than the pectoral one; anal fin very broad; tail lunated. Weight in general about a pound; depoſits an immenſe number of eggs in April; grows ſlowly, is thin, and covered with minute lax ſcales; the colour above is blackiſh-blue, yellowiſh on the ſides, ſilvery below, and reddiſh on the belly; fleſh not very good. Bloch obſerves that the number of rays in the anal fin amount to one more than Linnæus mentions, and characteriſes the ſpecies as having forty-one rays in the anal fin; cyprinus pinna ani radiis 41. Bloch.

BALLET, or Balet, Balletto, a kind of dramatic poem, repreſenting ſome fabulous action or ſubject, divided into

into ſeveral entries; in which ſeveral perſons appear, and recite things under the name of ſome deity, or other illuſtrious character.

Ballet, from *βαλλειν, to caſt*, is more particularly uſed for a ſtage dance. Rouſſeau defines this word a theatrical action, repreſented by dancing, guided by muſic. The term is derived from the old French word *baller*, to dance, ſing, divert one's ſelf. The muſic of a *ballet* ought to be ſtill more cadenced and accented than mere vocal melody; as it is the buſineſs of muſic to ſuggeſt to the dancer that animation and expreſſion which the ſinger acquires from the words; and it is likewiſe her buſineſs to ſupply, in the language of the ſoul and the paſſions, all that the dancer cannot preſent to the eyes of the ſpectator.

Ballet is likewiſe the name given in France to a whimſical kind of opera, where dancing is hardly more in place than in the others, or productive of better effects. In moſt of theſe *ballets*, the ſeveral acts ſeem ſo many different ſubjects, connected together only by ſome general relation foreign to the action, which the ſpectator would not diſcover, if the author did not make it known in the prologue.

Theſe *ballets* contain other little *ballets*, which are called feſtivals or entertainments; they are likewiſe called ſuits or ſeries of dances, which ſucceed each other without ſubject or connection with the principal action, and where the principal dancers tell you nothing but that they dance well. This arrangement, by no means theatrical, may do very well at a private ball, where each individual has fulfilled his object ſufficiently, when he has amuſed himſelf, and where the intereſt which the ſpectator takes in this individual, diſpenſes with his giving him any other gratification. But this defect in the ſubject and connection, ought never to be ſuffered on a public ſtage, not even in the repreſentation of a ball, where the whole ought to be combined by a ſecret action, which keeps up the attention and intereſts the ſpectator. In general, every dance which repreſents nothing but itſelf, and every *ballet* which is only a ball, ſhould be baniſhed from the theatre. Indeed every action on the ſtage is the repreſentation of another action, and what we ſee there is only the image of what we ſuppoſe there; ſo that it ought not to be merely this or that dancer who preſents himſelf to your obſervation, but the perſon whoſe character he has aſſumed. Thus, though the private dance can repreſent nothing but itſelf, the theatrical dance ought neceſſarily to be the repreſentation of ſomething elſe, in the ſame manner as the ſinger repreſents a perſon that is ſpeaking, and the decoration other places than thoſe which he occupies.

The worſt *ballets* are thoſe which are founded on allegorical ſubjects, and which repreſent nothing but an imitation of an imitation. The whole art of this kind of dramas conſiſts in the perſonifying intellectual images, and in making the ſpectator ſee what he diſbelieves; as if, inſtead of attaching him to the ſtage, it were meritorious to carry him from it. Beſides, this ſpecies of repreſentation requires ſo much ſubtilty in the dialogue, that the compoſer of the muſic finds himſelf loſt in the land of points, alluſions, and epigrams, while the ſpectator does not forget himſelf a moment. When the words of an opera ſpeak ſenſe, the muſic will learn to ſpeak it likewiſe.

Theſe reflections of Rouſſeau, according to M. Framery, are now uſeleſs, as this kind of ſpectacle no longer exiſts. But as we wiſh to record the productions of each art, Rouſſeau's account of the ballets of his time will be hiſtorical of what they were at the period when he wrote, that is about fifty years ago; and we think what Jean Jaques ſays of allegorical ballets, would ſuit the mythological nearly as well.

Ballet is one of the longeſt and moſt elaborate articles of the new French Encyclopedie. When M. Framery ſeems to have exhauſted the ſubject, it is reſumed by his colleague in the muſical department, M. Guinguené, who has ſtill found much to ſay on the ſubject. *Ballet*, ſays he, is a term that includes three [illegible] on the Lyric ſtage. In the firſt, the dance conſtitutes only a ſubordinate part of the action; [illegible] is the principal part; poetry and vocal muſic then becoming acceſſories in their turn; and, laſtly, in the third, the whole buſineſs is performed in dancing; and [illegible] action in which the performers neither ſpeak nor ſing, but dance. The firſt kind is ſimply called a *ballet*; the ſecond a *ballet-opera*, or opera *ballet*; and [illegible] logous to the drama: the third is called a pantomime *ballet*.

"To treat this ſubject in its full extent (ſays M. Guinguené) would require a volume." And [illegible] has already been written on the ſubject, by the celebrated Noverre, intitled "Lettres ſur la Danſe," 1760. In 1754, M. Cahuſac had publiſhed a [illegible] "Sur la Danſe ancienne et moderne," an hiſtorical treatiſe. But father Meneſtiere's treatiſe, "Des *Ballets* anc. et mod. ſelon la rigle du Theatre," 1682, is perhaps the moſt curious of them all, in the hiſtorical part.

Muſic is ſo inſeparable from the dance, that the word *ballet* may be regarded as a muſical term. The muſic to opera dances uſed to be furniſhed by the compoſer of the airs and recitatives. Haſſe, Jomelli, and Gluck, diſtinguiſhed themſelves as much by the muſic of their [illegible] as by the opera itſelf; as did our countryman Dr. Arne, by the dances in Comus. Of late years, it has been generally aſſigned to the principal ſecond violin to compoſe the muſic and head the band, in the dances between the acts [illegible] Noſeri, and Le Brun the hautboy player, performed this office during many ſeaſons; and their buſineſs was executed for a conſiderable time to the ſatisfaction of the public and the performers, by the late Sig. Poſſi. The airs of many *ballets* were uſually brought from France, particularly thoſe of Rameau; but Teller, a German, about twenty years ago, acquired great reputation by the muſic of his chaconnes and *ballets heroiques*. See Dance, and Pantomime.

Ballet, in Engliſh *Poems*, &c. See Ballad.

BALLEXFORD, James, in *Biography*, born at Geneva, in October 1726, became a diſtinguiſhed [illegible] of medicine in that city, where he lived much eſteemed, to the year 1774, and publiſhed the following: "Diſſertation ſur l'Education Phyſique des Enfans," Paris, 1762, 8vo. "Diſſertation ſur les cauſes principales de la mort d'un auſſi grand nombre d'Enfans, &c." Geneva, 1775, 8vo. Eloy Dict. Hiſtor.

BALLEZE, Ballize, or Wallis, in *Geography*, a river in the peninſula of Yucatan, New Spain, runs northeaſterly above 200 miles, and diſcharges itſelf into the bay of Honduras, oppoſite to the north end of Turneff iſland. By the treaty of peace in 1783, it is agreed that Britiſh ſubjects ſhall have the right of cutting and carrying away logwood in the diſtrict lying between this river and that of Rio Honde on the north, which falls into Hanover bay. The unalterable boundaries are the courſe of the rivers.

BALLIACE, in *Ancient Geography*, a town of Illyria, in the vicinity of Apollonia. Strabo.

BALLIAGE, a ſmall duty paid to the city of London, by aliens, and even denizens, for certain commodities exported by them; which they claim by their charter, dated the 5th of September, in the ſixteenth of Charles II. confirmed by the twentieth rule of the Book of Rates and by 2 W. & M. cap. 8.

BALLIANI, John Baptist, in *Biography*, a ſenator of Geneva, was born in 1586, and diſtinguiſhed himſelf among natural philoſophers by a Latin treatiſe, "On the natural motion of heavy bodies," firſt printed in 1638, and republiſhed in 1646, with many valuable additions. Having paſſed with honour through many public offices, he died in 1666.

BALLIBAY, in *Geography*,, a market and poſt town of the county of Monaghan, province of Ulſter, Ireland, ſituated 53 miles north by weſt of Dublin. This town was in a wretched ſtate; but of late years, ſince the eſtabliſhment of its linen market, it is greatly improved, and ſeveral new houſes have been built. There is a market-houſe, and a market on Saturdays, at which webs are purchaſed to the amount of 1500l. weekly. In the neighbourhood of the town are the extenſive bleach-greens and mills of Crieve, at which 50,000 webs are bleached. Turf is ſo abundant, that it is ſold in the town of Ballibay at 6½d for a horſeload. A diſtrict called the Cahills, in this neighbourhood, is remarkable for producing a heavy crop of flax, equal to twenty-eight ſtone of ſcutched flax to the quarter of an acre, and from one buſhel of ſeed ſowed; this is an immenſe produce, but the quality is proportionably coarſe. Sir Charles Coote's Statiſtical Account of Monaghan.

BALLIBOY, a ſmall poſt and fair town of the King's county, province of Leinſter, Ireland, ſituated on the Silver river, and giving name to one of the baronies in that county; which, from the average rent, ſtated by Mr. Young, and compared with that of the other baronies, ſeems to contain the worſt ground in it. Diſtance from Dublin 56 Iriſh miles. N. Lat. 53° 8′ W. Long. 7° 39′ Young's Tour.

BALLIELLA, or Balliela *Point*, the ſouth-eaſt point of Galway bay, on the weſt coaſt of Ireland, eleven leagues north-eaſt by eaſt from Loup's head.

BALLIMONEY, a poſt and market-town of the county of Antrim in Ireland, not far from Coleraine, and 107¼ Iriſh miles from Dublin. It is a pretty large town, and has a good market, eſpecially for linens, ⅞ths wide, called Coleraines. Between it and Ballymena is much grazing land, from which Belfaſt is in great meaſure ſupplied with proviſions for exportation. N. lat. 55° 4′. W. long. 6° 23′.

BALLIMORE, a ſmall poſt town, or rather village, of the county of Weſtmeath, in Ireland, ſeated on the weſt ſide of Lough Seudy. It was a ſtrong garriſon of the Engliſh forces towards the latter end of the war of 1641, being conveniently ſituated between Mullingar and Athlone, and deriving great advantage from the lake. The name of this place implies the *great town*, and it may probably have declined conſiderably in importance; but the idea of a great town, when this name was given, muſt have been very different from that now entertained. Diſtance from Dublin 50 Iriſh miles. N. lat. 53° 26′. W. long. 7° 33′. Collect. Hibern. Beaufort's Map, &c.

Ballimore *Euſtace*, a ſmall town, in a detached part of the county of Dublin, in Ireland, pleaſantly ſituated on the Liffey, over which it has a handſome bridge; it has decayed on account of the great ſouthern road from Dublin having been turned ſo as to paſs through Kilcullen. Near this town is Ruſsborough, the ſeat of lord Milltown, univerſally eſteemed one of the moſt ſuperb in Ireland, and containing a valuable collection of paintings by ſeveral eminent maſters. There is alſo a great natural curioſity in the neighbourhood, the water-fall of Poll-a-phuca, or the dæmon's hole, formed by a river which riſes in the county of Wicklow, and here falls into the Liffey. Lord Milltown, the proprietor, has ſpared no pains to aſſiſt the natural beauties of the ſpot, having planted its fine hanging banks, and built ſeveral cottages and grottoes for the reception and accommodation of the numerous parties that reſort to it. Diſtance from Dublin 17½ miles. N. lat. 53° 7′. W. long. 6° 73′. Wilſon's Book of Roads. Dodd's Traveller's Director, 1801.

BALLIMOTE, a village in the county of Sligo, Ireland, which deſerves to be mentioned, on account of the flouriſhing aſpect which the linen buſineſs wears in its neighbourhood. The great exertions of the late Mr. Fitzmaurice, brother of the preſent marquis of Landſdowne, firſt eſtabliſhed this manufacture, which has ſpread throughout all the adjoining country. Beaufort. Young.

BALLINA, a town of the county of Mayo, in Ireland, ſituated on the river Moy, and connected by a bridge over that river with Ardnarce, in the county of Sligo, forming together one town, which is neat and thriving, and has a briſk market for linen every week. Mr. Arthur Young deſcribes its ſituation as uncommonly pleaſing, It has a ſalmon fiſhery, which is one of the moſt conſiderable in the iſland, ſupplying ſeventy or eighty tons of ſalted fiſh, beſides the freſh. It was let for 520l. a year in 1776. This town, being near Killala, was ſoon taken poſſeſſion of by the French under general Humbert in the late invaſion, and many depredations were committed there by the rebels. Its diſtance from Dublin 120 Iriſh miles. N. lat. 54° 6′ 30″. W. long. 8° 59′. Beaufort. Young.

BALLINACOURTY Point, a cape on the ſouth coaſt of Ireland, in the county of Waterford, and north ſide of Dungarvon bay, four miles eaſt of Dungarvon.

BALLINAHINCH, a barony in the weſtern part of the county of Galway, and province of Connaught, Ireland, better known by its ancient name of Connamara, or *Conmacnemara*, which implies *the chief tribe on the great ſea*. This large diſtrict is very rude and mountainous, and as might be expected, very thinly inhabited. Some of the hills are very high; eſpecially the vaſt ridge called Beannabeola, or the twelve pins, which is a well-known ſeamark, conſiſting of almoſt perpendicular rocks. At the foot of this ridge, cloſe to the little village of Ballinahinch, a charming lake ſpreads itſelf for ſome miles; and on the river which runs from it into Roundſtone bay, there is a great ſalmon fiſhery. On the ſides of hills, and in the vallies, which are watered by rivers and ſmall lakes, and ſheltered in ſome places by the venerable remains of ancient woods, the ſoil is moſtly inclined to a black bog; but gravel, ſand, or rock lie at no greater depth than from one to three feet below the ſurface. Great quantities of kelp are made all along the coaſt, and by manuring with ſea wrack, the land is rendered very productive to the ſcattered families that inhabit it, who are all little farmers and hardy fiſhermen. Beſides the herring fiſhery, which employs a great many perſons, there is a fiſhery of ſun-fiſh on the coaſt from the 10th of April to the 10th of May, which is carried on by the herring boats. Mr. Young ſays, that one fiſh is valued at five pounds, and that if a boat takes three fiſh in the month, it is reckoned good luck. The number of boats employed is from 40 to 50. The indented ſhores of this barony abound in well-ſheltered havens, of which no uſe is made except by ſmugglers, who carry on buſineſs very extenſively, and almoſt without interruption. The bays of Kilkerran, Birterbuy, Roundſtone, and Ballinakill, are the largeſt; and the fine harbour of Killery, on which is a fiſhing town, is at the northern extremity of this diſtrict. On the promontory of Slymchead, forming the north extremity of Birterbuy bay, is a light-houſe. In this barony are made thoſe woollen ſtockings, known throughout Ireland by the name

name of Connamara, and very good blankets; and the encouragement given by the preſent poſſeſſor (Col. Martin, M. P. for the county) to ſettlers from Ulſter, will probably contribute much to the improvement of what is now one of the moſt rude and uncivilized diſtricts in Ireland. A late traveller obſerves, that even in Galway, within 15 miles of it, Connamara was leſs known than the iſlands of the Pacific ocean; and that he was adviſed not to venture into it. Such a dread had the inhabitants of this town of the clan of O'Flahertys, which poſſeſſed it, that death was threatened, by an inſcription over the gate, to every perſon of that name found within the walls. Yet notwithſtanding their ancient character, the above-mentioned traveller, in his ramble through the country, found the people peaceable and friendly, and leſs ſavage in their appearance than the peaſantry near the capital. They are in general much better clothed, and are more induſtrious. The women, like thoſe of Wales, knit as they go from one place to another. Smuggling is very general; and it is conſidered ſuch an aſylum for deſerters, that it is not uncommon for poor peaſants to go acroſs Lough Corrib, and enliſt; and when they are paid and clothed, take the firſt opportunity of returning, after which they are never heard of. There are many traces throughout the country of its having been cultivated in ancient times by ſome intelligent people. Dr. Beaufort's Memoirs. Mr. Young's Tour. Latocnaye's Rambles through Ireland.

Ballinahinch, a market and poſt town of the county of Down, in Ireland, ſituated nearly in the centre of the county, and for that reaſon occaſionally fixed on for meetings of the farming ſociety, and others of a public nature. It was the ſcene of a dreadful engagement in the late rebellion, the inſurgents being numerous, and ſtrongly poſted in the lawn before lord Moira's houſe, which is cloſe to the town. They were however defeated with conſiderable loſs, and one ſide of the town entirely deſtroyed. In its neighbourhood, at the ſkirt of *Sliebh Croob* mountain, is a ſulphureo-chalybeate ſpring, which is much frequented. The water is very clear and cold, and of a highly diſagreeable ſmell and taſte, like ſome of the waters of Aix la Chapelle. Diſtance from Dublin, 76 Iriſh miles. N.lat. 54° 23′. W. long. 5° 48′. Dr. Beaufort's Map. Book of Roads. Rutty on Mineral Waters.

BALLINAKILL, a fair, market, and poſt town, of the Queen's county, in Ireland, ſituate 48 Iriſh miles ſouth-weſt of Dublin. Until the union took place it was alſo a borough town, and returned two members to parliament. It now has a brewery and three tan-yards, beſides ſome inconſiderable woollen factories. The ruins of a caſtle yet remain, which was battered by general Fairfax, and bravely defended by the garriſon. Coote's Statiſt. Account of Queen's County.

BALLINASKELIGS, a haven in the county of Kerry, Ireland, between Kenmare river and Dingle bay. It is deep and open, but not ſheltered from ſoutherly winds. It takes its name from a town, of which ſcarcely a trace is now to be ſeen; but which is in Stanihurſt's Catalogue of the haven towns of Ireland, prefixed to Hollinſhead's Chronicle. The ruins of a monaſtery are near the ſhore, which formerly belonged to the Auguſtine order, and was removed from the greater Skelig iſland to this place. From theſe iſlands the town took its name. In the neighbourhood is St. Michael's well, one of thoſe holy ſprings to be met with in every part of Ireland, which are frequented by the common people on the day of the patron ſaint, and which are ſuppoſed to cure all manner of diſeaſes. This devotion paid to wells has been mentioned as one of the remains of Druidical ſuperſtition, though ſeemingly without ſufficient authority. N. lat. 51° 42′. W. long. 9° 20′. Smith's History of Kerry. Rambles through Ireland. Hollinſhead's Chronicle.

BALLINASLOE, a ſmall but neat and well-built town of the county of Galway, in the province of Connaught, Ireland. It is ſituated on the weſt ſide of the river Suck (though in many maps it is placed on the eaſt ſide, in the county of Roſcommon), which river from the nature of the country might be eaſily made navigable to the Shannon. It is one of the moſt thriving towns in the county, having a great wool fair on the 13th of July, and ſeveral cattle fairs, at which 10,000 oxen and 100,000 ſheep were ſold annually from the paſtures of Galway, Clare, and Mayo. From the increaſe of tillage however, and other cauſes, the number of ſheep is ſaid to have decreaſed. At one of theſe fairs, a ſhow of cattle and premiums have lately been introduced, under the auſpices of the farming ſociety of Ireland, for the laudable purpoſe of improving the breeds. The wool fair was eſtabliſhed in 1757, by Mr. Trench, father of the preſent lord viſcount Dunlo, to whom the town belongs; and on account of the more convenient ſituation of Ballinaſloe in the heart of the wool country, and the great attention paid to the accommodation of thoſe who frequent it, it has taken the lead of Mullingar fair, and is now perhaps the greateſt for wool in the united kingdom. Several days generally elapſe before the buyers and ſellers can agree reſpecting the price; during which period, the news of the day is as eagerly ſought as on the Stock Exchange, and often produces a conſiderable effect. The number of bags uſually brought to the fair for ſome years paſt was about 1500, each containing about eight hundred weight; but this is ſcarcely a fourth part of what is engaged from the country gentlemen at the ſame time, at a ſomewhat higher price. Mr. A. Young has made a compariſon between the price of wool in the fleece in Ireland, and in Lincolnſhire; from which it appears, that for 16 years ending in 1779, the average price in Ireland was 13 s. 8 d. per ſtone of ſixteen pounds; and in Lincolnſhire during the ſame years, it was 9 s. 3 d. for the ſame quantity. The height of price in Ireland he attributes to a decreaſe in the quantity produced, from ploughing up great tracts of ſheep-walks, and an increaſe in the conſumption. The ſame cauſes have continued to operate in a ſtill greater degree, ſo that the average price for four years ending in 1801, was 18 s. as the writer of this article was informed by an eminent manufacturer. A good deal of large combing wool was bought indeed at a lower price, but not that fit for making cloth. In comparing the price of Engliſh and Iriſh wool, it ſhould be mentioned that in Leinſter and Connaught, the bags are always paid for as wool, which makes an addition of fourpence per ſtone to the price. Yet though the price of wool is ſo much higher, ſuch is the difference in the price of labour, that there is in time of peace a conſiderable export of worſted yarn to Norwich and Manchester. The diſtance of Ballinaſloe from Dublin is 72 Iriſh miles. N. lat. 53° 15′. W. long. 8° 8′. Mr. A. Young. Dr. Beaufort.

BALLINROBE, a market, poſt, and occaſionally an aſſize town of the county of Mayo, in Ireland, which is ſmall, but flouriſhing, ſituated on the river Robe, which runs into Lough Maſk. Here are the ruins of an abbey; and in the neighbourhood a charter ſchool for forty boys. Within a few miles of it, on the road to Caſtlebar, are the ruins of Ballintobec abbey. The part that yet remains entire of this venerable ſtructure, exhibits a fine ſpecimen of Gothic architecture; the rafters, if they may be ſo termed,

termed, being formed of hewn ſtone joined in a very ſingular manner. A view and deſcription of this abbey may be found in Ledwich's edition of Groſe's Antiquities of Ireland. The diſtance of Ballinrobe from Dublin is 120 miles. N. lat. 53° 34′ 30″. W. long. 9° 6′.

BALLINTOY, a ſmall town on the northern coaſt of the county of Antrim, formerly called Belletree, which has a tolerably good bay. A vein of coals was diſcovered here in 1756, which is wrought with ſuch effect, as not only to ſupply a ſaltwork here, but others alſo at Portruſh and Colerain. A grant of 2000 pounds was made by parliament in 1758 for improving the harbour. The diſtance from Dublin is 150 miles. N. lat. 55° 14′. W. long. 6° 12″.

A little to the eaſtward of Ballintoy, on an abrupt and romantic ſhore, is a ſmall rocky iſland called *Carrick-a-rede*. This rock is ſeparated from the adjacent land by a chaſm full ſixty feet in breadth, and of a depth frightful to look at; at the bottom of which the ſea uſually breaks with an uninterrupted roar among the rocks. This iſland is peculiarly well ſituated for the ſalmon fiſhery; but being inacceſſible from the water except at one ſpot, and the turbulence of the ſea making it difficult to land even here unleſs the weather be extremely calm, the fiſhermen have contrived a ſingular bridge over the abyſs. Two ſtrong cables are extended acroſs the gulph by an expert climber, and faſtened firmly into iron rings mortiſed into the rock on each ſide. Between theſe ropes, a number of boards about a foot in breadth are laid in ſucceſſion, ſupported at intervals by croſs cords; and thus the pathway is formed, which, though broad enough to bear a man's foot with tolerable convenience, does by no means hide from view "the rocks and raging ſea beneath;" which in this ſituation exhibit the fatal effects of a fall in very ſtrong colouring, while the ſwinging and undulations of the bridge itſelf, and of a ſingle hand rope, which ſcarcely any degree of tenſion can prevent in ſo great a length, ſuggeſt no very comfortable feelings to perſons of weak nerves. Upon the whole, it is a beautiful bridge in the ſcenery of a landſcape, but a frightful one in real life. Hamilton's Letters on the Coaſt of Antrim.

BALLISTA, or BALISTA, in *Antiquity*, a military engine in uſe among the ancients, ſomewhat like our croſs-bow, though much larger, more forcible, and more complicated in its form. It was uſed in the beſieging cities, to throw in ſtones and ſometimes darts and javelins; and received its name from the Greek βαλλειν, *to throw*.

Marcellinus deſcribes the balliſta thus: a round iron cylinder is faſtened between two planks, from which reaches a hollow ſquare beam placed croſs-wiſe, faſtened with cords, to which are added ſcrews; at one end of this ſtands the engineer, who puts a wooden ſhaft with a big head into the cavity of the beam; this done, two men bend the engine, by drawing ſome wheels; when the top of the head is drawn to the utmoſt end of the cords, the ſhaft is driven out of the balliſta, &c. According to Vitruvius, the balliſta was made after divers manners, though all uſed to the ſame purpoſe: one ſort was framed with levers and bars; another with pullies; another with a crane; and others with a toothed wheel. The balliſta was ranked by the ancients in the ſling kind; and its ſtructure and effect reduced to the principles of the ſling: whence ſome writers called it *funda* and *fundibulus*. Gantherus calls it *Balearica machina*, as a ſling peculiar to the Balearic iſlands.

M. Rollin joined the account of the catapulta and balliſta together (Arts and Sciences, vol. ii. p. 52.), obſerving, that though authors diſtinguiſh them, they alſo often confound them. The balliſta was at firſt chiefly uſed for throwing ſtones, and the catapulta for lancing darts and arrows; but by degrees they were confounded and indifferently appropriated to both. (Groſe Hiſt. Eng. Army, vol. i. p. 366.) The balliſta, however, muſt have been the heavieſt and moſt difficult to carry; becauſe there were always a greater number of the catapultæ in the army. Livy, in his deſcription of the ſiege of Carthage, ſays there were an hundred and twenty great, and two hundred ſmall catapultæ taken; with thirty-three great balliſtæ, and fifty-two ſmall ones. Joſephus mentions the ſame difference among the Romans, who had three hundred catapultæ and forty balliſtæ at the ſiege of Jeruſalem.

Vegetius ſays, that the balliſtæ diſcharged darts with ſuch rapidity and violence, that nothing could reſiſt their force. Athenæus tells us, that Ageſiſtratus made one of little more than two feet in length, which ſhot darts almoſt five hundred paces. There were others of much greater force which threw ſtones of three hundred weight upwards of twenty-five paces. The ſurpriſing effects of theſe machines are particularly recorded by Joſephus (Bell. Jud. v. 6.); at Jeruſalem, they projected ſtones which beat down the battlements, and broke the angles of the towers; there was no phalanx ſo deep, but one of them would ſweep an whole file of it from one end to the other: and a man who ſtood by Joſephus, had his head taken off by a ſtone at the diſtance of three hundred and ſeventy-five paces. (Rollin Arts & Sc. ii. 52, 53.) Tacitus too has recorded more than one inſtance of their force. (Annal. xv. 9. Hiſt. iv. 23.)

Among the Saxons, as we have already mentioned (ſee ARTILLERY), great military engines of almoſt every kind ſeem to have been unknown; it is to the middle ages we look for the introduction of any thing like field artillery. William of Poictou (p. 201.) ſays, that machines for throwing darts and ſtones were uſed with great ſucceſs at the battle of Haſtings. The darts that were ſhot from theſe machines, as well as from the croſs-bows, were called *quarrels*; and were pointed with heavy pieces of ſteel like pyramids, which made them very ſharp and very deſtructive. The balliſtæ were more frequently uſed in ſea fights than in battles on ſhore; nor was this particularly the caſe in the middle ages; Livy (xii. 21.) ſays, that both ſcorpions and balliſtæ were uſed in a ſimilar way by the Tarentines ſo long ago as 281. Nor was it in the ancient times alone that the names and properties and even the uſes of the catapulta and balliſta were confounded. In the Latin of the middle ages, balliſta, in lieu of arbaleſt, was frequently the term for the croſs-bow; and catapulta for the ſling.

Perrault, in his notes on Vitruvius, gives a contrivance ſimilar to that of the balliſta, for throwing bombs without gunpowder.

When the balliſta is painted in *Armory*, it is repreſented as charged with a ſtone. Guillim and other heraldic writers call it a *ſweep*.

BALISTA, in *Practical Geometry*, the geometrical croſs, called alſo *Jacob's ſtaff*. See CROSS *Staff*.

BALISTA, or *Os Balliſtæ*, is a denomination given by ſome anatomiſts to the firſt bone of the tarſus, otherwiſe called *talus* and *aſtragalus*.

BALLISTARII, or BALISTARII, in *Antiquity*, ſlingers in the ancient armies, or ſoldiers who fought with the *balliſtæ*. There were two kinds of balliſtarii milites; the former caſt ſtones and other miſſive weapons with the hand, and were called manuballiſtarii, or ſometimes ſimply manuballiſtæ; the latter, called carroballiſtæ, made uſe of a machine. Some writers ſpeak of a third kind called arcuballiſtarii, but theſe are better reduced to the ſecond. The balliſtarii were ſcarce heard of before the age of Conſtantine.

Baliſtarius in our ancient hiſtory is to be differently explained. Sometimes it refers to the men who ſhot ſtones and darts out of croſs-bows; at others to the officers of the ſteel-bow-men, or directors of the great brakes or engines, with which the walls of any place were battered; and occaſionally even to the ſlingers. (See Kelham on Domesd. Book, p. 161.) Our kings, ſo early as the Conqueſt, had an officer ſtiled *Arbaliſtarius* or *Baliſtarius Regis*, and lands were held in capite of the king, by the ſervice of preſenting annually a croſs-bow-ſtring as often as he paſſed through a certain diſtrict. (See Blount's Ten. p. 57. 79. 81.) Walter de Moſely in the thirty-ſecond year of king Hen. III. held lands in Surry by the ſerjeantry of being the king's baliſtarius (or croſs-bow-man) in his army for forty days in the year. (Pat. rot. in turr. Lond.) And it is not perhaps, improbable, that the inſpector of the works relating to the baliſtæ might occaſionally bear the ſame title. Such an officer occurs in the patent rolls of the ſame king two years before. (Ibid. 37 Hen. 3. m. 8.)

BALLISTES, in *Ichthyology*. See Balistes.

BALLISTEUM, or Balistea, in *Antiquity*, a military ſong or dance uſed on occaſions of victory.

The *balliſtæ* were a kind of popular ballads compoſed by poets of the lower claſs, without much regard to the laws of metre.

BALLISTIC *Pendulum*. See Pendulum.

BALLISTICA, Ballistics, is uſed for the art of throwing heavy bodies. F. Merſennus has publiſhed a treatiſe on the projection of bodies, under this title.

BALLITORE, in *Geography*, a ſmall poſt town in the county of Kildare, in the province of Leinſter, in Ireland, pleaſantly ſituated in a well planted valley on the banks of the river Grees, a little on the right of the great road from Dublin to the ſouth. It was chiefly a ſettlement of Quakers, but the number of theſe has conſiderably decreaſed; and the active part taken by many of the inhabitants in the late rebellion, cauſed it to be in a great meaſure deſtroyed. The celebrated Edmund Burke received his early education in this town at the ſchool of Mr. Abraham Shakleton, one of the reſpectable claſs above-mentioned; which ſchool was then held in high eſtimation, and has been continued by his deſcendants of the ſame name to the preſent day. Diſtance from Dublin twenty-eight miles. N. lat. 53°. W. long. 6° 51′.

BALLIUM, or Bailey, in our ancient *Military Tactics*, was uſed to ſignify a certain plot of ground within a fortified place. The outer ballium was that which preſented itſelf immediately on entering the outer gate of the caſtle, where we uſually ſee a mount of earth to command ſome diſtant work of the beſiegers. It was ſeparated by a ſtrong embattled wall and towered gate from the inner ballium, where were commonly the houſes and barracks for the garriſon, the chapel, ſtables, and hoſpital; and within which, or at one corner of it, in the early caſtles, ſurrounded by a ditch, ſtood the keep or dungeon, generally a large ſquare tower, ſometimes flanked at its angles with ſmall turrets: this keep was to our old fortreſſes, what the citadel is to modern ones, the laſt retreat or reduit of the garriſon. (See Groſe Hiſt. of the Eng. Army, ii. 3.) And here may be noticed, that the ſmall remains of Oxford caſtle exhibit a remarkable inſtance of the double ballium; in the outer ſpace ſtands the mount, and at no great diſtance from it (though without the caſtle precincts), the church of St. Peter in the *Bailey*; behind it at a conſiderable diſtance ſtands the ancient Norman keep, in the upper part of which, on the different ſides, are round-head arches filled up with maſonry, whence, as from the laſt retreat of the garriſon, the beſiegers, though in poſſeſſion of the mount, might be annoyed. The *Old Baily*, or outer ſpace near Ludgate in the ancient fortification of London, has perhaps a ſimilar etymology with St. Peter in the *Bailey* at Oxford.

BALLOCK, in *Geography*, the name of rocks on the N. W. coaſt of the iſland of Ila.

BALLOGISTAN, a diſtrict of Hindoſtan, in the country of Delhi, bordering on the north of Mewat, and approaching by its eaſtern limit within twenty-four miles of Delhi. It is eighty or ninety miles long, and from thirty to forty broad. Within the preſent century, and more probably ſince the rapid decline of the Mogul empire, this territory was ſeized by the Balloges or Balloches, whoſe proper country adjoins to the weſtern bank of the Indus, oppoſite to Mooltan. Some tribes of them are alſo found in Makran. They are repreſented as a ſtout ſavage race, and appear to be very proper neighbours for the Mewatis. This territory is full of ravines, and difficult of acceſs to invaders. It has, however, undergone the fate of its neighbours, and been ſucceſſively tributary to the Rohilla chief, Nidjib Dowlah: to the Jats; and Nudjuff Cawn. Weſtward, it borders on the Seiks. Ren. Mem. Introd. p. 120.

BALLOON, in *Architecture*, is uſed for a round ball, or globe, placed at the top of a pillar, or the like, by way of acroter, or crowning. That on the top of St. Peter's at Rome is of braſs ſuſtained by an iron arming within; and being at the height of ſixty-ſeven fathoms, is above eight feet in diameter.

Balloon, in *Chemiſtry*, *Ballon Fr.* is a large globular veſſel, generally of glaſs, with a ſhort neck, which is employed in a variety of chemical operations, particularly in receiving the products of diſtillation; in containing gaſſes for experiments in which heat or combuſtion are uſed; and for ſeveral other purpoſes. Frequently, it is made with more than one orifice. It is larger than the mattraſs, has a ſhorter neck, and if heated on a ſand-bath great care muſt be taken to do it gradually on account of the greater thickneſs of the glaſs. In making the glaſs-balloon, it is ſimply blown, without a burr at the bottom like the mattraſs, whereas the receiver is generally faſhioned at the neck, and therefore muſt have the above imperfection at the bottom, unleſs it is afterwards ground off.

Balloon, in *French Commerce*, denotes a quantity of paper, containing twenty-four reams.

Balloon, *Ballon*, or *Ballot*, ſignifies a certain quantity of glaſs-plates, greater or leſs according to their quality. The balloon of white glaſs contains twenty-five bundles, of ſix plates per bundle; but the balloon of coloured glaſs conſiſts only of 12½ bundles, each bundle including three plates.

Balloon alſo denotes a kind of game ſomething reſembling tennis.

The balloon is played in the open field, with a great round ball of double leather blown up with wind, and thus driven to and from with the ſtrength of a man's arm, fortified with a brace of wood.

Balloon, or *Balloen*, is more particularly uſed among *Voyagers*, for the ſtate barges of Siam.

The balloons are a kind of brigantine, managed with oars, of very odd figures, as ſerpents, ſea-horſes, &c. but by their ſharpneſs and number of oars, of incredible ſwiftneſs. The balloons are ſaid to be made of a ſingle piece of timber, of uncommon length; they are raiſed high, and much decorated with carving at head and ſtern: ſome are gilt over, and carry 120, or even 150 rowers on each ſide. The oars are either plated over with ſilver, or gilt, or radiated with gold; and the dome or canopy in the middle, where the company

company is placed, is ornamented with ſome rich ſtuff, and fenced with a balluſtrade of ivory, or other coſtly matter, enriched with gilding. The edges of the balloon juſt touch the water, but the extremities riſe with a ſweep to a great height. Some are adorned with a variety of figures, made of pieces of mother of pearl inlaid: the richer ſort, inſtead of a dome, carry a kind of ſteeple in the middle; ſo that conſidering the ſlenderneſs of the veſſel, which is uſually 100 or 120 feet long, and ſcarce ſix broad, the height of the two ends, and of the ſteeple, with the load of decorations, it is a wonder they are not overſet.

Balloon, in *Pneumatics*, a name lately given to an æroſtatic machine, employed for the purpoſe of aerial navigation. See Aerostation.

Balloon, in *Pyrotechny*. See Balls, Fire-*Works*, and Pyrotechny.

BALLOTA, in *Botany*, *horehound*. Lin. g. 720. Schreb. 975. Juſſ. 114. Claſs, *didynamia gymnoſpermia*. Nat. Ord. *verticillatæ*, or *labiatæ*. Gen. Char. *Cal.* perianth one-leafed, tubular, ſalver-ſhaped, five-cornered, oblong, ten-ſtreaked, erect, permanent, equal; mouth acute, patulous, plaited, five-toothed; involucre of linear leaflets under the whorls. *Cor.* monopetalous, ringent; tube cylindric, the length of the calyx; upper lip erect, ovate, entire, crenate, concave; lower trifid, obtuſe; the middle ſegment emarginate, largeſt. *Stam.* filaments four, the two ſhorter ſubulate, bending towards the upper lip, and ſhorter than it; anthers oblong, lateral. *Piſt.* germ quadrifid; ſtyle filiform; ſtigma ſlender, bifid. *Per.* none. *Calyx* unchanged, foſtering the ſeeds in its boſom. *Seeds* four, ovate.

Eſſ. Gen. Char. *Cal.* ſalver-ſhaped, five-toothed, ten-ſtreaked. *Cor.* upper lip crenate, concave. It is obſerved that this genus has the involucre of clinopodium; the calyx of marrubium; and the corolla of ſtachys.

Species, 1. B. *nigra*, ſtinking or black horehound. Smith. Brit. 635. Hudſon 260. With. 533. Eng. Bot. 46. "Leaves ovate, undivided, ſerrate, calyxes dilated upwards, ſomewhat truncated." A hairy plant with an acrid pungent ſmell; ſtem two or three feet high, erect, branched, covered with recurved hairs; leaves petioled, ovate, or ſubcordate, ſerrate; flowers numerous, in axillary whorls, pedunculated, leafy, bracteated; bractes briſtle-ſhaped, ciliate, half the length of the calyx; calyx tubular, hirſute, ten-ribbed, plaited or furrowed at the margin, obtuſely five-lobed, reticulated with veins, teeth awned, ſpreading; corolla purple, the upper lip of which is emarginate, hairy, on the outſide; the under three lobed, beſet with white veins. It is a perennial plant, common in waſte places, and hedges, flowering in July. 2. B. *alba*, white flowered black horehound. "Leaves cordate, undivided, ſerrate, calyxes ſubtruncate." This Swediſh plant has not yet been ſatisfactorily determined. 3. B. *lanata*, woolly black horehound. Phlomis fol. multifidis. Gmel. lib. iii. 241. n. 72. t. 54. "Leaves palmate, toothed, ſtem woolly." Stems white with wool; whorls extremely hirſute; leaves like thoſe of gooſeberry, with blunt three-toothed lobes, ſmooth above, hirſute underneath; corolla a pale yellow, extremely hairy. A native of Siberia, cultivated here in 1776, by Mr. J. Gordon. 4. B. *ſuaveolens*, ſweet ſmelling black horehound. Jac. Amer. 172. pict. t. 163. *Byſtropogon ſuaveolens*. L'Herit. Sert. Ang. 19. *Meſoſpherum*. Brown Jam. t. 18. f. 3. *Mentaſtrum*. Sloane Jam. i. t. 102. f. 2. "Leaves cordate, ſpikes leafy, calyxes truncate, awns linear." A ſhrubby, annual, upright plant; leaves roundiſh or elliptic, crenate, nerved, villoſe, on long footſtalks; peduncles axillary, from three to five-flowered; flowers blue; calyx and branches villoſe; filaments longer than the throat of the corolla. *Seeds* two, black, a little compreſſed. A native of the Weſt Indies, where it is uſed in warm baths for its odour. 5. B. *diſſicha*, betony leaved black horehound. "Whorls halved, two-parted, half-ſpiked." Stem pubeſcent, from one to two feet high; leaves ſtalked, ſubcordate, ſerrate, tomentoſe; whorls ſingle on each ſide; each two-parted; flowers alternate, ſeſſile, riſing on a ſimple flexuoſe rachis. A tapering bracte under each flower. A native of the Eaſt Indies. Introduced in 1783, by the earl of Bute. 6. B. *piloſa*. Lour. Cochinch. 364. "Leaves ovate, tomentoſe, crenate, whorls hairy, calyxes ten-toothed." Stem perennial, four feet high, weak, ſtreaked, hairy, branched; leaves acute; flowers white in hairy whorls; calyx recurved, ten-toothed. A native of Cochinchina.

Propagation and Culture. The European ſorts are never introduced into gardens. The third ſpecies is hardy, but the three laſt require the protection of a ſtove. They may all be increaſed by ſeeds. See Martyn' Miller's Dict.

BALLOTADE, or Balotade, in the *Manege*, is a leap in which the horſe ſeems as if he intended to kick out without doing it; he only offers or makes a half kick, ſhewing only the ſhoes of his hind feet. Berenger farther obſerves, that the horſes deſtined to their airs (croupades and balotades), ought to have a light and ſteady mouth, and an active and lively diſpoſition, with clean nervous ſtrength; for all the art and knowledge of the horſemen can never confer theſe qualities, which yet are eſſentially neceſſary to the perfection of this manege.

The croupades and balotades are different from curvets, inaſmuch, as they are much higher behind, and conſequently their time and meaſure not ſo quick and cloſe, but ſlower and more extended; therefore, the rider ſhould keep his horſe's croup in awe, by ſtriking it from time to time with the ſwitch, ſupporting him not quite ſo high before, and obſerving to aid with his legs ſlower, and not ſo forward as in curvets.

To manage the ſtrength and vigour of the horſe you intend to work upon the volts, in croupades and balotades, let the line of the volt be larger than for curvets, and let the action of the ſhoulders be not quite ſo high; thus you will not only check and confine his activity and lightneſs, but by raiſing his ſhoulders in a leſs degree, will give liberty to his croup, and he will be enabled to furniſh his air altogether, that is, before and behind, better and with more eaſe; there is ſtill another reaſon for this, for when the ſhoulders come to the ground from too great a height, the ſhock alarms and diſorders the mouth, and thus the horſe loſing the ſteadineſs of his appuy, he never will raiſe his croup ſo high as he ought to make perfect balotades.

BALLOTING, a method of voting at elections, &c. by means of little balls, which are uſually of different colours, by the French called *ballotes*; which are put into a box privately.

BALLTOWN, in *Geography*, a townſhip of America, in Saratoga county, New York, formerly in Albany county, contained in the year 1790, 7333 inhabitants, including ſixty-nine ſlaves. By the ſtate cenſus in 1796, there appear to be 266 electors in this townſhip. It lies 36 miles N. from Albany, has a Preſbyterian meeting-houſe, and is in a thriving ſtate. The medicinal waters called "Balltown Springs," from their being ſituated within the limits of this town, have acquired celebrity on account of their ſanative virtue, and the accomodations adjoining to them for valetudinarians. The ſprings are found in the bottom of a valley, or excavation, forming a kind of baſon, and comprehending in their extent about fifty acres. In the vicinity of the ſprings are ſeveral neat bathing-houſes, and ſhower-baths, for the convenience

venience of invalids. Moſt of them are private property, belonging to a merchant of New York; but the larged ſpring belongs to the public. The waters of theſe ſprings contain iron, a mineral alkali, common ſalt and lime; they are briſk and ſparkling like champagne; and they poſſeſs the properties of other waters of the mephitic kind, in which there is an intermixture of fixed air or carbonic acid; they are reckoned cathartic, diuretic, and ſudorific; and recourſe is had to them by invalids of various deſcriptions.

Balltown, or *Ballſtown*, a townſhip in Lincoln county, in the diſtrict of Maine, containing 1072 inhabitants, 195 miles N. E. from Boſton.

BALLUS, in *Entomology*, a ſpecies of Papilio (*Pleb. Rur.*), with entire fulvous wings dotted with black; poſterior one green, with a brown margin. Gmelin, &c. Inhabits Spain.

BALLUSTER, or Ballister, in *Architecture*, a ſmall kind of column or pillar, whereof balluſtrades are formed.

The word is French, *baluſtre*, which ſignifies the ſame, formed from the Latin *baluſtrum* or *baluſtrium*, a place among the ancients where the baths were railed in.

Balluſtres are of divers forms, as well as matters, according to different occaſions, and different orders of architecture.

Balluster of the Ionic capital, denotes the lateral part of the volute anſwering to what Vitruvius calls *pulvinata* on account of its reſemblance to a pillow.

BALLUSTRADE, an aſſemblage of one or more rows of balluſters high enough to reſt the elbow on, fixed upon a terrace, or the top of a building, by way of ſecurity; ſometimes alſo to make a ſeparation between one part and another, as thoſe around altars, fonts, &c. See figure of Basilic.

BALLY, Ballin, or *Baily*, prefixed to names of places in Ireland, ſignifies a town or incloſed place of habitation. It comes from the Iriſh *baile*, which O'Brien, in his dictionary, ſuppoſes to be derived from the Latin *villa*, changing *v* into *b*, and that both come from *vallis*, on account of the preference given to low ſituations. General Vallancy derives it from the Arabic *balad*, a province; and quotes J. Bapt. Paſſeri, as explaining the Phœnician *bal* in the ſame ſenſe as the Iriſh *baile*. But Mr. Ledwich, in his Antiquities of Ireland, obſerves, that it is plainly the Teutonic *balie*, an incloſure.

BALLYCASTLE, a ſea-port town, in the northern part of the county of Antrim, province of Ulſter, Ireland, ſituated on the weſt of Fairhead, near the mouth of the little river Glenſheſk, and oppoſite to the iſland of Raghery. Between this town and Fairhead are valuable collieries, in an abrupt bank which overhangs the ſea; a circumſtance, however, from which little advantage can be derived, as the unſheltered ſituation of the place, and the prevailing weſterly winds, make a delay on the coaſt extremely dangerous, and render it difficult to embark the coals. As the want of capital has always been an impediment to ſuch undertakings in Ireland, application was made to the legiſlature, on the diſcovery of the mine in 1721, for aid to work it; and 6000 pounds were granted for this purpoſe, as well as the large ſum of 23,000l. at different times for making a harbour there, and building a pier to protect it; which expence was incurred in the hope that Dublin would be in a great meaſure ſupplied from this colliery, and thus be rendered leſs dependant on the proprietors of the Cumberland mines. The pier, however, has been waſhed away, and the harbour ſo choaked up with ſand, that like many other publick grants in Ireland, it has been productive of little or no national benefit. By the exertions of an individual, ſome years ago, much coal was procured, and ſeveral manufactures were eſtabliſhed in the town, but ſince his death the latter have been neglected. The collieries, however, continue to be worked, and from the latelt accounts ſeem to be proſperous, though not to the degree that was expected. The coal [illegible] reſemble the Scotch coal, but does not burn to aſh. The different foſſils commonly ſituated above it are iron-ſtone, black ſhivery ſlate, grey, brown, or yellowiſh ſand-ſtone, and whin-ſtone. The accidental diſcovery of an old mine in 1770, which was very extenſive, and was found to be a complete gallery, branching into numerous chambers, which were dreſſed in a workmanlike manner, and muſt have been wrought by perſons at leaſt as expert in the buſineſs as the preſent generation, has furniſhed Mr. Hamilton with an argument in favour of the ancient civilization of Ireland. As no coal mine at this place is mentioned either by Boate, or by ſir William Petty, the latter of whom viſited Ballycaſtle between 1660 and 1670, and is particular in his account of it; as for many centuries previous to the reign of James I. a work of this nature was not likely to have been carried on; as the cinders of foſſil-coal are viſible in the cement with which a caſtle of great antiquity in the adjoining iſle of Raghery was built; and as the tradition of the natives refers it to a very early period, he concludes that it muſt have been worked previouſly to the eighth century. This opinion ſeems to be ſtrengthened by Mr. Whitaker's reaſons for ſuppoſing foſſil-coal to have been known to the ancient Britons. Mr. Ledwich, on the other hand, affirms, on the authority of Lombard, that coal was not diſcovered and uſed in Ireland long before A.D. 1632. Near Ballycaſtle are two mineral ſprings, one of them vitriolic, and the other chalybeate. Diſtance from Dublin 113 Iriſh miles. N. lat. 55° 11'. W. long. 6° 6'. Hamilton's Letters on Antrim. Statutes of Ireland. Latocnaye's Rambles. Ledwich's Antiquities. Beaufort's Memoirs. Rutty on Mineral Waters.

BALLYCLARE, a poſt and fair town in the county of Antrim, province of Ulſter, Ireland, ninety-five miles north of Dublin.

BALLYCONNELL, a ſmall market and poſt town of the county of Cavan, Ireland, ſituate ſixty-ſeven Iriſh miles north-weſt from Dublin, on the borders of a wild and mountainous diſtrict. The peaſants are hardy and induſtrious, yet hitherto much depreſſed for want of encouragement. The women ſpin a good deal of wool as well as flax, and friezes are made for home uſe; but every thing is on a very narrow and contracted ſcale. Agriculture has lately improved, and the culture of wheat has been increaſed by the eſtabliſhment of a good flour-mill; and there is alſo an excellent bleach-green near the town. The mineral treaſures of this neighbourhood are, however, the moſt valuable. Coal is found in the adjoining mountain of Slieve-Ruſſell, and generally dug out of the ſide of the hill, in blocks, near the ſurface. No attention to this valuable concern has yet actuated the proprietors on whoſe eſtates this mineral is found in ſuch abundance, and ſo eaſily raiſed. In the mountain of Ortnacullagh, both ſilver and lead ore are carried down the ſtream which flows from it. Beſides theſe, pure ſulphur is frequently found; and [illegible] abundance. There is much pipe-clay alſo, which is found very ſoft, and when baked in the ſun acquires a proper conſiſtency. Sir C. Coote's Statiſtical Account of Cavan.

BALLYCOTTON, a village on the [illegible] coaſt of the county of Cork, province of Munſter, Ireland, inhabited by fiſhermen, and frequented for ſea-bathing. It is four miles from Cloyne, [illegible] boroughed. It gives name to a [illegible] bay, near which is remarkable for its [illegible]

fine flat fiſh and lobſters, which are chiefly ſent to Cork. There is a ſmall iſland of the ſame name, which forms one extremity of the bay, and is almoſt covered, in the ſeaſon, with the neſts and eggs of various ſea-fowl, eſpecially puffins. N. lat. 51° 50'. W. long. 7° 59'.

BALLYDONEGAN, a bay on the ſouth coaſt of Ireland, in the county of Cork, on the ſouth ſide of the entrance into Kenmare river. It has an open entrance, with a good depth of water and anchorage.

BALLYELA, a bay in the Atlantic ocean, on the weſt coaſt of Ireland, twelve miles ſouth-eaſt of South Arran iſlands. N. lat. 52° 53'. W. long. 9° 20'. See BALLIDA.

BALLYGELLY HEAD, a cape on the eaſt coaſt of Ireland, in the Iriſh ſea. N. lat. 54° 54'. W. long. 5° 44'.

BALLYHAVEN, in *Geography*, lies within the entrance of Strangford haven, on the eaſt coaſt of Ireland, beyond Port Ferry on the eaſt ſide.

BALLYHAUNIS, a poſt-town, or rather village, in the county of Mayo, province of Connaught, Ireland, where are the ruins of a monaſtery; 100 Iriſh miles north-weſt of Dublin.

BALLYHAYES, a ſmall town of the county of Cavan in Ireland, which has an improving market, and mills for flour and oatmeal. The market-houſe and the ring of the old town are arched, and built of brick. Theſe antique and fantaſtical buildings ſhew it to have been once a place of conſiderable note, being remarkably furniſhed with all the old-faſhioned ornaments that the lords of this county were particularly attached to. This town and the adjoining demeſne have ſuffered much from a long diſpute reſpecting the poſſeſſion. Diſtance from Dublin 57 Iriſh miles north-weſt.

BALLYKAIA, an iſland on the north-weſt ſide of the ſea of Azof, and near the northern extremity of it. N. lat. 46° 38'. E. long. 56° 18'.

BALLYLANY, a ſmall iſland in the Atlantic ocean, near the weſt coaſt of Ireland. N. lat. 53° 23'. W. long. 10° 16'.

BALLYLEIGH HEAD, or *Kerry-head*, the ſouth point of the entrance of Shannon river.

BALLYLESS BAY, a ſmall harbour on the north-weſt coaſt of Ireland, towards the weſtern point, having Dunſine head for its eaſtern limit, and directly weſt from Sligo bay, and eaſt from Broad haven.

BALLYMACHUS POINT, the weſtern point of the entrance into Oyſter-haven, without the eaſtern point of the entrance into Kinſale harbour, on the ſouth-eaſt coaſt of Ireland.

BALLYMEHON, a market and poſt town in the county of Longford, province of Leinſter, Ireland, 58 Iriſh miles north-weſt of Dublin.

BALLYMENAH, a town of Ireland, in the county of Antrim; ten miles north of Antrim.

BALLYNAMORE, a poſt-town in the county of Galway, province of Connaught, Ireland, eighty-five Iriſh miles weſt of Dublin.

BALLYQUINTON POINT, a cape on the eaſt of the county of Down in Ireland, in the Iriſh ſea, at the eaſt of the entrance into Strangford lough; ſeven miles eaſt of Downpatrick. N. lat. 54° 19'. W. long. 5° 26'.

BALLYSERAY CAPE, lies north-eaſt of Ballykaia iſland, in the ſea of Azof, on a peninſula. N. lat. 46° 50. E. long. 56° 48'. It is alſo called *Koſſa Bielo Sierai Kaya*.

BALLYSHANNON, a town of the county of Donegal, in the province of Ulſter, Ireland, ſituated on the river Erne, which diſcharges the waters of Lough Erne into the bay of Donegal, at the diſtance of about three miles from the ſea. It is the principal town in the county, and was formerly of ſome conſequence as a fortified place, though at preſent it derives its importance chiefly from its ſalmon fiſhery. The harbour is a barred one, but at high water is navigable for veſſels of 40 or 50 tons burthen up to the waterfall, where is ſafe anchorage for a great deal of ſhipping; but the bar is for ſome hundreds of yards ſo expoſed to ſouth-weſterly ſtorms, as to render it quite inacceſſible during high winds. The ſalmon leap, which is near the town, has a very beautiful appearance; the fall is down a ridge of rocks about twelve feet high, and at low water forms a very pictureſque object. It is one of the principal ſalmon leaps in Ireland, and when laſt rented was ſet for near 1100 l. It has during the two laſt years (1802) been much more productive. There is alſo an eel fiſhery, which ſets at 325 l. 10 s. 6 d. yearly. Before the fall, in the middle of the river, is a rocky iſland, on which is a curing-houſe, inſtead of the turret of a ruined caſtle for which it ſeems formed. The coaſt of the river is very bold, conſiſting of perpendicular rocks with graſs of a beautiful verdure to the very edge; it projects in little promontories which grow longer as they approach the ſea, and open to give a fine view of the ocean. The town is prettily ſituated on the riſing ground on each ſide of the river, over which there is a bridge of fourteen arches. It has improved much within a few years, and is acquiring ſome degree of importance in trade, which would increaſe much more if a ſtrong wall was built to ſhelter the entrance of the harbour. The completion of the canal which has been undertaken to join Lough Erne to the ſea at Ballyſhannon, would alſo be of material ſervice to it. Near the town, the Rt. Hon. Thomas Conolly has eſtabliſhed a linen manufactory, viz. twenty houſes with two looms in each houſe, and a certain portion of land annexed to it. The Tyrhugh Farmers Society has alſo offered premiums for eſtabliſhing a linen market at Ballyſhannon. A little north of the town of Ballyſhannon, on Mr. Conolly's eſtate, is a large bank of yellow *pyrites*. This town was made a corporation in 1611, and ſent two members to parliament; but this privilege has been diſcontinued ſince the union. Its diſtance from Dublin is 101 Iriſh miles. Longitude 8° 2' weſt of Greenwich, latitude 54° 31' N. Young's Tour. Boate. Dr. Beaufort. M'Farlane's Stat. Account of Donegal.

BALLYTEIGH BAY lies round the eaſt point of the entrance into Bannoc or Bannow bay. (See BANNOW.) At the ſouth end is a ſmall iſland called Inch iſland.

BALLYVAGHAN, a bay on the weſtern coaſt of Ireland, and north part of the county of Clare, in the ſouth part of Galway bay.

BALLYVARY, a poſt and fair town in the county of Mayo, province of Connaught, Ireland, 135 Iriſh miles north-weſt of Dublin.

BALLYWATER, the mouth of the entrance into Carrickfergus bay, on the north-eaſt coaſt of Ireland, and the opening of Belfaſt river. The name is ſometimes given to the ſea ſouthward along the eaſt coaſt of the peninſula, of which Strangford lough, or lake, is the weſt ſide.

BALM, in *Botany*. See MELISSA.

BALM *of Gilead*. See DRACOCEPHALUM.

BALM, or BALSAM. See BALSAM.

BALM, in *Geography*, a town of Germany, in the circle of Upper Saxony, and Hinder Pomerania, 17 miles S. W. of Stargard, and 17 ſouth of Old Stettin. N. lat. 53° 8'. E. long. 14° 48'.

BALMALA,

BALMALA, a town of Africa, in the defert of Berdoa.

BALMAMAT, a town of Aſiatic Turkey, twelve miles weſt of Karahiſar.

BALMARINO, in the county of Fife, in Scotland, is the name of a pariſh within whoſe limits is a ſmall harbour, and the remains of an abbey which bears the name of the pariſh. From the former a conſiderable quantity of grain is annually exported; and a ſalmon fiſhery is eſtabliſhed near this place in the frith of Tay. The abbey of Balmarino, which was founded in 1229, for monks of the Ciſtercian order, has been a magnificent and extenſive pile of building; but its grandeur is nearly annihilated, and only a few fragments remain to mark its ſite and character. It is about ten miles to the eaſt of Perth.

BALMING. See EMBALMING.

BALMUCCIA, a town of Piedmont, in the valley of Seſia, ſeven miles weſt of Varallo.

BALNAVES, Henry, in *Biography*, a Scots Proteſtant divine, was born in the ſhire of Fife in the reign of James V., and educated in the univerſity of St. Andrews. He finiſhed his ſtudies in France; and on his return to Scotland, was admitted into the family of the earl of Arran, but diſmiſſed in 1542, for embracing the Proteſtant religion. Having joined the murderers of cardinal Beaton in 1564, he was declared a traitor, and excommunicated. During the ſiege of St. Andrews, he was ſent by this party to England, and returned with a conſiderable ſupply of proviſions and money; but being compelled to ſurrender to the French, he was ſent with the reſt of the garriſon to France. After his return to Scotland, about the year 1559, he was appointed one of the commiſſioners to treat with the duke of Norfolk on the part of queen Elizabeth. In 1563, he was made one of the lords of ſeſſion; and appointed, with other learned men, to reviſe the book of diſcipline. Knox, who was his fellow-labourer, gives him the character of a very learned and pious divine. He died at Edinburgh in 1579. His writings are "A Treatiſe concerning Juſtification," and "A Catechiſm, or Confeſſion of Faith." Encycl. Brit.

BALNEARII Servi, in *Antiquity*, ſervants or attendants belonging to the baths.

Some were appointed to heat them, called *fornicatores*; others were denominated *capſarii*, who kept the clothes of thoſe that went into them; others *aliptæ*, whoſe care it was to pull off the hair; others *unctuarii*, who anointed and perfumed the body.

BALNEARIUS Fur, a kind of thief who practiſed ſtealing the clothes of perſons in the baths; ſometimes alſo called *fur balnearum*.

The crime of thoſe thieves was a kind of ſacrilege; for the hot baths were ſacred: hence they were more ſeverely puniſhed than common thieves, who ſtole out of private houſes. The latter were acquitted with paying double the value of the thing ſtolen; whereas the former were puniſhed with death.

BALNEUM, in *Chemiſtry*. See BATH.

BALNIA, Cabo, in *Geography*, Balnea, or White Cape, a ſmall white cliff, about ſix leagues from cape Paſſado, nearly under the equator, on the coaſt of Peru, in South America.

BALOG, a town of Hungary, twenty miles eaſt of Altſol.

BALOHA, a town of Africa, on the river Grand, inhabited by the deſcendants of a mixture of Portugueſe and Africans.

BALONGO, in *Geography*, three iſlands in the bay of Bengal, near the coaſt of Arracan. N. lat. 19° 50′ to 20° 5′. E. long. 93° to 93° 20′.

BALONICH, in the *Materia Medica* of the ancients, a name given by Avicenna, Meſue, and others to a kind of camphor, which they deſcribe as coarſer, browner, and of leſs value than the other kinds. This is probably the ſame with our rough camphor, as brought over to us from the Eaſt Indies.

BALONTES, in *Geography*, a people of Aſrica, who inhabit the banks of the river Senegal, to the eaſtward of the Jalofes, and have the Mandingoes to the eaſtward. Their territory is about two days journey in length, and about one in breadth. The Balontes maintain no intercourſe with the neighbouring negroes, either on the continent or iſlands; and though they ſometimes travel beyond their own limits, they will permit no foreign negroes to paſs their frontiers. Their religion is idolatry, and their form of government an ariſtocracy. They allow of no ſlavery; they are bold, intrepid, and warlike; but crafty, treacherous, and fraudulent. Their arms are aſſagayes, arrows, and ſabres. The Balontans are ſuppoſed to have gold mines in their country; and under this idea the Portugueſe aſſembled a large body of troops at Biſſao in 1695, and invaded the country. But the rain of the ſeaſon rendered their arms and ammunition uſeleſs; and the Balontans attacked them with this diſadvantage ſo vigorouſly, with their aſſagayes and ſabres, as ſoon to rout them and force them to retire with a conſiderable loſs of men, and of all their ammunition and ſtores.

BALOU, a town of Aſia, in Armenia, twenty-five miles northweſt of Cars.

BALQUHIDDER is a pariſh in Perthſhire, in the highlands of Scotland, and is noted for its mountainous ſcenery. Some of the mountains are very high and ſteep; among them, thoſe of Benmore and Benvoirlich are the moſt lofty and conſpicuous; the firſt riſing to the height of 3903 feet above the level of the ſea, and the latter to that of 3300 feet. In this pariſh is a conſiderable extent of the ancient Caledonian foreſt; but it is annually abridged by the inclosing ſyſtem, which has at length found its way into theſe northern regions. Here are alſo ſeveral lakes or lochs, of which the principal are thoſe of Lochdochart, Lochvoil, part of Lochlubuaig, and part of Lochearno. The military road from Stirling to Fort William paſſes through this pariſh. The great inequality of ground prevents the farmers from appropriating any of their lands to arable; and the paſture on the ſides of the hills is chiefly fed by ſheep.

BALS, a river of Greenland, which runs into the ſea. N. lat. 64° 30′. W. long. 50° 10′.

BALSA, in *Ancient Geography*, *Tavira*, a town of Hiſpania, in Luſitania; belonging, according to Ptolemy, to the Turdetani. It was in the part called *Cuneus*, near the ſea, and not far from *Anas* to the weſt.—Alſo, a burgh of the interior of Africa, reckoned by Pliny among the conqueſts of Cornelius Balbus.

BALSAM, in *Chemiſtry* and *Medicine*, βαλσαμον, Gr.; *balſamus*, *balſamum*, Lat.; *balm*, *bam*, Fr. Various names have been affixed to this term, which it is of ſome importance to diſtinguiſh, as the claſs of natural balſams have been eſteemed from the earlieſt ages as ſome of the moſt valuable productions of the vegetable kingdom, have formed the moſt precious articles of commerce in the Eaſt, and have been uſed for medicinal purpoſes, and about the human body, as long as the art of medicine and the practice of adorning the perſon have been cultivated.

The term balſam appears to have been originally confined

to a certain fragrant viſcid juice exuding from a tree in Arabia and Egypt, and now denominated the balſam of Mecca, or Opobalſum. Hence it was extended to other productions of the ſame nature; and we may define the true meaning of a balſam to be a fragrant, oily, viſcid, inflammable juice, exuding from various trees and plants, not ſoluble in water, incapable of putrefaction, and poſſeſſed of the power of preſerving animal matter from ſpontaneous change for a conſiderable length of time. This latter property has given riſe to the term *embalming* or *balſamation* of bodies, ſo univerſally practiſed among the Egyptians.

Balſams are generally more or leſs acrid to the taſte, particularly after having been for ſome time chewed in the mouth. They have the ſtrongeſt affinity to RESINS, from which they ſeem to differ only in containing a larger portion of eſſential oil, ſo that if any of the liquid balſams (turpentine for example) be diſtilled *per ſe* with a gentle heat, an oil riſes in conſiderable quantity, and the reſiduum is a ſubſtance now dry and brittle, ſcarcely in any reſpect different from a reſin.

Of late years a diſtinction has been made, and admitted into the French nomenclature, between balſams and reſins, in the circumſtance of the former containing a portion of the BENZOIC acid, which conſiderably adds to the penetrating fragrance of theſe ſubſtances, eſpecially when warmed, and may be expelled from them by a gentle heat. This diſtinction was propoſed by Bucquet, and has ſince been very generally adopted. We cannot however allow of its propriety, ſince it would confine the term to a very ſmall number of ſubſtances, even to the excluſion of the original balſam of Mecca and many others to which the term has long been appropriated; and it would extend to the ſolid and brittle gum benzoin contrary to the quality of *unctuouſneſs* or *viſcidity* which has always been conſidered as eſſential to a balſam, ſo much ſo that even the ſolution of ſulphur in oil has on this account been termed a balſam.

Balſams are natural or artificial. The latter are compoſitions excluſively belonging to pharmacy, and generally compoſed of eſſential oils, reſins, and aromatics brought to the conſiſtence of a balſam, ſometimes by oil, ſometimes by ardent ſpirit. Theſe preparations are ſo numerous and often complex, that we ſhall only mention a few of the moſt celebrated; but firſt we ſhall notice the—

§ 1. *Natural Balſams.*

Balſamum Meccæ.—B. *Opobalſamum.*—B. *Gileadenſe.*—B. *Judaicum.*—B. *Syriacum.*—The genuine opobalſam or balm of Mecca.

This celebrated balſam has preſerved almoſt from time immemorial the high value in which it has been invariably held by the eaſtern nations. This indeed is partly owing to the excluſive ſpirit of oriental deſpotiſm, which prevents this precious drug from entering the common markets; ſo that all our knowledge of its properties is derived either from report, or from the rare opportunities which individuals have enjoyed of poſſeſſing a ſpecimen of it.

The tree that yields it is the AMYRIS, of which there appear to be ſeveral ſpecies, all of them fragrant and balſamic. It is commonly obtained by inciſions: the *xylobalſamum* being prepared from the wood, and the *carpobalſamum* from the fruit. It is chiefly collected in Arabia, in the interior of the country, between Mecca and Medina. According to Bruce, when freſh from the tree, the balſam is of a light yellow colour, a little turbid. It preſently grows clear and yellow like honey, which deepens by age. Its ſmell is exquiſitely fragrant and very pungent, giving a ſenſation like that of volatile ſalts. This remains for years if the balſam is kept carefully corked. The taſte is bitter, acrid, aromatic, and aſtringent.

The quantity yielded by one tree is very ſmall, ſeldom more than about a dram daily, which alone muſt render it an expenſive article; but in all probability it might be obtained without much difficulty by Europeans, if it was likely to repay the expence. On pouring a drop of this balſam on a glaſs of cold water, it ſpreads itſelf over the ſurface in a thin pellicle, which may afterwards be taken off by a pin, whilſt the water becomes ſtrongly impregnated with the ſcent and flavour of the balſam. This is generally mentioned as a teſt of the genuineneſs of this article, but it is entirely fallacious, for when long kept the true balſam will not exhibit this appearance, and many of the other thin balſams will ſhew it with as much eaſe as the opobalſam. When rubbed with water it becomes milky, and is reſolved into a maſs reſembling lard in appearance. On adding more water it ſeparates altogether, and ſwims at the top. Spirit of wine highly rectified diſſolves this balſam without much difficulty: on adding water, the whole becomes milky. It is alſo ſoluble in the expreſſed and the eſſential oils. If a ſolution in olive oil is mixed with water very gradually, it forms a kind of pommade.

This coſtly balſam is in the higheſt eſteem among the Turks and other eaſtern nations both as a medicine and a coſmetic. The Turks take it in the doſe of a few drops to fortify the ſtomach and excite the animal powers: externally it is uſed as a vulnerary. It may readily be imagined that the oriental ſpirit of exaggeration ſhould have extolled the ſuperior virtues of this admired balſam; but fair experiments on its medicinal properties are ſtill wanting, nor is it probable that it would be found to exceed the other balſams in this reſpect, ſo much as it does in fragrance of ſcent.

The Mecca balſam is alſo employed at Conſtantinople as a coſmetic in the ſeraglio, according to the teſtimony of lady Wortley Montague. Under what form it is uſed does not appear, but its acrimony is ſuch as to irritate the ſkin very conſiderably when rubbed on the face unmixed, as the ſame eminent lady experienced on her own perſon. It is ſcarcely neceſſary to add that the ſubſtance ſometimes ſold in the ſhops for balſam of Mecca, and at no great price, muſt be a mixed and adulterated compound in no degree to be depended on as the true opobalſam.

The dried berries of this tree were formerly kept in the ſhops, and called, as well as the balſam, *carpobalſamum;* and the dried twigs, *xylobalſamum.*

Balſamum Copaiva—B. *Copaibæ*—B. *Braſilienſe*—*Copaiba* or *Capivi Balſam.*

This balſam, one of the moſt active and valuable for medicine, is obtained from the COPAIFERA *officinalis*, Linn. a tall and elegant tree growing in Braſil and ſeveral other parts of South America. To procure it, ſeveral inciſions or ſometimes augur-holes are made near the ground penetrating through the bark into the ſubſtance of the wood, when the balſam flows out in ſuch abundance, that ſometimes in three hours twelve pounds have been obtained.

This balſam is colourleſs when flowing from the tree; after a while it becomes of an amber yellow, and conſiderably viſcid, but retains its tranſparency; it is never known to become perfectly ſolid. The ſmell of capivi balſam is fragrant and powerful; to the taſte it is bitteriſh, heating, aromatic, and permanent on the tongue; it ſtains paper as oil does. It is nearly inſoluble in water; but on being long rubbed with it, a kind of milky emulſion is produced, from which however the balſam ſoon ſeparates and riſes to the top. It is readily ſoluble in fixed and volatile oils, and in

ſpirit

ſpirit of wine: the latter makes a very ſtrong penetrating tincture. Diſtillation readily ſeparates the balſam into an oil which has all the ſenſible properties of the capivi, and into an inſipid reſin. If carefully diſtilled with water, from a fifth to half the weight of oil is obtained, which is highly fragrant and nearly colourleſs. The reſiduum is a reſin, at firſt green and tenacious, afterwards growing yellow and brittle, ſoluble in alcohol, but not in water. The water with which the balſam has been diſtilled becomes ſlightly impregnated with the odour and flavour of the capivi. Diſtilled *per ſe*, or mixed with aſhes and ſubjected to a ſtrong heat, the oil which riſes is at firſt fragrant and clear, afterwards bluiſh, thick, empyreumatic, but not ungrateful to the ſmell.

The capivi balſam is unqueſtionably an active ſubſtance when taken into the ſtomach; and its medicinal virtues, though perhaps over-rated, are however very conſiderable. Like turpentine, it determines powerfully to the kidnies, and impregnates the urine with its qualities, and has therefore been ſuppoſed peculiarly ſuited to diſeaſes of theſe organs. As its effects, however, are heating and irritating, it is capable of producing much miſchief as well as good, and its uſe is now chiefly confined to the cure of gleet and gonorrhœa. It is alſo ſerviceable in certain ſtates of hæmorrhoids and diſeaſes of the rectum, a fact which may well be credited, when it is conſidered of what acrid materials the celebrated Ward's paſte is compoſed. In pulmonary affections it has been uſed ſtrictly as a *vulnerary* or *balſamic*, but it is too apt to produce or increaſe the general fever, and can ſeldom be employed with ſafety in theſe caſes. The uſual doſe of this balſam is about twenty drops, but it is ſo viſcid that this method of diviſion cannot be adopted till it is warmed. The beſt form of exhibition is triturated with yolk of egg, almonds or mucilage, and thus united with water into an emulſion. This balſam is eaſily adulterated with the thinner turpentines or with oils, and the detection of this fraud is often difficult on account of the potency of the ſmell and taſte of the capivi, which covers almoſt every other.

Balſamum Peruvianum exudes from a large tree growing in Peru, Mexico, Braſil, and other parts of America. See Myroxylon *Peruvianum*.

There are two ſpecies of the Peruvian balſam, the white and the brown: the white balſam is very rarely met with in the ſhops. It is procured by inciſion of the bark, but very ſparingly, and it ſoon concretes into a fragrant brittle reſin, which is brought over in gourd ſhells. It is alſo called the *white ſtyrax*. It is leſs hot and more fragrant than the black balſam, and more approaches to the properties of *ſtyrax*.

The common Peruvian balſam is of a dark colour approaching to black; the ſmell highly fragrant; the taſte aromatic, rather bitter, and conſiderably acrid; the conſiſtence always thick and viſcid. Dropt into water, it ſinks to the bottom, and refuſes to mix with it: but by agitation gives it a fragrant ſmell and ſomewhat of the ſenſible properties of the balſam. It diſſolves readily in ſpirit of wine. When mixed with the fixed oils and heated, it is decompoſed; its eſſential oily ingredient, which gave it fluidity, is abſorbed by the expreſſed oil, and a thick tenacious reſin remains, which gradually becomes ſolid in the air. In this inſolubility in fixed oils it remarkably differs from the other balſams, nor does it readily mingle with the other balſams. Diſtilled with water, it gives about a ſixteenth of an eſſential fragrant reddiſh oil, very ſparingly ſoluble in alcohol. Diſtillation *per ſe* gives a ſimilar oil, but empyreumatic. By regulated heat a ſmall quantity of benzoic acid may be ſublimed out of this balſam.

Peruvian balſam is one of the moſt ſtimulant of all this ſpecies of ſubſtances, and is therefore applied with advantage in ſeveral diſeaſes. It is alſo particularly recommended as an external application, where a warm ſtimulant is required. A tincture is made by diſſolving it in ſpirit of wine (*Tinctura Balſami Peruviani*, Ph. Lond.), and it enters into ſeveral of the artificial or compound balſamic preparations. The doſe of this balſam is from two to twelve grains, and it may be given in the form of an emulſion mixed with water through the medium of yolk of egg. Almond and warm cordial pills are conveniently made up with this balſam, and their virtue is ſomewhat increaſed by it.

Beaumé aſſerts that it is ſometimes falſified by the ſecond oil that riſes from gum benzoin in diſtillation, digeſted upon poplar buds, which have a fine terebinthious odour, and afterwards mixed with a little of the true balſam. The comparatively low price of the genuine balſam, however, would ſeem to render this falſification ſcarcely worth the trouble.

Balſamum Tolutanum is the product of the Toluifera *Balſamum*, a tree which grows in the province of Tolu, in Spaniſh America, behind Carthagena. The balſam is obtained by making inciſions on the bark of the tree, and is brought over in ſmall gourd-ſhells. This balſam is of a reddiſh yellow colour, and pellucid; its conſiſtence when freſh is extremely tenacious, but by age it becomes brittle; but in hot weather, pieces of this balſam generally coaleſce and adhere to the bottom of any veſſel in which it is kept. The ſmell of this balſam is extremely fragrant and grateful: it has but little taſte; when chewed, it ſticks to the teeth, and appears almoſt inſoluble in the ſaliva, but gives a gentle aromatic warmth to the tongue. The Tolu balſam is one of thoſe that contain a notable proportion of the benzoic acid, and is therefore ſtrictly a balſam according to the modern acceptation, and probably owing to the preſence of this acid, it readily imparts its flavour to watery liquids, though it appears to be ſcarcely at all ſoluble in this fluid. Eight ounces of this balſam boiled for two hours in a cloſe veſſel in three pints of water make a very fragrant decoction, which, when mixed with the requiſite quantity of ſugar, forms the *ſyrupus Tolutanus*, Ph. Lond. In the Edinburgh Pharmacopœia the ſyrup is formed by the admixture of two pounds of ſimple ſyrup recently prepared and not yet cold, with one ounce of the tincture of Tolu.

This balſam is perfectly ſoluble in ſpirit of wine. The *tinctura Tolutana*, Ph. Ed. and *tinctura balſami Tolutani* Ph. Lond. are prepared by diſſolving an ounce and a half of Tolu balſam in a pint of rectified ſpirit of wine. It is eaſily ſoluble in the eſſential oils, but with difficulty in the fixed. By diſtillation *per ſe*, the ſublimed benzoic acid is firſt given out in a very gentle heat, together with a fragrant empyreumatic oil. On account of the benzoic acid, this balſam burns with a remarkably aromatic penetrating ſmoke; and was often an ingredient in thoſe fumigations which were formerly ſo much employed either with a view of purifying an infected atmoſphere, or for diffuſing a grateful ſcent. When taken medicinally, either the tincture is employed, or the balſam is united with water by egg or mucilage. Its powers are gently ſtimulating; but it appears altogether a trifling article of the Materia Medica, except on account of its odour. It is given with more ſecurity in pulmonary complaints than the other balſams; and it appears to have ſome effect in checking or diſguiſing the exceſſively offenſive fœtor of the breath of perſons ſuffering under ulceration of the lungs.

Balſamum

Balſamum Peruvianum is a balſam deſcribed by Murray (App. Med.), which Spielman ſuppoſed to be brought from India. In conſiſtence, and other ſenſible properties, it much reſembles the Tolu balſam, but appears to be weaker. Its origin is unknown, and it is ſuppoſed to be factitious. It is ſeldom ſeen, and never uſed.

Balſamum Carpathicum, Carpathian or Hungary balſam, *Krummholzbaum*, Germ.; called alſo *balſamum Libani*. This fine balſam is procured from the pinus Mugo and the pinus Ambra, which grow abundantly on the Carpathian mountains, the Tyrol, and many parts of Hungary, Germany, and Switzerland. The balſam is eſteemed by the common people as a ſovereign remedy for almoſt every diſorder external and internal. The *Oleum Templinum*, or *Krummholzöhl* is an oil of turpentine prepared by diſtilling this balſam, and is in equal repute. For a further deſcription of this and of all the turpentines, which are truly and properly *balſams* in the uſual meaning of the term, ſee the articles PINUS, and TURPENTINE, particularly the latter, under which we mean to include moſt of the reſinous products of the different ſpecies of fir.

Balſamum Canadenſe, a very fine fragrant and powerful TURPENTINE, procured from the PINUS *balſamea*, the Virginian or Canada fir.

Balſamum Styrax, ſtorax, or liquid amber. See STYRAX.

§ 2. *Artificial Balſams.*

Theſe are preparations of the Materia Medica formerly in much repute, and compounded of a vaſt variety of reſinous and aromatic drugs, the whole brought to a thickiſh conſiſtence, ſo as to reſemble the natural balſams. They are but little employed at preſent. Any preparation in which oil was ſo far thickened as to be brought to a treacly conſiſtence, was termed, in the older Pharmacopoeias, a balſam, and many of this ſpecies were equally uſed as external and internal applications. We ſhall only mention a few of theſe preparations.

Balſamum Locatelli.—Of the former London and Edinburgh Pharmacopoeias. In the former, it was prepared by melting half a pound of yellow wax with about half a pint of olive oil, then adding another half pint of oil, with half a pound of Straſburg turpentine, and when nearly cold, ſtirring in ſix drams of red ſaunders wood to colour the whole. In the latter, inſtead of the red ſaunders, balſam of Peru, and powdered dragon's blood were added to the melted wax, oil, and turpentine. Another variety of this preparation uſed in the Paris Pharmacopoeia, is to employ wax, olive oil, white wine (which was evaporated off the wax and oil), turpentine, ſaunders wood, and Peruvian balſam.

Balſamum Commendatoris, Baume du Commandeur.—Balſam of Berne.—Wade's Balſam.—Jeſuits Drops, or *Friar's Balſam.* Under all theſe appellations, and with ſome variation in the ingredients, was this celebrated balſam known and prepared. In the Paris receipt, a tincture is firſt made of angelica root and the flowers of hypericum in ſpirit of wine, in this are diſſolved myrrh, olibanum, aloes, ſtorax, benzoin, Peruvian balſam, and ambergris. The whole makes a thick, fragrant, and highly ſtimulating liquid; which is uſed either internally as a cordial and ſuppoſed vulnerary, or externally to promote the cicatrization of wounds. A judicious reformation of this balſam is retained by the London and Edinburgh colleges, under the name of—

Balſamum Traumaticum, or *Tinctura Benzoës Compoſita.* This is prepared by diſſolving three ounces of benzoin, two ounces of ſtorax, one ounce of balſam of Tolu, and half an ounce of aloes, in two pints of rectified ſpirit of wine. The Edinburgh college omit the ſtorax.

Balſamum Vitæ, Baume de Vie. This powerful medicine was prepared by Hoffman, under whoſe name it went. It conſiſts of a ſolution of ſeveral eſſential oils, and a ſmall portion of Peruvian balſam, in highly rectified ſpirit of wine. It is extremely fragrant and ſtimulating, and is employed almoſt entirely as an internal medicine in languors, faintings, violent colic, and other caſes that require a ſudden and powerful ſtimulant. The ingredients in the Brandenburgh pharmacopoeia, adopted as an improvement of Hoffman's balſam of life, are the eſſential oils of lavender, nutmegs, cloves, rhodium, wild thyme, cinnamon, lemon, bergamotte, and balſam of Peru, diſſolved in ſpirit of lavender. The preſent laudable cuſtom of ſimplifying the pharmaceutical preparations, would probably diminiſh the number of theſe eſſential oils which appears to be quite arbitrary.

A mixture of eight ounces of vitriolic acid, and two ounces of olive oil forms the—

Balſamum Arthriticum, a very powerful external application, in which the corroſive power of the vitriolic is moderated, but it requires to be uſed with great caution. In preparing it, the acid muſt be added very gradually to the oil with conſtant agitation, otherwiſe part of the oil will be charred and reduced to a hard black maſs. When well prepared, it is of a very dark brown colour, and an uniform balſamic conſiſtence.

The laſt of the artificial balſams which we ſhall mention, are the combinations of ſulphur with oil.

Balſamum Sulphuris, or *Oleum Sulphuratum*; Ph. Lond. and Edin. prepared by melting in an iron pot flowers of ſulphur, with four, or with eight times the weight of olive oil.

The reſult is a thick, fœtid, tenacious balſam.

Petroleum Sulphuratum is prepared the ſame way, only with the uſe of petroleum, inſtead of olive oil.

Balſamum Sulphuris Terebinthinatum. B. S. *Aniſatum*, which are now nearly diſuſed, were prepared by digeſting the ſulphur in oil of turpentine, in glaſs veſſels on a ſand heat, and in the latter caſe, alſo adding oil of aniſe ſeed. Oil of turpentine readily diſſolves the ſulphur, and with vehemence when in quantities, ſo that this preparation ſhould be made in a very large mattraſs. All the ſulphur balſams differ from the other balſams in having a very offenſive ſmell and taſte. They are hot and irritating, and their internal uſe is very limited. Externally, the thick ſulphur balſam is uſed in farriery.

BALSAM *Apple, Male*, in *Botany*. See MOMORDICA.

BALSAM *Bay*, in *Geography*, lies on the weſt ſide of Old Cape François, and on the north ſide of the iſland of Hiſpaniola, or St. Domingo, in the Weſt Indies. N. lat. 19. 42°. W. long. 69° 35'. See BAUME.

BALSAMATION. See EMBALMING.

BALSAMELÆON, in the *Materia Medica*, a name given by ſome authors to the balm of Gilead, or true *balſamum Judaicum*.

BALSAMICS, in *Medicine*. Before we conclude the article of balſams, it may be proper to make a few obſervations on their uſe in medicine. Of the properties which have been attributed to the internal uſe of all balſams, none is more ancient, and commonly prevalent than that of *healing* or *vulnerary*. This idea appears to have ariſen from the obſervations of their uſe, when externally applied to a recent wound. If a gaſh is made in the hand with a clean cutting knife, and the parts are brought together and bound up with a rag dipped in any balſam, and left undiſturbed for ſome days,

it is a matter of common remark, that the wound will generally heal without any ſuppuration, by ſimple union of the divided parts. However, it is highly probable that the balſam acts, in this caſe, principally as a cement to keep the divided lips in more complete re-union, and to exclude the external air; for the ſame application to the ſurface of an open lacerated wound, is known by every ſurgeon frequently to bring on extreme pain and inflammation, and to increaſe all the danger of too extenſive ſuppuration or gangrene. The natural balſams are ſome milder than others, but all have a certain degree of acrimony, which renders their indiſcriminate uſe in injuries of the body extremely hazardous; though under due management they may be of eſſential ſervice. But ſcarcely a ſingle circumſtance which recommends their external uſe, can apply to internal ulceration or rupture of veſſels. The healing power depends chiefly on the mode of application, the degree of *topical* ſtimulus, and probably the excluſion of external air; and hence, the value which has been ſet on balſams as *internal* vulneraries is entirely loſt. A languid indolent ulcer in the kidney might perhaps be aſſiſted by local ſtimulating remedies, but when the remedy muſt enter the ſtomach, and pervade all the veſſels mixed with and diluted by the common circulating fluid, the remedy is no longer local, and the irritation which it produces, is either counteracted during the circulation, or is equally diffuſed over the whole ſyſtem. Balſams, therefore, though they are by no means to be deſpiſed, are no longer viewed with that degree of partiality which the older phyſicians entertained for them, and repeated experience has ſhewn them to be ſometimes abſolutely uſeleſs, and often poſitively detrimental in internal ulceration of the lungs, kidney, or other diſeaſes for which they have been long celebrated.

BALSAMINA, or Balsam, in *Botany*. See Impatiens.

BALSAMITA. See Achillea, Chrysanthemum, and Tanacetum.

Balsamita, in the *Materia Medica*. See Tanacetum.

Balsamita, in *Entomology*, a ſpecies of Aphis, that feeds on the *tanacetum balſamita*. Müll. Zool. Dan.—The general colour is black; abdomen green; eyes red.

BALSAMON, Theodore, in *Biography*, an eminent maſter of the canon law, flouriſhed in the Greek church towards the cloſe of the twelfth century. He was appointed guardian of the laws and records, i. e. Nomophylax and Chartophylax, of the church of Conſtantinople; and he was nominated by the Greek church to the patriarchate of Antioch; but this ſee being ſeized by the Latins, never came into his poſſeſſion. By the emperor Iſaac Angelus Comnenus he was flattered, for ſerving his own purpoſes in favour of Doſitheus, with the hope of being advanced to the patriarchate of Conſtantinople; and thus ſeduced, he maintained, in the aſſembly of the prelates, that the tranſlation of the patriarch of Jeruſalem to this elevated ſtation, was agreeable to the canon law, and the prelates acquieſced in his opinion. But after this exerciſe of ingenuity and violation of conſcience, he was deceived and diſappointed; for Doſitheus was preferred, upon the authority of his deciſion. Balſamon wrote ſeveral learned works on canon law; particularly "Commentaries on the Apoſtolical Canons, the General and Particular Councils, and the Canonical Letters of the Greek fathers," printed in folio, in Greek and Latin, at Paris, in 1620; and in two volumes folio, in "Beverege's Pandects of Canons," printed at Oxford in 1672. He alſo wrote a "Collection of Eccleſiaſtical Conſtitutions, which may be found in Greek and Latin in "Juſtelli Bibliotheca Canonica," and other learned works. Fabr. Bibl. Græc. t. v. p. 33. t. ix. p. 184. t. xi. p. 47. t. xii. p. 403, &c.

BALSANO, in *Geography*, a town of Italy, in the kingdom of Naples, and province of Bari; ſeven miles ſouth of Bari.

BALSAS, a town of South America, in Peru, in the juriſdiction of Caxamarca, near the river Maragnon.

Balsas, in *Navigation*. See Catamarans.

BALSEY *Cliff*, in *Geography*. See Bawdsey.

BALSHAM, Hugh de, in *Biography*, an Engliſh divine, biſhop of Ely, and founder of St. Peter's college, or Peter-houſe, in Cambridge, was born, probably, at Balſham in Cambridgeſhire, towards the beginning of the thirteenth century. In 1247, he was nominated by the monks of the Benedictine monaſtery of Ely, of which he was ſub-prior, to the ſee of Ely: but Henry III. refuſed to confirm the nomination. Balſham appealed to the pope, and the buſineſs remained for ten years undecided. At laſt, however, the pope and monks prevailed. When the prelate was ſeated in his ſee, he projected the laudable deſign of providing education for poor ſcholars, and inſtituted a college, ſince known by the name of Peter-houſe. He died at Dodington, in 1286, and was buried in the cathedral church of Ely. By his will he left many books to his ſcholars, and 300 marks for erecting new buildings. By an inſtrument, dated in 1291, his memory is annually celebrated in his college. The diſtinction of juriſdiction between the chancellor of the univerſity of Cambridge, and the archdeacon of Ely, was ſettled in 1276 by this prelate. Biog. Brit.

BALSIO, in *Ancient Geography*, a town of Spain, twenty miles from Turiaſo, near the Iberus, and ſouth-eaſt of Calaguriis.

BALSORA, in *Geography*. See Bassora.

BALTAGI, among the Turks, porters, and hewers of wood, in the court of the grand ſignior; who alſo mount on horſeback, when the emperor rides out. Part of them alſo, who for that purpoſe muſt be caſtrated, keep watch at the gates of the firſt and ſecond courts of the ſeraglio. Theſe laſt are called *capigi*, and their commander *capigi paſcha*.

BALTAS, in *Geography*, a town of Courland, 20 miles eaſt of Seelburg.

BALTAZARINI, in *Biography*, an Italian performer on the violin, who ſeems firſt to have brought that inſtrument into favour at the court of France, before any honourable mention is made of it elſewhere in that kingdom. He was ſent, 1577, at the head of a band of violin players from Piedmont, by marſhal Briſſac, to Catharine de Medicis, and appointed by that princeſs her firſt valet de chambre, and ſuperintendant of her muſic. The violin, however, ſeems to have been well known and in general uſe in Italy at this time, as Montagne, who was at Verona in 1580, ſays that there were organs and violins to accompany the maſs in the great church. Journ. du Voyage. Baltazarini having contributed greatly to the amuſement of the royal family and nobility, by his ingenuity in ſuggeſting magnificent plans, machinery, and decorations, for balets, divertiſements, and other dramatic repreſentations, received the quaint title of *de Beau-joyeux*. See Ballet *de la Royne*.

BALTCHATSKO, a town of Siberia, 48 miles eaſt of Kraſnoiarſk.

BALTEATUS, in *Entomology*, a ſpecies of Cimex (*Spinoſus*) that inhabits South America. It is oblong, ferruginous, with a tranſverſe yellow line, and many teeth on the hinder thighs. Fabricius. Gmelin.

BALTEATUS, a ſpecies of ELATER, of a black colour; anterior half of the wing-caſes rufous. Linn. Fn. Suec. A native of Europe.

BALTELUK, in *Geography*, a town of European Turkey, in the province of Bulgaria, twelve miles north-eaſt of Varna.

BALTEUS, in *Entomology*, a ſpecies of CERAMBYX, that inhabits Luſitania. The thorax is ſpinous; body ferruginous; abdomen ovate; wing-caſes with a blackiſh band. Linnæus.

BALTHAZAR, ANTHONY, in *Biography*, ſurgeon at Leyden, publiſhed in 1722, "Pathologia chirurgicalis, &c." 8vo. in which are ſome judicious obſervations on hernia congenita, and on wounds of the cerebellum, which he does not conſider as mortal. He mentions a hernia of the brain, reaching from the occiput to the ſhoulder, and perſons living to an adult age, who were born with ſpina bifida. True ſchirri are not curable, he maintains, by internal medicines. The work has conſiderable merit; of the author, however, we have no particular account. Haller Bib. Chirurg.

BALTHAZAR, *Chriſtopher*, a learned French Proteſtant, was born about the year 1588, at Villeneuve-le-roi, and, though educated in the Romiſh church, induced by the ſtudy of eccleſiaſtical hiſtory to embrace the reformed religion. On account of this change in his religious profeſſion, he was obliged to abandon the lucrative poſt of advocate to the preſidial of Auxerre, and to remove to Charenton, at a diſtance from his relations and friends, where he was publicly received among the Proteſtants. He was afterwards patroniſed by a wealthy young counſellor of Caſtres, who, as an acknowledgment for the benefit of his inſtructions, allowed him a liberal penſion. But attached to the Proteſtant cauſe, and deſirous of promoting it, he left the houſe of his patron, and devoted himſelf to writing. His talents and zeal attracted the notice of the reformed party, and in 1659, the national ſynod of Loudon granted him a penſion of 750 livres. In his diſſertations on the ſubjects in diſpute between the Catholics and Proteſtants, he particularly oppoſed cardinal Baronius, and his papers having been read and approved by M. Daillé, moderator of the ſynod of Loudon, were ordered for publication. But being returned to their author, who ſoon after died, they were probably ſuppreſſed by him on account of the defect of their ſtyle, as they could not be found. In his animadverſions on the annals of Baronius, he is ſaid to have been ſo attentive to his ſtyle, that he was not able to finiſh a ſingle page of his work in a day. Of his Latinity, a favourable ſpecimen may be ſeen in his "Panegyric on M. Fouquet," printed in 4to. in 1655. He alſo wrote in French "A Treatiſe on the Uſurpations of the Kings of Spain upon the Crown of France," 8vo. Paris, 1626, and another tract upon the ſame ſubject, publiſhed in 1657. Gen. Dict.

BALTHEUS *Orionis*, *belt of Orion*, in *Aſtronomy*, a part of the conſtellation of Orion, conſiſting of three bright ſtars of the ſecond magnitude, placed nearly in a right line in Orion's girdle.

BALTHICA, in *Conchology*, a ſpecies of TELLINA that inhabits the Baltic ſea. This ſhell is roundiſh, ſmooth, outſide carnation colour. Linn. Fn. Suec. About the ſize of a horſe-bean, and very rarely larger; extremely thin, pellucid, brittle, and white within. Chemnitz, &c.

BALTHICA, a ſpecies of HELIX found on the ſhores of the Baltic ſea. This ſhell is imperforated, ovate, and pointed; with elevated wrinkles; aperture ovate, and very ample. Linn. Fn. Suec. The animal is black, with two tentacula; ſhell pellucid, and with four whorls.

BALTHICUS, a ſpecies of NAUTILUS, of the ſmaller kind, that is found adhering to the roots of fuci. This ſhell is ſometimes opake, ſometimes gloſſy, frequently pellucid; and the wreaths either ſmooth, ſtriated, ribbed, or tuberculated. It is ſpecifically diſtinguiſhed by being white, convex, aperture linear, and the firſt wreath much larger than the others. Schroët.

BALTIC, or EAST-SEA, anciently called Variatſkoi moré, or the ſea of the Varags or Varagians, in *Geography*, lies weſtward of Ruſſia. Ptolemy calls it Venedicus ſinus; Tacitus, mare Suevicum; and Pliny ſpeaks of it under the name of Codanus ſinus. The Ruſſians denominate it Baltiſkoi moré; the Germans the Oſt-ſee; and the Swedes Oſter-ſion. That part of it which waſhes the coaſts of the governments of St. Peterſburg, Reval, and Vyborg, is called the gulf of Finland, which is above four hundred verſts in length, and from a hundred to a hundred and twenty broad; the part extending between the government of Riga and the iſland Œſel, is called the gulf of Riga. The chief harbours in the Baltic are, Riga or Dunamunde, Reval, Pernau, Habſal, Rogervyk, now called Baltic-port, Peterſburg or Cronſtadt, Vyborg, Frederickſhamm, and Arenſberg in the iſle of Œſel. The principal iſlands in this ſea are, Rugen, Bornholm, Oland, Gottland, Œſel, Dago, Falſter, Mohn, Seitſari, Peniſari, Lavanſari, Tyterſari, Hochland, Cronſtadt. There are great fiſheries in theſe parts, and numbers of ſeals are taken; but far more conſiderable is the navigation; as it may be computed that every year upwards of two thouſand ſhips of burden paſs to and from the Ruſſian ports alone. Much ſkill and caution are requiſite for navigating this ſea, and eſpecially the gulf of Finland, both on account of the heavy ſqualls and gales of wind ſo frequent here, and the multitude of rocks and ſhelves with which theſe ſeas abound. The water is only brackiſh, and has a very perceptible current, ſo that in northerly winds it is almoſt freſh to the taſte. It is aſſerted, on very good foundation, that the water of the Baltic is every year decreaſing; indeed, by repeated obſervations made in Sweden, it is found to ſubſide at the rate of forty-five inches every hundred years. Mr. Otto (ubi infra) is of opinion, that nothing certain can be determined upon this point. Since the time when the Baltic was confined within its preſent boundaries, the decreaſe and increaſe of its water are, as he conceives, merely apparent; and it may have happened from various cauſes, that land may have been gained in one quarter and loſt in another. Large rivers, which flow with great rapidity, may, for example, have carried with them into the ſea a great deal of earth and ſand, by which the beds at their mouths may have been raiſed, and the banks extended towards the ſea. The Baltic has Denmark on the ſouth, Sweden to the weſt, Lapland to the north, and to the eaſt Bothnia, Finland, Livonia, Ingria, Courland, and a part of Poland. It communicates with the Cattegatte to the ſouth by the Sound, the great and the leſſer Belt. At Pillau and Memel it communicates with two large lakes, the Friſch Haff and Curiſch Haff, both of which contain freſh water. The waves of the Baltic are leſs high than in the ocean, but they ſucceed one another in greater number and with more impetuoſity, and thus are more haraſſing to the ſhips. In its agitations it depoſits amber on the ſhores of Courland and Pruſſia. It appears from Tacitus (De Moribus German. c. 44, 45.) that the knowledge which the Romans acquired of the maritime powers of the Baltic was obtained by their land journies in ſearch of amber. The Baltic is liable to be frozen for about three months in the year, which may probably be in part owing to the freſhneſs

of its water, which again may be occaſioned by the numerous rivers that flow into it. The number of ſtreams which directly or indirectly empty themſelves into this ſea, amount, according to Buffon, to 40; and among theſe the Oder, the Viſtula, &c. are the moſt conſiderable. We are aſſured by hiſtory, that this ſea has been ſometimes totally frozen during ſevere cold. This was the caſe in 1333, at which time people could travel on the ice from Lubec to Pruſſia and Denmark; and on this occaſion tents were erected in different places for the accommodation of travellers. A ſimilar phenomenon occurred in 1399, and in 1533; and in 1423, people could walk and ride over the ſea in a ſtraight line from Konigſberg to Lubec. Journies of the like kind were undertaken, ſix years after, not only from Pruſſia to Holſtein, but alſo from Mecklenburg to Denmark; and this was done likewiſe in 1459. The froſts of the year 1709, and alſo of 1740, were alſo very remarkable. The depth of the Baltic, in moſt places, never exceeds 50 fathoms. In ſome few places of the gulf of Bothnia no bottom is to be found; but in others, quite near, the depth is not more than 50 fathoms.

It has been obſerved, that the water in the Baltic is cooler even in the hotteſt ſummers than that of the other ſeas. The Baltic has no tides, or is not ſubject to a regular ebbing and flowing, as it is ſurrounded by land, and is united with the North ſea only by the Sound and the two Belts: which circumſtance has given occaſion to its being called the inactive ſea, or "Mare pigrum." During a long continuance of the weſt wind its natural efflux is prevented, and a conſiderable quantity of water is forced into it from the North ſea; ſo that it then riſes on the coaſts a little above its uſual level. This connection, however, with the German ocean is ſometimes the cauſe that the ebbing and flowing of the latter, though weak, co-operates with the Baltic, ſo that traces of their effects may be perceived. See Phyſical Obſervations on the Eaſt or Baltic Sea, by F. W. Otto, from "Abris einer Naturgeſchichte des Meeres, Berlin, 1792 and 1794, 2 vols. 8vo.

Baltic *Port*, formerly called Rogervyk, was raiſed to a circle town in 1783, and one of the five diſtricts of the government of Reval, or Eſthonia, according to the geographical diviſion of the Ruſſian empire in 1782 and 1783. Situate in a bay on the Baltic, in the government of Reval, lat. 59° 22′. long. 41° 51′ 3″. it has 110 timber houſes, 211 inhabitants, and a brick church. This harbour has been greatly improved of late by art. Its trade ariſes from the fiſhery, &c. but it has few or no manufactories.

Baltic *Fiſhery* and *Commerce*. A conſiderable fiſhery is carried on along the coaſts of the Baltic. The gulfs of Riga and of Finland contain generally the ſame ſpecies of fiſh, and the employment which the produce of both occaſion is nearly equal. The naturaliſt of Livonia (Fiſcher) enumerates in the waters belonging to that province forty-nine different ſpecies of fiſh, among which the ſalmon, ſtreamlings, pike, and lampreys, if not for home conſumption, yet for exportation, are the moſt important. The ſalmon is caught in almoſt all the rivers, but thoſe in the Dvina and the Narova are the beſt, though they come far behind thoſe of Archangel in delicacy and plumpneſs; they are exported ſmoaked and ſalted. The ſtreamlings, a degenerate ſpecies of herring, are everywhere found on the ſhores of the Baltic, but eſpecially about Pernau, where they are in ſuch quantities, that 300 of theſe ſmall fiſh are bought for three or five kopeeks; a ton of them when ſalted coſts from three to ſix rubles. Formerly they were exported; but the northern herrings have annihilated this branch of commerce, which are at preſent even bought by Livonia, the ſtreamlings being not ſufficient for the home and the foreign conſumption. Yet inſtances are not wanting of 300,000 of them having been taken at one ſucceſsful draught. One ſpecies of fiſh quite peculiar to theſe waters is the kyllo ſtream[illegible], a ſmaller and more delicate variety of the true ſtreamling, caught in great numbers in autumn near Reval and Rogervyk. They are pickled, and form a good ſubſtitute for anchovies and ſardines, and are accordingly, thus prepared, ſent abroad to various parts. Not leſs exquiſite are the potted lampreys that come particularly from Narva. The greateſt ſhore of the gulf of Finland contains [illegible], ſalmon, and carp; even ſturgeon are found in the gulf of Cronſtadt, and likewiſe at times in the Neva. Of the ſmaller ſorts of fiſh with which the government of Vyborg is provided to a great ſuperfluity, an exceedingly great quantity is brought alive in pierced veſſels to St. Petersburg, and there ſold cheap at the water ſide in the boats which form a ſort of fiſh market, and others that lie in various parts of the canals. In winter the tranſport of frozen fiſh from the remoter parts of the empire is alſo very conſiderable. The Ruſſian commerce, in all the ports, which may be generally termed the Baltic trade, as it is ſtated by Mr. Tooke, from Herman and Tabbert, amounted in 1787 to a ſum of 25,750,000 rubles, of which the exports make 21,200,000, and the imports 14,550,000 rubles. Tooke's View of the Ruſſian Empire, vol. iii. p. 72, 454.

BALTIMORA, a *Dicia* (ſo named by Linnæus in honour of F. C. lord Baltimore, proprietor of Maryland in North America). Linn. Sexu. Syſt. 1332. Juſſ. 187. Gærtn. t. 169. Cavan. *Icones fl. Hiſpan.* Nat. Ord. *compoſitæ oppoſitifoliæ*. Corymbifera. Juſſ. Gen. Char. *Cal.* common cylindric; leafletsſeven, lanceolate, erect; the interior ones ſhorter. *Cor.* compound, radiate; coroliules hermaphrodite of the diſk (ſolitary); females of the ray two; proper of the hermaphrodites funnel-form, with a five-cleft, tomentoſe border; of the females ligulate, ovate, trifid, the middle ones leſs. *Stam.* in the hermaphrodite, filaments five; anthers cylindric. *Piſt.* in the hermaphrodite, germ obſcure; ſtyle ſhort; ſtigma none: in the females, germ oblong, crowned with a toothed deciduous calycle; ſtyle filiform, very ſhort; ſtigmas two, filiform, longer than the coroliule. *Per.* none. *Calyx* unchanged. *Seeds*, in the hermaphrodite none; in the females three-feeded, naked, gibbous at the top. *Rec.* chaffy.

Eſſ. Gen. Char. *Cal.* cylindric, many-leaved; ray of the corolla five-flowered; down none. *Rec.* chaffy.

Species, 1. B. *recta*. Gærtn. Fruct. 2. 444. An annual upright plant about two feet high. Stem four-cornered, channelled, green, rugged at the angles. Branches ſhort, lateral; leaves oppoſite, ſtalked, ovate, acuminate, ſerrate, three-nerved, ſomewhat tomentoſe; flowers yellow, in terminal panicles; coroliules of the diſk tomentoſe, with black anthers. This is a diſtinct genus from Milleria, although the plant much reſembles it. A native of Maryland, near Baltimore. Introduced in 1781 by Mont. Thoum. It flowers in June and July.

BALTIMORE, in *Geography*, a county of Maryland, in North America, lies between Patapſco and Gunpowder rivers; the former ſeparating it from Ann Arundel county on the ſouth and ſouth-weſt, and Gunpowder and Little Gunpowder diviſing it from Hartford county on the eaſt and north-eaſt. It has Frederick county on the weſt and north-weſt, Pennſylvania on the north, and Chelapeak bay on the ſouth-eaſt. Beſides the rivers which bound it, and their branches, this county has Back and Middle rivers, between the two former, but they are rather arms of Chelapeak bay than rivers. In this county there are numerous iron works; and it contains 25,434 inhabitants, including 5,877 ſlaves.

Baltimore, the chief town in the above county, and the largeſt in the ſtate of Maryland; ranks in ſize the fourth, and in commerce the fifth, in the United States. It is ſeated on the north ſide of Patapſco river, at a ſmall diſtance from its junction with the Cheſapeak, and ſurrounds what is called the Baſon, in which the water riſes at common tides to the height of five or ſix feet, and which is reckoned one of the fineſt harbours in America. This baſon, ſays Weld, affords about nine feet of water, and is large enough to contain 2000 ſail of merchant veſſels. Along this baſon are wharfs and ſtores through the whole length of the town. Baltimore is divided into the part called the town, and that called Fell's point, by a creek, over which are two bridges; but the houſes are irregularly ſcattered from the one to the other. At Fell's point the water is deep enough for ſhips of burden, but only ſmall veſſels go up to the town. Wharfs have been built at this point, by the ſide of which veſſels of 600 tons burden may lie with perfect ſafety. Here many perſons have been induced to ſettle, on account of its contiguity to the ſhipping. Upwards of 700 houſes have been already erected there, and regular ſtreets laid out, with a large market place. Theſe houſes, generally ſpeaking, are conſidered as a part of Baltimore, though they apparently form a ſeparate town, being more than a mile diſtant from the other part of the town. Fell's point is chiefly the reſidence of ſeafaring people, and of the younger partners of mercantile houſes, who are ſtationed there to attend the ſhipping. The ſituation of Baltimore is low, and it was formerly thought inſalubrious; but by its rapid increaſe, and the improvements attending it, the air is leſs loaded with vapours, and the town is become more healthy. The ſeaſon of the year, leaſt favourable to health, is autumn, when the more opulent inhabitants retire to their country ſeats, delightfully ſituated in the neighbourhood. The principal ſtreet, called Market ſtreet, is nearly a mile long, and about eighty feet wide, and runs nearly from eaſt to weſt, parallel with the water; it is croſſed at right angles, much after the manner of thoſe in Philadelphia, by other ſtreets, ſeveral houſes of which are well built, leading from the water. North and eaſt of the town the land riſes, and affords a fine proſpect of the town and bay; the town, the point, the ſhipping both in the baſon and at Fell's point, the bay as far as the eye can reach, riſing ground on the right and left of the harbour, a grove of trees on the declivity at the right, and a ſtream of water breaking over the rocks at the foot of the hill on the left, all conſpire to complete the beauty and grandeur of the proſpect.

In 1787, Baltimore contained 1955 dwelling-houſes, 1200 being in the town, and the reſt at Fell's point. It then contained 152 ſtores. The number of the inhabitants of the town and precincts amounted, in 1791, to 13,503, including 1,255 ſlaves. But the number of houſes and inhabitants have ſince that time very much increaſed. Mr. Weld, who viſited this place in 1795, ſays that it contains about 16,000 inhabitants; among whom are to be found Engliſh, Iriſh, Scots, and French; but the Iriſh, of whom many are the principal merchants of the town, are the moſt numerous. Since the war it has received a great acceſſion of French, both from France and from the Weſt India iſlands.

Moſt of the inhabitants are engaged in trade. They are moſtly plain people, ſociable, however, among themſelves, ſays Weld, and very friendly and hoſpitable towards ſtrangers. "There are many reſpectable families in Baltimore," ſays Morſe, "who live genteelly, are hoſpitable to ſtrangers, and maintain a friendly and improving intercourſe with each other; but the bulk of the inhabitants, recently collected from almoſt all quarters of the world, bent on the purſuit of wealth, varying in their habits, their manners, and their religion, if they have any, are unſocial, unimproved, and inhoſpitable." The churches and places for public worſhip are ten in number; one reſpectively for Epiſcopalians, Preſbyterians, German Lutherans, German Calviniſts, Reformed Germans, Nicolites or new Quakers, Baptiſts, Roman Catholics, and two for Methodiſts. The beſt building, and the handſomeſt in the town, is the Preſbyterian church, lately erected. At Baltimore there are two theatres, that are uſed occaſionally; cards and dancing are favourite amuſements, both in private and public aſſemblies, which are held every fortnight. They have three incorporated banks in this town, and the number of notes iſſued from them, ſome of which are for ſo ſmall a ſum as a ſingle dollar, is ſo great as almoſt to preclude the circulation of ſpecie. Gold is extremely ſcarce. As for the ſtate of the trade of this town, Morſe informs us, that, in 1790, it owned 27 ſhips, one ſnow, 31 brigantines, 34 ſchooners, and 9 ſloops; in all 102, whoſe total tonnage was 13,564. The exports in the ſame year amounted to 2,027,770, and the imports to 1,949,899 dollars. In July, Auguſt, and September of this year, they amounted only to 343,584 dollars; but in the ſame months in 1795, they were advanced to 1,675,748 dollars. The police of the town is conducted by a board of town commiſſioners, a board of ſpecial commiſſioners, and a board of wardens; the firſt board ſupplies its own vacancies, and is perpetual; the two laſt are appointed by electors, choſen every fifth year by the citizens. Baltimore is diſtant 53 miles S.W. from Elktown, 176 N.E. from Richmond in Virginia, 50 N.E. from the city of Waſhington, and 103 S.W. from Philadelphia. N. lat. 39° 21′. W. long. 77° 48′. Morſe's Geog. p. 353. Weld's Travels through N. America, in 1795, 1796, and 1797, vol. i. p. 43.

Baltimore *Bay*, lies near the extremity of the ſouthern coaſt of Ireland, between two headlands, and runs a conſiderable way into the land towards the north-eaſt. The town, or village, from which it takes its name, was formerly a place of trade, but being plundered by the Algerines, in 1631, it never recovered itſelf. It was one of the Iriſh boroughs, and ſent two members to parliament. It ſtands on the ſouth point of the eaſtern headland, in N. lat. 51° 15′. and W. long. 9° 10′; and has a good harbour. The bay extends from Baltimore point on the eaſt to Mizen head on the weſt, which are eight leagues aſunder. It has ſeveral coves or harbours beſides that of Baltimore, and contains many ſmall iſlands.

Baltimore, in *Ornithology*, a ſpecies of Oriolus, of a blackiſh colour, with a fulvous breaſt and belly, and a band on the wing of the ſame colour. Gmelin. Linn. Syſt. Nat. This is *le Baltimore* of Briſſon, Buffon, &c.; *Baltimore bird* of Cateſby; and *Baltimore oriole* of Latham.

"Baltimore birds are found in many parts of North America, the northern parts of which they occupy in ſummer, being ſeen ſometimes as far as Montreal in Canada, where they come in May; returning ſouthward in the winter, which accounts for their being ſeen in Maryland and Virginia at that time. They make the neſt of ſoft downy matter, in the ſhape of a purſe, tying it with threads to the very extreme forked twigs of the tulip, plane, and hiccory trees; in which they lay their eggs, and rear their young, free from depredators of all kinds.

"They are called fire-birds by the country people; and indeed, when in high plumage, their motions from branch to branch not inaptly reſemble a flaſh of fire." Latham Gen. Syn.

This kind is about ſeven inches in length. The male bird has the head, neck, and upper parts black; reſt of the body, bend

bend of the wing, and leſſer wing-coverts orange; greater coverts and quills black; the firſt tipped with white, which forms a white bar on the wing; two middle tail feathers black; four outer ones orange from the middle to the tips; and the two next orange at the tip; legs and claws black. The female, according to Buffon, has all the foreparts of a fine black, like the male; tail the ſame; wing-coverts and quills blackiſh; and thoſe parts of a dull red, which are of a fine orange in the male.

Baltimore, *Baſtard*. This is rather ſhorter than the true Baltimore. The bill is lead colour; forehead and cheeks black and yellowiſh mixed; hind head and nape olive-grey, marked with a few ſpots of black; upper part of the back dull black; lower part of the back, the rump, forepart of the neck, breaſt, belly, ſides, thighs, upper tail coverts, and under the wings, orange-yellow, brighteſt on the breaſt and tail-coverts; leſſer wing-coverts deep brown; the greater the ſame, tipped with dirty yellowiſh white; quills brown, bordered on both edges with whitiſh; the two middle tail feathers are olive and black confuſedly mixed; and the four outer ones of a yellowiſh olive; legs and claws blueiſh.

This latter bird is deſcribed by Linnæus under the ſpecific name of *ſpurius*. Dr. Latham, to whom we are indebted for the preceding minute deſcription, obſerves, that there ſeems to be much confuſion and uncertainty between the true and baſtard Baltimores and their females; and that at laſt they may prove to be mere varieties of one ſingle ſpecies; all perhaps referable to one or other ſex of the true Baltimore, in different ſtages of life. See Spurius *Oriolus*.

BALTINGLASS, in *Geography*, a town of Ireland, in the county of Wicklow, twenty-five miles weſt from Wicklow.

BALTISTAN. See *Little* Thibet.

BALTRUM, an iſland in the German ocean, near the coaſt of Eaſt Frieſland, about 4 miles long, and about 1½ broad. N. lat. 53° 47′. E. long. 6° 56′.

BALTSHIK, a town of European Turkey, in the province of Bulgaria, eighteen miles north-eaſt from Varna.

BALTURTA, a ſalt lake of Aſiatic Ruſſia, in the government of Orenburg, 144 miles S.W. from Uſa.

BALTZAR, Thomas, in *Biography*, the firſt great performer on the violin who viſited this country from the continent, whoſe name appears in our muſical annals; and the account, which Anthony Wood gives of this extraordinary muſician, in his life written by himſelf, is ſo characteriſtically quaint, minute, and amuſing, that we ſhall tranſcribe it in his own words; as it will at once convey an idea to the muſical reader of the ſuperiority of Baltzar's execution, and of the ſtate of muſic at Oxford during the latter end of the interregnum.

"Thomas Baltzar," ſays Ant. Wood, "a Lubecker born, and the moſt famous artiſt for the violin that the world had yet produced, was now (1658) in Oxon, and this day, July 24, A.W. was with him and Mr. Ed. Low, lately organiſt of Ch. Ch. at the houſe of W.ll. Ellis. A.W. did then and there, to his very great aſtoniſhment, hear him play on the violin. He then ſaw him run up his fingers to the end of the finger-board of the violin, and run them back inſenſibly, and all with alacrity and in very good tune, which he nor any in England ſaw the like before. A. W. entertained him and Mr. Low with what the houſe could then afford, and afterwards he invited them to the taverne; but they being engaged to goe to other company, he could no more heare him play or ſee him play at that time. Afterwards he came to one of the weekly meetings at Mr. Ellis's houſe, and he played to the wonder of all the auditory, and exerciſing his finger and inſtrument ſeveral ways to the utmoſt of his power. Wilſon (Doctor) thereupon, the public profeſſor, the greateſt judge of muſick that ever was, did, after his humourſome way, ſtoop downe to Baltzar's feet, to ſee whether he had a hufl on, that is to ſay, to ſee whether he was a devil or not, becauſe he acted beyond the parts of man.

"About this time it was that Dr. John Wilkins, afterwards biſhop of Cheſter, and called the *flying biſhop*, warden of Wadham, the greateſt curioſo of his time, invited him, and ſome of the muſitians to his lodgings in that coll. purpoſely to have a conſort, and to ſee and heare him play. The inſtruments and books were carried thither, but none could be perſuaded there to play againſt him in conſort on the violin. At length the company perceiving A. W. ſtanding behind in a corner neare the dore, they haled him in among them, and play, forſooth, he muſt againſt him. Whereupon, he being not able to avoid it, he took up a violin, as poor Troylus did againſt Achilles. He abaſhed at it, yet honour he got by playing with and againſt ſuch a grand maſter as Baltzar was. Mr. Davis Mell was accounted hitherto the beſt for the violin in England; but after Baltzar came into England, and ſhewed his moſt wonderful parts on that inſtrument, Mell was not ſo admired, yet he played ſweeter, was a well-bred gentleman, and not given to exceſſive drinking as Baltzar was."

At the reſtoration of king Charles II. Baltzar was placed at the head of his majeſty's new band of violins. His compoſitions have more force and variety in them, and conſequently required more hand to execute them, than any muſic then known for his inſtrument; as appears by a MS. collection of his pieces, with which we were preſented by the late Rev. Dr. Montagu North.

Ant. Wood tells us, that this celebrated violiniſt died in July 1663, and was buried in the cloiſter belonging to St. Peter's church, at Weſtminſter; and adds, that "this perſon being much beloved by all lovers of muſick, his company was therefore deſired; and company, eſpecially muſical company, delighting in drinking, made him drink more than ordinary, which brought him to his grave." A. Wood's Life, p. 190.

BALU, or Balov. See Bali.

BALUCLAVO, or Jambol, a ſea-port town of Crimea, on the Black ſea, with a fine harbour; the only one on this ſea capable of accommodating a large fleet.

BALVE, in *Geography*, a town of Germany, in the circle of the Lower Rhine, a ſeat of a bailiwick in the duchy of Weſtphalia, ſeated on the Hohn, 10 miles S.W. from Arenſberg, and 38 N.E. from Cologn.

BALUMA Point, lies on the weſt coaſt of Africa, to the ſouth-eaſt from cape Roxo. N. lat. 12°.

BALUS Head, the north-weſt point of the entrance into Ballingſkellings bay, on the ſouth-weſt coaſt of Ireland.

BALUZE, Stephen, in *Biography*, was born at Tulles in 1631, and as he advanced in years, directed his particular attention to manuſcripts, and to new editions of books, upon which he beſtowed much critical ſkill and erudition. His principal object, however, was eccleſiaſtical hiſtory; and in this department, ſuch works as the lives and letters of popes, and other eminent eccleſiaſtics, hiſtories of councils, and homilies. In 1656 he was taken under the patronage of the archbiſhop of Toulouſe, and he was, after his death, librarian to the famous Colbert. The king created in his favour a chair or profeſſorſhip in the royal college, appointed him inſpector of the college, and granted him a penſion. His "General Hiſtory of the Houſe of Auvergne," with-

ten at the inſtigation of cardinal Bouillon, gave ſuch offence to the court, that the work was ſuppreſſed by order of the parliament of Paris, and the author deprived of his places and penſion, and ſent into exile; nor was he recalled to Paris till after the peace of Utrecht. In old age, he amuſed himſelf in writing the hiſtory of his native place, under the title of "Hiſtoria Tutellenſis," printed in 1717, at Paris, in 4to. He died in 1718, much regretted by his friends on account of his amiable, obliging, and communicative diſpoſition; and honoured amongſt the learned for his extenſive acquaintance with books and manuſcripts. Gen. Dict.

BALZAC, John Lewis Guez de, was the ſon of a gentleman, whoſe name was William Guez, of Languedoc, and born at Angouleme in 1595, or 1596. In his youth, he attached himſelf to cardinal de la Valette, who for two years employed him as his agent at Rome. On his return, he was introduced to court, and much admired. By the favour of cardinal Richelieu he obtained a penſion, together with the brevets of counſellor of ſtate, and royal hiſtoriographer. His "Letters," firſt published in 1624, eſtabliſhed his reputation in early life, and were long regarded as perfect models in that kind of compoſition. "With much fine ſentiment and beauty of language, they are, however, ſtudied, pompous, and inflated." With regard to ſtyle and manner, they form a contraſt to the eaſe and ſprightlineſs of Voiture, though Balzac excells in reſpect to weight of matter. Such was this epiſtolary writer's reputation, that thoſe who were deſirous of being thought "bel eſprits" in France, wiſhed to engage Balzac in a correſpondence, that they might be in poſſeſſion of one of his letters. His ſtyle became the ſubject of criticiſm; and even the morality of his writings was abuſed, without ſufficient reaſon. Diſguſted by this treatment, he retired to his eſtate at Balzac, on the borders of the Charente, near Angouleme; and there employed his time in ſtudy and compoſition, and in correſpondence with his friends, among whom were ſome of the moſt learned and eminent of his countrymen. He was deemed a good claſſical ſcholar; and he wrote Latin with eaſe and elegance; and his converſation was unaffected and agreeable. His general character was that of a good man, and a devout charitable chriſtian. He ſet apart, even in his life-time, eight thouſand crowns of his eſtate, to be diſtributed to pious uſes. He built two chambers in the convent of capuchins at Angouleme, where he often reſided; and at his death he bequeathed 12,000 livres to this hoſpital, and he left an eſtate of 100 francs per annum, to be appropriated every two years as a prize to him who, in the judgment of the French academy, of which he was a member, ſhould write the beſt diſcourſes upon a ſubject of religion. He died in 1654, and was buried, according to his own order, "at the feet of the poor interred" in the hoſpital at Angouleme. "The French language (ſays Voltaire, age of Louis XIV.) is under very great obligations to Balzac. He firſt gave number and harmony to its proſe." In early life he ſeems to have been unduly admired, and afterwards he ſunk into unmerited degradation and neglect. His principal works are his "Letters," printed at different times; "Le Prince;" "Le Socrate Chriſtien;" "L'Ariſtippe;" "Entretiens;" "Latin verſes," in three books, of which his "Amyntas," and "Chriſt victorious," are moſt eſteemed. All theſe have been collected in two volumes, folio, and were publiſhed at Paris in 1665. Gen. Dict. Nouv. Dict. Hiſt.

BAMBA, in *Geography*, the largeſt and richeſt province or duchy of the kingdom of Congo, in Africa, ſituate between the rivers Ambriſi and Loze; the laſt of which parts it from the marquiſate of Pemba on the eaſt, and the Ambriſi from the county of Songo on the north. Along the ſea-coaſts it extends ſtill farther northward to the river Lelunda, and on the ſouth to that of Danda, which ſeparates it from the kingdom of Angola. The governors of this province bear the title of dukes, and are always princes of the royal family, being as deſpotic and arbitrary as if they were really kings. The ſoil is fertile, and capable of producing all the neceſſaries of life in great abundance, if it were duly cultivated. The ſea-coaſts produce a large quantity of ſalt, which forms a conſiderable article of exportation. The fiſhery of the Zimbis, whoſe ſhell is the current coin in this and the two neighbouring kingdoms, furniſhes alſo a valuable ſource of revenue. Several authors have added a third kind of treaſure in this province, viz. the mines of gold, ſilver, quickſilver, copper, tin, and iron, which are found in the mountainous parts; but the richneſs, and even the reality of theſe mines, have been queſtioned; and it is certain, that the iron mines are only allowed to be uſed, and that there are ſevere laws againſt meddling with any of the reſt. The interior of the country furniſhes elephants, ſtags, buffalos, tigers, civets, and parroquets; and here is a conſiderable traffic of ſlaves. The people are numerous, ſtrong, and warlike. In this province is a town of the ſame name, which is large and populous, diſtant about ſeventy leagues from the ſea, and in the poſſeſſion of the Portugueſe.

Bamba, a collection of villages in the kingdom of Dembea, in Abyſſinia, near the weſtern bank of the lake Tzana, or Dembea. N. lat. 12° 11′. E. long. 37°.

BAMBALA, in *Ancient Geography*, a maritime town of India, on this ſide of the Ganges. Ptolemy.

BAMBAMARCA, in *Geography*, a town of South America, in Peru, and juriſdiction of Patas, or Caxamarquilla.

BAMBAN, a town of Upper Egypt, ſeated on the Nile, about forty-two miles S. S. E. of Eſneh. N. lat. 24° 26′.

BAMBARA, an extenſive kingdom of Weſtern Africa, bounded by the Mooriſh kingdom of Beeroo to the north, and Maſina, a Foulah ſtate ſouth of Beeroo, by the diſtricts of Gotto, Baedoo, and Marciana, and Nigritia or Soudan, to the eaſt, by Kong to the ſouth, and by Ludamar and Kaarta to the weſt. The courſe of the river Jolibah, or Niger, lies through this country; and its capital is Sego, ſeated on this river, in N. lat. 14° 10′ 30″. and W. long. 2° 1′. The language of Bambara was found by Mr. Park, in his travels through this country, to be a ſort of corrupted Mandingo; and from Manſong, the king, who reſided in this city, he received tokens of favour, though from motives of prudence he was not admitted into the royal preſence, and he was ordered to leave Sego. This benevolent prince, in ſpite of the jealous machinations of the Mooriſh inhabitants, thought a ſtranger in diſtreſs a proper object of compaſſion and relief; and probably diſmiſſed him under an apprehenſion that he might not be able to afford him effectual protection againſt their blind and inveterate malice. This country is beautiful and highly cultivated; and at Kabba, which Mr. Park viſited, and which is ſituated at a ſmall diſtance from Sego, it bore, according to this traveller, a greater reſemblance to the centre of England, than to what he ſhould have ſuppoſed to have been the middle of Africa. The ſhea-trees (ſee Shea), from which the inhabitants prepare their vegetable butter, conſtituting a main article of their inland commerce, abound in this part of Bambara. Whilſt Mr. Park travelled through this country, he was much incommoded by the tropical rains; and he was chiefly indebted for his daily ſupport to the dooty or chief man in the ſeveral towns through which he paſſed. This officer ſeems to poſſeſs the authority of mayor in the corporate towns

towns of England; and it reflects great honour on the police of the African kingdoms, or on the benevolent manners of the natives, that it is conſidered as one part of the booty's province to beſtow food on the indigent traveller. "To ſuffer the king's ſtranger to depart hungry," as they expreſs themſelves, is an offence of a very heinous nature. See AFRICA, and SEGO.

BAMBELE (*glaux lanuſia*), in *Ichthyology*, the name of *cyprinus pharinus*, Gmel. in Gefner's Thierb.

BAMBERG, in *Geography*, a principality and biſhopric of Germany, in the circle of Franconia, is bounded on the north by the principality of Coburg and the Vogtland, on the eaſt by Brandenburg-Baryeuth and the eſtates of Nuremberg, on the ſouth by the eſtates of Nuremberg and the principality of Schwartzenberg, and on the weſt by the biſhopric of Wurtzburg. It is about forty miles long, and forty broad; the ſoil is good, and produces all ſorts of grain, fruit, and wine; and in the vicinity of the capital are ſuch numbers of laurel, fig, lemon, and orange trees, that this ſpot is generally called the garden of Italy. The inhabitants alſo rear a conſiderable number of cattle. The principal rivers are the Mayn, the Rotteh, the Itz, and the Regnitz. It contains eighteen cities and fifteen market-towns. At the diet of the empire, the biſhop, whoſe revenue is about 700,000 florins, takes the fourth place in the council of ſpiritual princes. The inhabitants are Roman Catholics. The military conſiſts of one company of 100 men, and 50 huſſars.

BAMBERG, the capital of the above biſhopric, is ſaid to have derived its name from Baba, ſiſter to the emperor Henry I. and is pleaſantly ſituated on the river Regnitz, in the midſt of a fruitful country. It was formerly an imperial city, but is now ſubject to its biſhop. The town is large and populous; and being ſituated in the centre of Germany, contiguous to ſeven or eight different ſtates, it is a very great thoroughfare. The ſtreets are wide, and the buildings neat and regular. It has no fortifications, but lies open, and has the appearance of a large village. The cathedral is one of the moſt magnificent in the empire. The chapter is compoſed of twenty capitular canons, and fifteen domiciled. The biſhopric was founded by the emperor Henry II. in 1006. Among other curioſities depoſited in the treaſury of this church, are the imperial crown of Henry II., conſiſting of ſix plates of gold adorned with precious ſtones, and another of his empreſs, compoſed of two circles of gold richly ſet with pearls and jewels; and alſo a folio MS. of the four goſpels in Latin, upon fine vellum, in a neat Roman character, with Gothic letters interſperſed, and very beautiful miniatures; the binding is adorned with pearls and precious ſtones. There is another Latin MS. in folio, of the four goſpels, with a commentary by St. Jerome, and fine miniatures; and a third in Gothic letters, with a binding of very great value; all of which were preſented to this church by Henry II. In this city there are ſeveral convents of men and women, two palaces, and an univerſity, founded in 1585. The biſhop is abſolute ſovereign of this town and diſtrict, and has ſeveral caſtles and royalties in Carinthia and other parts of Germany. He holds immediately under the ſee of Rome; and he is joint director of the circle of Franconia with the marquis of Culembach. The benefices in this biſhopric and that of Wurtzburg are reckoned the beſt in Germany. Within nine miles of Bamberg, at a place called Pommersfelden, there is a beautiful palace belonging to the houſe of Schonborn, which may be conſidered as one of the beſt in Germany. N. lat. 49° 51'. E. long. 10° 50'.

BAMBERG, *New*, a town of Germany, in the circle of the Lower Rhine, twenty miles ſouth-weſt of Mentz, and eight ſouth of Bingen.

BAMBINI, in *Biography*, a ſpirited Italian compoſer, who arrived at Paris during infancy, with the company of Italian ſingers who firſt performed in that capital the *Serva Padrona* of Pergoleſi, which gave birth to Rouſſeau's admirable "Lettre ſur la Muſique Françoiſe," and raiſed a party for Italian muſic, which has increaſed ever ſince. Bambini was the child, whoſe judicious accompaniment of the burletta ſingers on the harpſichord, Rouſſeau in his letter has ſo well deſcribed, and recommended to cloſely thorough-baſe players, who learn nothing elſe but the clattering of their records. This letter, for which Rouſſeau was burnt in effigy at the opera-houſe door at Paris, has never yet been forgiven, even by thoſe who pretend to admire no vocal muſic but Italian, or German on that model. See ACCOMPANIMENT.

BAMBLA, in *Ornithology*, a ſpecies of TURDUS that inhabits Cayenne, and is about the ſize of the common or domeſtic ſparrow. It is ſpotted; above rufous brown; beneath cinereous; wings black, with a tranſverſe white band. This is the *black-winged thrush* of Latham, and *lamblu* of Buffon.

BAMBO, in *Commerce*, an Eaſt India meaſure, containing five Engliſh pints.

BAMBOCCIO, in *Biography*, an eminent painter of converſations, landſcapes, cattle, &c. was born at Laeren, near Narden, in 1613; and for his real name of Peter Van Laer, they ſubſtituted in Italy that of Bamboccio, from his uncommon figure, the lower part of his body being one-third part larger than the upper, and his neck ſo ſhort that it was buried between his ſhoulders. His genius, however, was very great; and his taſte extended to every part of painting. He reſided at Rome for 16 years, and availed himſelf of the opportunities for improvement which that city afforded him. His ſtyle of painting is ſweet and true, and his touch delicate, with great tranſparency of colouring. His figures are well proportioned and correctly deſigned; and though his ſubjects are deduced from the lower kind of nature, ſuch as plunderings, playing at bowls, inns, farriers' ſhops, cattle, or converſations, his deſigns and execution were ſo excellent, that his manner was adopted by many of the Italian painters of his time; and he has been juſtly ranked in the firſt claſs of eminent maſters. His hand was as quick as his imagination, ſo that he ſeldom made ſketches or deſigns; but having marked the ſubject with a crayon on the canvas, he immediately finiſhed it. He poſſeſſed an aſtoniſhing memory, and the idea of any objects which he ſaw was ſo ſtrongly impreſſed on his mind, that he could repreſent them with as much truth as if they were placed before his eyes. The cloſe of his life was embittered by an aſthmatic complaint; and it is ſaid, that in order to terminate his miſery, he threw himſelf into a canal, and was drowned, A. D. 1673. Pilkington.

BAMBOO, in *Botany*. See ARUNDO, and NASTUS.

BAMBOO *Habit*, a Chineſe invention, by which a perſon, who cannot ſwim, may eaſily keep himſelf above water. Four bamboos, two before and two behind their bodies, are placed horizontally, and project about twenty-eight inches. They are croſſed on each ſide by two others, and the whole properly ſecured, leaving a ſpace for their body; it is put over their heads, and tied ſecure in two minutes.

BAMBOROUGH, in *Geography*, a village of England, in the county of Northumberland, near the coaſt of the German ocean, with a caſtle ſaid to be built by Ina, king of the Northumbrians, in the year 548. This caſtle with the eſtate was purchaſed by Crew, biſhop of Durham, and left

left to charitable uſes. One of the truſtees, Dr. Sharp, prebendary of Durham, reſided in this caſtle, and appropriated a part of it to the accommodation of ſhipwrecked mariners, and to the purpoſes of a granary, which ſerved for the ſupply of the poor with corn, in dear ſeaſons, at a low price. A patrole was kept every ſtormy night through the whole extent of the manor, which was eight miles, for the ſuccour of the diſtreſſed; and by the mode of firing a cannon from the caſtle, the place where any diſaſtrous accident occurred was pointed out, and directions given for the neighbouring people to afford aſſiſtance. This village is four miles eaſt from Belford, and 324 north of London.

BAMBOTHUM, in *Ancient Geography*, a river of Africa, in Lower Libya, from which extended a chain of mountains as far as mount Theon Ochema. Pliny.

BAMBOUK, in *Geography*, a kingdom of weſtern Africa, ſituate between the rivers Baſing and Faleme, which, by their junction with the Kokoro and other ſtreams, form the river Senegal; and bounded on the north by Kajaaga and Kaſſoon, on the eaſt by the rivers Baſing and Brooko, on the ſouth by Konkodoo or Concoudou, and Satadoo, and on the weſt by the river Faleme and Bondou. The town of Bambouk is ſeated on a ſtream which joins the river Faleme, and lies, according to Rennell's map, in about N. lat. 13° 24′. W. long. 9° 10′. This country, according to the account of the proceedings of the African aſſociation, is inhabited by a nation whoſe woolly hair and ſable complexion denote them to be of the negro race; but their character ſeems to vary in proportion as the country riſes from the plains of its weſtern diviſion to the highlands of the eaſt. The inhabitants are diſtinguiſhed into ſects or parties like the people of Woolli and Bondou, by the different tenets of Mahometans and Deiſts; they are equally at peace with one another, and mutually tolerate the opinions they reſpectively condemn. Their chief occupations are agriculture and paſturage; but they have made ſuch progreſs in the arts and manufactures, that they are able to ſmelt iron, and to furniſh themſelves with the ſeveral inſtruments of huſbandry and war. Their proceſs for weaving cotton cloth, the habit of this part of Africa, is difficult and laborious. Their common vegetable food appears to conſiſt of rice, and their animal diet of beef or mutton; a liquor prepared from fermented honey ſupplies the want of wine, and furniſhes the means of thoſe feſtive entertainments that conſtitute the luxury of the court of Bambouk. The king of Bambouk gave to major Houghton a friendly reception at Ferbanne, where he reſided; but the major did not long ſurvive this viſit. The mountains of Konkodoo, characteriſtically ſo called becauſe it is the "country of mountains," extend through Bambouk and Kaſſon, and are productive in gold. Proceedings of the African Aſſociation, by major Rennell, 1798.

BAMBRIDGE, or Bainbridge, *Chriſtopher*, in *Biography*, an Engliſh divine, was a native of Hilton, near Appleby, in Weſtmoreland, and a ſtudent in Queen's college, Oxford. By a rapid progreſs he was advanced, in 1507, to the ſee of Durham; and in the next year, to the archbiſhopric of York. Under Henry VII. he regained that royal favour, which had been interrupted in the reign of Richard III.; was made almoner to that prince, and employed by him in ſeveral foreign embaſſies. In the reign of Henry VIII. he was engaged in a negotiation with pope Julius II. under a pretence of reſtoring peace to Europe, but in reality to excite the pope's enmity againſt the king of France. Bambridge, attentive to his own intereſt, contrived ſo to ingratiate himſelf with the pope, as to obtain a cardinal's hat and an informal precedency in the conclave. He was alſo appointed legate of the eccleſiaſtical army, which was then beſieging Baſtia. Upon his return home, he manifeſted his gratitude to the pope by inducing his royal maſter to enter into an unneceſſary war in his defence. Ambition ſeems to have been the ruling principle of Bambridge; of his learning no evidence remains; and as to his temper, no favourable opinion can be entertained of it if we advert to the tragical incident that cloſed his life. Inflamed with reſentment againſt Renaud of Modena, his major-domo, he fell upon him with fury and beat him; and the enraged domeſtic revenged himſelf for the inſult and abuſe, by adminiſtering to his maſter a doſe of poiſon. This happened at Rome, on the 14th of July 1514. Biog. Brit.

BAMBUKALAISI, in *Geography*, a town of Aſiatic Turkey, in the province of Natolia, twelve miles north of Degnizlu.

BAMBUSA, in *Botany*, Lin. gen. Schreb. 607. Claſs, *hexandria monogynia*. Gen. Char. *Cal.* none, except glume-like bractes ſcattered, often three under each ſpikelet, oblong, pointed, concave, keeled, unequal, ſhorter than the floſcules, two oppoſite, the third leaning on the flat ſide of the ſpikelet; ſpikelets lanceolate, diſtichous, compreſſed, ſharp, nearly five-flowered. *Cor.* glume two-valved; valve inferior, oblong, ventricoſe, acuminate, towards the tip keeled and ſtreaked; interior lanceolate, flat, with complicated margins, ciliate, a little longer than the inferior, and projecting from it; nectary two-leaved, flat at the anterior ſide of the germ; leaflets ovate, acuminate, bearded at the tip, membranous. *Stam.* filaments ſix, capillary, almoſt the length of the corolla; anthers parallelopiped, two cleft at the baſe. *Piſt.* germ oblong; ſtyle capillary, two cleft; ſtigmas feathery. *Per.* none; corolla cheriſhes the ſeed, gapes? lets it fall? ſeed ſingle, oblong. *Obſ.* The ſuperior floſcules in ſeveral ſpikelets examined by Schreber were merely male; he therefore ſays, "ought not this genus to be transferred to *polygamia*?" For the reſt ſee Arundo Bambos, and Nastus. Gmelin has made two genera of this, under Bambus, and Naſtus.

BAMBYCE, in *Ancient Geography*, a town of Aſia, in Aſſyria, beyond the Euphrates; called alſo, according to Strabo, Edeſſa, and Hierapolis.

BAMFF, or Banff, in *Geography*, the capital of Banffſhire, in Scotland, ſtands on a gentle declivity at the mouth of the Deveron, a conſiderable ſtream which has its ſource among the mountains of Aberdeenſhire, and after winding through narrow vallies and well cultivated plains, falls into the Moray frith, a little below this ancient burgh. The earlieſt authentic document we meet with relating to this town ſtates, that Robert II. by virtue of charter, dated October 7, 1372, conferred on it all the immunities and privileges of a royal burgh; which were afterwards confirmed by James VI. and further by his grandſon Charles II. Soon after the union of South and North Britain, this burgh, in common with many others, loſt much of its political importance; as by that event it was united with Inverary, Cullen, Elgin, and Kintore, which return but one repreſentative to parliament. Agreeable to the *Sett*, or municipal government of Bamff, two thirds of its magiſtrates are re-elected annually. Duff-houſe, the family reſidence of the earl of Fife, together with the pleaſure grounds and plantations around that truly magnificent manſion; the harbour which is defended by a battery, and the ſhipping; the plain ſubſtantial bridge of ſeven arches over the ſmooth winding Deveron; the caſtle of Bamff belonging to the earl of Finlater; the town houſe and priſon, including its handſome ſpire; the pariſh church, an elegant and newly built ſtructure; are ſtriking and intereſting objects, with reſpect

to

to the general appearance and commercial conſequence of this flouriſhing ſea-port town. The induſtry of its inhabitants is ſufficiently manifeſt in their various employments; and thoſe of condition ſet a laudable example in the improvements carried on in the immediate vicinity; ſo that in all likelihood Bamff bids fair to accumulate wealth under circumſtances favourable to the ſpirited exertions of thoſe engaged in commerce and trade. The ſalmon-fiſhery extends about four miles on the Deveron. It belongs to the earl of Fife; and it yields him a yearly rent of 1250l. The right of this property, together with ſome land, was, in A. D. 1470, by reaſon of the poverty of the burghers of Bamff, alienated to perpetuity for a ſmall annual fue-duty or fine for the purpoſe of keeping the pariſh church and priſon in proper repair. Before the reformation, there was a convent dedicated to the Virgin Mary, which belonged to the order of Carmelites, or white friars; its houſe and lands were annexed to the old college of Aberdeen, in A.D. 1617; and in the year 1752, theſe were purchaſed by the preſent earl of Fife. The eccleſiaſtics, both epiſcopal and preſbyterian, are on the beſt terms with each other. The former are under the juriſdiction of the biſhop of Aberdeen; and the latter is under the preſbytery of Fordyce. The unfortunate James Sharp, archbiſhop of St. Andrews, the arch-epiſcopal ſee of Scotland, was born in the caſtle of Bamff, in May 1613.

The pariſh of Bamff is about ſix miles in length and two in breadth; its ſurface is beautifully diverſified, and the ſoil is generally good, though of different qualities. The greater part is kept in paſturage, on which a number of black cattle are annually reared. Population of the town in 1800, 3571. Bamff is about 165 miles north of Edinburgh. In the vicinity of this town is Duff-houſe, the magnificent manſion of the earl of Fife. This was built after the deſigns of the late Mr. Adam. It is enriched with fluted columns, ſculptured cornices, and ſtatues, vaſes, &c. which give peculiar elegance to its external appearance. The internal is ſplendidly furniſhed, contains a large, well-ſelected library, and many valuable paintings, &c. Cordiner's Antiquities and Scenery of Scotland.

BAMFFSHIRE gives name to one of the counties in Scotland; it is bounded on the north by the Moray frith, on the weſt by the counties of Moray and Inverneſs, and on the ſouth and eaſt by Aberdeenſhire. It extends about 36 miles in its longeſt diameter north and ſouth; and its average breadth is about 16 miles. Within its boundaries are included twenty-four pariſhes, and two royal boroughs. The ſurface of the country is agreeably diverſified with hill and dale, well-watered with rivers, and ornamented with ſeveral ſeats and their annexed plantations. The principal of theſe belong to the duke of Gordon, earl of Findlater, earl of Fife, and lord Bamff. Part of the county is mountainous; but the lower lands, and thoſe in the vicinity of towns, are in high cultivation. Its principal rivers are the Spey, which partly divides this county from Morayſhire; the Deveron, which ſeparates it from Aberdeenſhire; the Iſla, Conglas, Avon, and Fiddich. Some valuable minerals are found in this county; and great quantities of hones and whetſtones are obtained from a hill in the diſtrict of Balvenie. Several mountains are noted for their elevated ſummits. Of theſe Cairngorum, about 4050 feet in height, is the chief, and is reckoned among the higheſt of the Grampian hills. That of Belrinnes runs to the height of 2690 feet above the level of the ſea, and Knock-hill is eſtimated at 2500 feet. At Portſoy, near the north coaſt, is a ſtratum of ſerpentine, called Portſoy marble, alſo a ſpecies of granite, which when poliſhed exhibits various figures and characters, ſome of them reſembling thoſe of the Arabic and Hebrew alphabet. A great number of tumuli are ſcattered over the hills near the coaſt; and ſome druidical antiquities are in this diſtrict. The population of this county, according to the parliamentary report in 1800, was 35,807.

BAMIAN, or Bamiyan, a city which ſome have referred to Khoraſan, in Perſia; and others, with greater propriety, to that part of Independent Tartary, called great Bucharia, near its ſouthern limit, at the foot of mount Caucaſus, or near that part of this range of mountains called Paropamiſus, and Hindoo Khoo, and not far from the ancient Alexandria. Bamian belongs to the ſame portion of Bucharia which includes Gaur, and lies between this province and Cabul. It is eighty-eight geographical miles from Ghizni. N. lat. 34° 30'. E. long. 67°. It gives name to a diſtrict that extends from Balk towards the eaſt, or the kingdom of Cabul. This famous city, denominated the Thebes of the eaſt, is ſituated on the road between Bahlac, or Balk, and Cabul; and they reckon eight manzils, or days' journey, from Cabul to Bamian. Like Thebes in Egypt, it is entirely cut out of an inſulated mountain, and the valley round it is called, in the language of the country, the Tágári of Bámiyan; Tágávi being ſynonymous with Purganah or diſtrict. Nearly to the ſouth are the ruins of ſeveral buildings of maſonry round a ſmall conical hill; on the ſummit of which are the remains of the palace of its ancient kings. A rivulet, riſing in the adjacent hills, goes through the ruins of Ghulguleh and the Tágávi of Bamiyan, and falls into a ſmall lake, from which iſſue four rivers, the Hirmend, the Landhi-Sindh, the rivers of Bahlac, and of Conduz. The city of Bamiyan conſiſts of a great number of apartments and receſſes, cut out of the rock; ſome of which, on account of their extraordinary dimenſions, are ſuppoſed to have been temples. Some of them are adorned with niches and carved work; and there are ſome remains of figures, in relievo, which have been deſtroyed or disfigured by the Muſſulmans. Some remains of paintings on the walls are ſtill to be ſeen; but the ſmoke has almoſt obliterated them. In the Ayeen-Akbery it is ſaid, that there are about 12000 of theſe receſſes in the Tagavi of Bamian; and this account is confirmed by the general report of travellers. The country of the Afghans, as far as Bahlac and Badakſhan, abounds with theſe receſſes, called Samach'hes in the language of the country, or Samajes in Perſian. The moſt perfect are at a place called Mohi, on the road between Bamian and Balk; but as they are ſituated among precipices, the Muſſulmans have not thought of uſing them as habitations; the paintings with which they are adorned appear quite freſh. The attention of travellers is particularly attracted by two coloſſal ſtatues, which are ſeen at a great diſtance. They are erect, and adhere to the mountain from which they were cut out. They are in a ſort of niches, the depth of which is equal to their thickneſs; and in the Ayeen-Akbery, the largeſt is ſaid to be eighty ells high, and the other only fifty. But theſe dimenſions are exaggerated; and the truth ſeems to be, that they are only fifty cubits high. At ſome diſtance from theſe, there is another about fifteen cubits high. Authors are diſagreed both as to their ſex and their names. A late traveller ſays, that the drapery is covered with embroidery and figured work, which was formerly painted of different colours; one ſeeming to have been red, and the other retaining the original colour of the ſtone, or having been painted grey. According to Dr. Hyde, one of theſe ſtatues is called Surkh-But, or the red idol, and the other Kkink-But, or the grey idol. Between the legs of the male figure is a door leading into a ſpacious temple, at the entrance of which are ſtationed a few wretched Banyans, who ſell proviſions to travellers. According to Perſian authors, Bamian muſt have exiſted before

before the flood: but the followers of Buddha infift, that it was built by a religious man called Shama, fuppofed to be the fame with the patriarch Shem, and that his pofterity lived there for feveral generations. Hence Balk-Bamian is faid to have been originally the place of abode of Abraham, who, according to fcripture, and the Hindu facred books, removed with his father to diftant countries to the weftward. According to Diodorus Siculus, Bamian exifted before Ninus; for this hiftorian, as well as the Perfian authors, has miftaken Bahlac for Bamian; which he defcribes as fituated among fteep hills; whilft Bahlac is fituated in a low, flat country, and at a great diftance from the mountains. The natives look upon Bamian, and the adjacent countries, as the place of abode of the progenitors of mankind, both before and after the flood; meaning by Bamian and the adjacent countries all the country from Siftan to Samarcand, reaching towards the eaft as far as the Ganges. This tradition is very ancient, and is countenanced equally by Perfian authors and the facred books of the Hindus.

Bamian, as well as Cabul and Balk, were at an early period in the hands of the Muffulmans. There were even kings of Bamian; but this dynafty lafted but a few years, and ended in 1215. The kings and governors refided at Ghulguleh, called at that time the fort or palace of Bamian. It was deftroyed by Genghiz Khan, in the year 1210; and becaufe the inhabitants had prefumed to refift him, he ordered them to be butchered, without diftinction either of age or fex; and in his brutal rage, he fpared neither animals nor even trees. He ordered it to be called in his own language Mau-balig, or the city of grief and forrow; but the inhabitants of the country called it, in their own dialect, Ghulguleh, which word ufed alfo in Perfian, fignifies "the cries of woe." To have rebuilt it would have been ominous; and, therefore, they erected a fort on a hill to the north of Bamian, which is called to this day the imperial fort. This fort was alfo deftroyed by Zingis the Ufbeck, in 1628, and has not been rebuilt fince. The city of Bamian is repreſented in the ancient legends of the country as the fountain of purity and holinefs; and was called Para-Bamiyan, or Bamiyan the pure and holy, and the diftrict of Bamiyan might alfo be called Para-defa, the pure and holy country. It is now barren, and without a fingle tree; but, according to the facred books of the Hindus and of the Bauddhifts, it was otherwife formerly. Tradition alfo informs us, that the number of inhabitants was at one period fo prodigious, that the trees, underwood, grafs, and plants were deftroyed. The vegetable foil being no longer protected, was in the courfe of ages waſhed away by the rains: and it is certain, that the foil in the vallies is very fertile, and the whole diftrict, in its preſent ſtate, is a moſt enchanting and delightful ſpot. The country to the eaſtward of Bamiyan, as far as the Indus, is the native country of the vine, and of almoſt all the fruit-trees we have in Europe: there they grow ſpontaneouſly, and to a great degree of perfection. When the natives find a vine, an apple-tree, &c. in the foreſts, they clear all the wood about it, dig the ground, and thus the fruit comes to perfect maturity. "When we are told in ſcripture of Noah cultivating the vine, we may be ſure (ſays captain Wilford, ubi infra), that it was in its native country, or at leaſt very near it." Bamiyan, though not mentioned by name in Nonnus's Dionyſiacs, is well deſcribed by him as the abode of the benevolent Brongus, who lived in Samach'hes, or receſſes artfully excavated in the mountains. Brongus was the Bhranga of the Puranas; and had ſeveral children, who aſcended the throne of Calinga, after their father had forſaken the world. Bamiyan appears alſo to be the town called Draſtoca by Ptolemy; which is derived from the Sanſcrit Draſhatca, and implies the ſtone-city: towns before being merely an aſſemblage of huts. Its diſtance and bearing, ſays captain Wilford, from Cabura, or Orthoſpana, the preſent city of Cabul, puts it beyond doubt. See captain Francis Wilford's "Obſervations on Mount Caucaſus," in Aſiatic Reſearches, vol. vi. p 495.

BAMMAGURA, in *Ancient Geography*, a town of India, on this ſide of the Ganges. Ptolemy.

BAMMAKOO, in *Geography*, a town of the Mandingo country, in Weſtern Africa, ſeated on the river Niger, where it ceaſes to be navigable, about 150 miles below its ſource. Here the river deſcends from the high land of Manding into Bambara, on the eaſtward, with a rapid and furious courſe; after which it glides ſmoothly along, and affords an uninterrupted navigation to Houſia, and probably by Kaffina to Wangarah. It lies about fifty miles ſhort of Kamalieh; and it is reckoned by the natives ten journies only from Sego. By Mr. Parke's bearings corrected, it lies from Sego W. 25° S. diſtant 178 geographical miles. N. lat. 12° 54'. W. long. 5° 20'.

BAMMONITIS, in *Ancient Geography*, a country of Aſia Minor, which Strabo places in the vicinity of the river Halis.

BAMOTH-BAAL, a city of Paleſtine, beyond Jordan, belonging to the tribe of Reuben, ſeated in the plain through which lay the courſe of the Arnon. Joſh. xiii. 17. In this city was a high place conſecrated to Baal, the idol of the Moabites.

BAMPTON, in *Geography*, is an ancient market town in the county of Devon, in England. Polwhele aſſerts that it was a Roman ſtation; but this is not proved by his deſcription of the pariſh, nor by any diſcoveries that have been made relating to that people. It is ſeated on a branch of the river Exe, and is alſo watered by the river Batham, over which is a ſtrong ſtone bridge. The town is nearly encompaſſed with hills which conſiſt chiefly of lime-ſtone rocks. Theſe are burnt on the ſpot, and the lime uſed by the neighbouring farmers in meliorating the ſoil of their lands. Bampton is governed by two portreves, two conſtables, and other inferior officers, who are annually elected at the lord's court. The principal manufactory of the place is ſerges. This was formerly a borough, and ſent two members to parliament, whoſe expences were defrayed by the inhabitants; but this privilege has long been loſt. It gives name to the hundred, and includes within the pariſh two ſmall villages, whoſe chapels have only monthly ſervice. The town is irregularly built, and extends about half a mile in length; containing 302 houſes, with 1364 inhabitants. Here is a large church with a lofty tower, and the church-yard, which is extenſive, contains two yew trees, diſtinguiſhed for their age and magnitude. The market is held every Saturday, and here are two annual fairs. Bampton is 167 miles weſt of London, and about twenty-two N. W. from Exeter. Polwhele's Hiſtory of Devonſhire, vol. ii.

BAN, a ſort of ſmooth fine muſlin, which the Engliſh import from the Eaſt Indies. The piece is a yard broad, and runs about twenty yards and a half.

BAN and *Bans*. See BANN and BANNS.

BAN *Iſland*, in *Geography*, is the moſt ſoutherly of the Ladrones, north of New Guinea, in N. lat. 11°, and E long. of the eaſt end 142°. Between this and Bato iſland, on the north is a rocky iſland.

BAN, *Arriere*. See ARRIERE.

BANA, in *Ancient Geography*, a town of Arabia Felix. Ptolemy.

BANAAUSI, a town of India, on this ſide of the Ganges. Ptolemy.

BANABA, a town of Aſia, in Meſopotamia. Ptolemy.

BANAGHER, in *Geography*, a market and poſt town of

of the King's county, in the province of Leinſter, in Ireland, which, before the union, returned two members to the houſe of commons. Here are an excellent free ſchool for a ſchool, and an ancient bridge over the Shannon, on which river it is ſituated, but it is a very inconſiderable town. Its diſtance weſt from Dublin is 65¼ Irish miles.

BANAMATAPA, a town of Africa, in the country of Monomotapa.

BANANA, in *Botany*. See Musa.

BANANA-Apple of Jamaica, in *Natural Hiſtory*, the name under which the *Cucumis horrens* of Sloane and Browne is figured. See Sloane's Nat. Hiſt. Jamaica; and Albin's Birds. The *Lanius cristatus* of Linnæus, is the *Turdus Canadensis* of Gmelin, and *Lanius* of Buffon.

BANANA, in *Botany*, a ſmall tree in Cayenne. Lin. g. Schreb. 899. Aubl. 21. Juſſ. 295. Class, *Monoecia monogynia*. Nat. Ord. *Columnifera*. - *Tiliaceæ*, Juſſ. Gen. Char. *Cal.* perianth one-leafed, ſix-parted, permanent; parts ovate. *Cor.* petals ſix, roundiſh, concave, ſpreading, three times larger than the calyx, inſerted into the receptacle. *Stam.* filaments fifteen and more, capillary, length of the corolla, inſerted into a glandule ſurrounding the germ; anthers roundiſh. *Pift.* germ ſomewhat globoſe, ſeated in a glandule; ſtyle filiform of the height of the ſtamens; ſtigma headed. *Per.* berry globoſe, but little ſucculent, one-celled, crowned by the permanent ſtyle. *Seeds* numerous, very ſmall, cornered, ſtriated.

Eſſ. Gen. Char. *Cal.* ſix-parted, permanent. *Cor.* ſix-petalled; germ ſeated on a ſmall gland; ſtigma headed; berry globoſe, one-celled, many-ſeeded.

Species, 1. B. *guianenſis*. Aubl. Guian. 548. t. 217. A tree growing about ten or more feet high, and about ſeven inches in diameter. Its bark is grayiſh, and its wood whitiſh and light. Leaves alternate, ovate-oblong, toothletted, ſharp, green and ſmooth on the upper ſurface, pale, and ſlightly tomentoſe on the lower; petioles ſhort, with two ſmall deciduous ſtipules at the baſe of each. The largeſt leaves are five inches long and two broad; flowers yellow, in axillary and terminal racemes, with a ſingle bracte to each pedicel; berry black. A native of the iſland of Cayenne, flowering in May.

BANASA, or Banassa, in *Ancient Geography*, a Roman colony eſtabliſhed in Africa, in Mauritania Tingitana. It was ſeated on the river of Subur, at a conſiderable diſtance northerly from Gontiana.

BANAURIDES, iſlands of the Tyrrhenian ſea, ſo called from Banaurus, ſon of Æas. Steph. Byz.

BANAW, in *Geography*, a river of Pruſſia, which runs into the Friſch Haffe, two miles W. N. W. of Heiſigenbeil.

BANAZ, a town of Aſiatic Turkey, thirty miles N. W. of Karahiſar.

BANBURY, a town of Oxfordſhire, in England, lies on the river Charwell, at the diſtance of 17 miles north of Oxford, and about 74 miles weſt from London. This town is ſuppoſed to occupy the ſite of the Roman ſtation named *Branavis*, as many coins, and a Roman altar, have been found here. The latter was placed in a niche under the ſign of an inn, which was called from thence the Altar-ſtone-inn; but this has been converted into a private houſe, and the altar is probably demoliſhed. A caſtle was built in this town by Alexander biſhop of Lincoln, ſoon after his conſecration, which occurred in 1123. This building was preſerved as one of the dioceſan palaces from the above date till the firſt of Edward VI. when biſhop Holbech conveyed it, with about thirty other manors, to the king and his courtiers. The eſtate was afterwards given by queen Elizabeth to the biſhopric of Oxford in exchange for other lands. In the time of Henry VIII. 1534, it was valued at 14l. 13s. 10d. but at the time of the above exchange it was eſtimated at 42l. 18s. 9d. a year. This place was made a borough by queen Mary, who being pleaſed with the inhabitants for their ſupport of her againſt lady Jane Grey, granted them a charter, and inveſted the town with ſeveral privileges. This charter was altered by James I. who appointed the government of the town to conſiſt of a mayor, recorder, and ſix capital burgeſſes. A new charter was granted by George I. A. D. 1718, and the town is now governed by a mayor, high ſteward, recorder, ſix capital burgeſſes, and thirty aſſiſtants, a town-clerk, and two ſergeants at mace. The church, which is a large handſome ſtructure, was built by the above Biſhop Alexander, who is ſuppoſed to have been buried in the chancel under a tomb on which is a cumbent mutilated figure. The outer walls of the church are ornamented with a number of carved heads of men and animals. Banbury has been particularly noted for the number of Puritanic inhabitants, who have been ſatirized by Ben Johnſon, and other dramatic writers. Camden ſpeaks of it as famous for *cakes and ale*; and when Holland tranſlated his Britannia, he changed the latter word, and printed it cakes and *ceal*. Here are a free-ſchool, two charity ſchools, and a workhouſe.

Many military tranſactions and battles have taken place in this town and neighbourhood; and the caſtle of Banbury is often mentioned by hiſtorians as the ſcene of repeated ſieges and retreats. In the time of Edward IV. the earl of Pembroke and lord Stafford entered this town with their army, when a battle was fought between them and an army under the command of the earl of Warwick. After the battle of Edge-hill, the parliament had a garriſon of 800 foot and a troop of horſe in the caſtle, which was ſurrendered to the king in a few days, who gave it up with other garriſons to the Scots general.

The navigable canal from Coventry to Oxford paſſes by this town, and at the diſtance of about five miles it is conveyed through a hill by a tunnel three quarters of a mile in length. In the grounds adjoining the Ram inn is a well of ſulphurated water; and at a ſhort diſtance from the town is another ſpring of chalybeate water. The Pyrites-aureus, or golden fire ſtone, is often found here in digging wells. A number of the inhabitants are employed in the manufactory of pluſh and ſhag cloth; great quantities of which are annually made here, and ſent to London and Portugal. Banbury has a weekly market on Thurſday, and ſeven annual fairs; one of which is appropriated [illegible], and is provincially called a mop. The principal ſeats in the neighbourhood are, Wroxton-houſe or priory, belonging to the earl of Guildford; and Broughton caſtle, the property of lord Say and Sele. The firſt was a [illegible] canons, founded by Michael Belet, [illegible] the reign of king John. Banbury ſends one member to parliament, contains 525 houſes, and 2755 inhabitants. Bray's Sketch of a Tour into Derbyſhire, &c.

BANC, Banchus, or Banca, in *Law*, denotes a ſeat or bench of judgment. See Court. *Jus Banci*, or the privilege of having a bench, was anciently only allowed to the king's judges, *qui summam adeant* [illegible]. Inferior courts, as courts baron, hundred courts, &c. were not allowed that prerogative; and even at this day the hundred court at Freibridge in Norfolk is held under an oak at Geywood; and that of Woolfrey, in Herefordſhire, under an oak, near Aſhton in that county, called Hundred-oak.

BANCA, in *Geography*, an iſland of the Eaſt Indies, extending from S. lat. 3° 15′, to S. lat. 1° 50′, and from E. long. 107° 5′, to E. long. 105° 25′. The latitude of Capt. Marchand's anchorage at three leagues diſtance from the northern coaſt, deduced by the dead reckoning, was 1° 23′, S. and long. 103° 27′, E. from Paris. It lies on the eaſt ſide of the iſland of Sumatra, oppoſite to the river Palam-

bang in that iſland; on which the ſovereign of Banca, who is poſſeſſor alſo of the territory of Palambang, keeps his conſtant reſidence. He maintains his authority over his own ſubjects, and his independence of the neighbouring princes, in great meaſure, by the aſſiſtance of the Dutch, who have a ſettlement and troops at Palambang, and who enjoy the benefit of a contract with the king of Banca for the tin which his ſubjects procure from thence; and which, like the king of Bantam, with regard to pepper, he compels the miners to deliver to him at a low price, and he ſells it to the Dutch at a ſmall advance, agreeably to his contract. This iſland is celebrated throughout Aſia for its tin-mines, which were firſt diſcovered in 1710 or 1711, and which ſince that time have yielded immenſe quantities of ore, and appear to be inexhauſtible. It is dug chiefly in ſeven places, which are under the direction of Chineſe managers, that provide and pay the labourers, who are alſo, in general, of that nation. Theſe miners reduce the ore into metal by employing wood as fuel in their furnaces, and not foſſil-coal or coak, which is ſeldom ſo free from ſulphur as not to affect the malleability of the metal. It is therefore ſometimes preferred to European tin at the Canton market; and the profit upon it to the Dutch company is ſuppoſed to be not leſs any year that 150,000 pounds. The tin is delivered by the managers of the mines to the king at Palambang for five rix-dollars per 125 pounds, and by him to the Dutch for 15 rix-dollars, equal to about 58s. ſterling per cwt. Engliſh. Raynal, and others, ſtate the quantity of tin received by the Dutch company at 2,000,000lb, but it appears that they take at leaſt 3,000,000lb. Very little, however, comes to Europe; in 1778, 700,000lb were ſold in Holland at f. 42 per 100lb. but the greateſt part goes to the China market. Stavorinus's Voyage to the Eaſt Indies, by Wilcocke, vol. i. p. 357. Staunton's Embaſſy to China, vol. i. p. 305.

Banca, *Straits of*, lie between this iſland and Sumatra; which, on its eaſtern ſide, forms the weſtern ſide of theſe ſtraits, and its ſouthern extremity forms the northern ſide of the ſtraits of Sunda. Through theſe ſtraits there is a ſafe navigation from the China ſea, except near the northern entrance, where a ſhoal lies off, and another within it, ſo that it is neceſſary for a ſhip to ſound in that ſituation. Capt. Marchand, in endeavouring to gain the entrance of theſe ſtraits, experienced ſtrong currents, ſome ſetting to the E.N.E. others to the E. and others to the E.S.E. He therefore renounced the idea of going out of the China ſea by the ſtraits of Banca, and determined to ſail by another ſtrait ſituated more to the eaſtward, between the iſland of Banca and that of Billiton. This ſtrait is known under the names of *Caſpar's*, *Billiton's*, or *Clement's* ſtrait; and has been much frequented in paſſing to and from the China ſea. See Marchand's Voyage, vol. i. p. 98.

BANCALA, a kingdom in the iſland of Celebes.

BANCALIS, a town of the iſland of Sumatra, in the kingdom of Acheen.—Alſo, a bay on the north-eaſt coaſt of this iſland, in N. lat. 1° 15′. E. long. 100° 7′. 43 leagues weſt of Malacca; it is in Brower ſtrait, which is a branch of that of Malacca; is large, and affords good anchorage, and its navigation, as far as Bancalis, at the ſouth extremity, is ſafe.

BANCAPOUR, a diſtrict of Hindoſtan, in the country of the Mahrattas.—Alſo, a town of this diſtrict. N. lat. 14° 55′. E. long. 75° 15′.

Bancapour, *Sancre*. See Sanore.

BANCK, Laurence, in *Biography*, a Swediſh lawyer, was born at Norcopin, and after returning from his travels in France, Italy, Spain, &c. acquired great reputation as profeſſor of the civil law in the univerſity of Franeker, which poſt he occupied for 15 years. He died on the 13th of October in the year 1662. In 1649, he publiſhed a Latin work "On the Tyranny of the Pope over Chriſtian Kings and Princes;" and in 1656, "Rome triumphant, or the Inauguration of Innocent X." But his principal work was his edition of the famous book of "The Tax of the Roman Chancery," in which are fixed the prices of abſolution for the moſt heinous and infamous crimes. This edition, formed by a collation of the moſt ancient copies, both printed and manuſcript, was printed at Franeker, in 8vo. in 1651; and ſeveral other editions have been, before and ſince, printed at different places. Jurieu, in his "Prejuges legit. contre le Papiſme," t. i. p. 295, &c. publiſhed the particulars of theſe taxes. Banck's edition of theſe taxes, and ſome others, have been referred to the claſs of prohibited books, in the "Index" of the Inquiſition, as corrupted by heretics; but enough remains in uncontroverted editions to induce worthy Catholics to lament that ſuch taxes ſhould ever have diſgraced the church. Gen. Dict.

Banck, *Peter Vander*, an eminent engraver, was a native of Paris, and received inſtruction in the art of engraving from the celebrated Francois de Poilly. About the year 1674, he came over to England, and married; but not receiving recompence anſwerable to his labour as an artiſt, he was reduced to penury, and to dependence on the brother of his wife. He died at Bradfield in 1697, and left his plates to his widow, who ſold them to great advantage, and left an eaſy fortune.

His chief employment was engraving of portraits; and he was the firſt in England who engraved them on ſo large a ſcale. Like many of Poilly's diſciples, his great merit conſiſts in the laboured neatneſs and management of the mechanical part of the art. In England his productions will be always eſteemed, as they preſerve the beſt reſemblance of many eminent perſons who were living at that time. Strutt.

BANCOK, Bankok, or Fou, in *Geography*, a maritime and fortified town of Aſia, in the kingdom of Siam, ſeated on an iſland formed by the river Menan. N. lat. 13° 25′. E. long. 101° 5′.

BANCOTE, now fort *Victoria*, lies on the Malabar coaſt of India, contiguous to Rajapore. It has a good harbour, and a great trade for ſalt, &c. from Bombay, whither it makes returns in cattle.

BANCROFT, Richard, in *Biography*, archbiſhop of Canterbury in the reign of James I. ſprung from a good family at Farnworth in Lancaſhire, and was born in September 1544. Having finiſhed his education in the univerſity of Cambridge, he roſe by quick gradations to very diſtinguiſhed ſtations in the church. The Puritans were the objects of his bitter invectives. Accordingly, in a ſermon delivered at St. Paul's croſs, on the 9th of February 1589, he accuſed them, in very intemperate language, of ambition and covetouſneſs; alleging that the principal cauſe of nonconformity and ſchiſm was the proſpect of plundering biſhoprics, ſeizing the endowments of cathedrals, and ſcrambling for the remainder of the church revenues; and accuſing the laity among the non-conformiſts of an intention to diſſolve the bonds of property, and to introduce a community of goods. He ſtrongly repreſented the danger of permitting private men to conteſt the authority, and violate the conſtitutions of the church, expoſed the abſurdity of extemporary prayers, and maintained the divine right of biſhops, in terms which, in the judgment of ſir Francis Knollys, one of the queen's counſellors, were injurious to the ſupremacy of the crown. This ſermon, preached, as Strype ſuppoſes, at the inſtigation of archbiſhop Whitgift, furniſhed ample evidence of Bancroft's inveterate hoſtility againſt the Puritans. As one of the commiſſioners for eccleſiaſtical cauſes, he adopted rigorous meaſures for the ſuppreſſion of hereſy and ſchiſm; and he was an avowed enemy to ſects and innovations of every kind. Writings againſt epiſcopacy, or recommending any other mode of church diſcipline, were treated

treated by Bancroft as ſeditious, and he purſued their authors as enemies to the ſtate. His zeal recommended him to eccleſiaſtical preferment; and in 1597, he was advanced to the ſee of London, and the management of the eccleſiaſtical affairs of the kingdom devolved upon him. In the celebrated conference between the biſhops and the Preſbyterian miniſters, held at Hampton court in 1603, Bancroft took an active part; and when the king required ſatisfaction in the three points of confirmation, abſolution, and private baptiſm, he undertook to explain and vindicate theſe branches of eccleſiaſtical diſcipline, as they were exerciſed in the church of England. In the proſecution of this conference, and with a view to its ſpeedy termination by an act of authority, he moved the king, that an ancient canon, that "Schiſmatics are not to be heard againſt Biſhops," ſhould be revived; and that, according to a decree of an ancient council, which prohibited any man to plead againſt his own ſubſcription, thoſe of the opponents, who had ſubſcribed the communion-book, ſhould be ſet aſide. Theſe abſurd and unjuſt propoſals were rejected by the king. When Dr. Reynolds, on the part of the non-conformiſts, moved for ſeveral alterations in doctrine and diſcipline, the biſhop fell upon his knees before the king, praying that care might be taken to provide a praying clergy, as the ſervices of the deſk were too much neglected, and the duty of a pariſh prieſt wholly reſtricted to the pulpit; that till men of learning could be procured for every congregation, homilies ſhould be read, and their number increaſed; and that pulpits might not be turned into batteries, from which every malecontent might be allowed to vent his ſpleen againſt his ſuperiors. Theſe requeſts, whether well or ill-founded, were evidently pointed againſt the non-conformiſts. Upon the lord chancellor's taking occaſion to argue againſt pluralities, and expreſſing a wiſh that ſome clergymen might have ſingle coats before others had doublets, adding alſo, that he had beſtowed benefices in the king's gift upon this principle, the biſhop of London replied, "I commend your honourable care that way; but a doublet is neceſſary in cold weather." The good biſhop, it is ſaid, ſpoke feelingly, for he had himſelf experienced the comfort of warm cloaking. In 1604, biſhop Bancroft was elected and conſecrated to ſucceed archbiſhop Whitgift in the ſee of Canterbury; and in this high ſtation he retained his intolerant principles, and purſued the ſame meaſures againſt the non-conformiſts. To this purpoſe lord Clarendon (Hiſt. vol. i. p. 88.), in his eulogy, teſtifies, that "if he had lived, he would quickly have extinguiſhed all that fire in England, which had been kindled at Geneva, and would eaſily have kept out that infection which could not afterwards be ſo eaſily expelled." For the rights of the church, the archbiſhop manifeſted a jealouſy, which involved him in a conteſt with the judges; againſt whom he exhibited to the lords of the council, complaints of their encroachments on the eccleſiaſtical courts in granting prohibitions; but theſe complaints were over-ruled by the unanimous opinion of the judges, which Coke juſtly calls the higheſt authority of the law. In the interior diſcipline of the church, the archbiſhop was rigorouſly exact, urging a ſtrict conformity to the rubric and canons, and making no allowance for diverſity of opinion. He enforced ſubſcription to the articles in the moſt unevaſive terms; and it appears, that, not long before his death, forty-nine clergymen were deprived of their benefices for not complying with his rigid requiſitions. In 1610, he propoſed to parliament a plan for increaſing the revenues of the church, by improving the tithes, redeeming lay impropriations, and reſtoring the practice of mortuaries by repealing the ſtatute of mortmain. Parliament wiſely reſiſted this project, which ſeems to have been the laſt public act of the archbiſhop's life; for he died of the ſtone, at his palace at Lambeth, in November 1610, aged 67. His library was bequeathed to his ſucceſſors in the metropolitan ſee of Canterbury. Beſides his ſermon againſt the Puritans, we have only two tracts, written by him before his advancement to the epiſcopal dignity, in defence of the church againſt the non-conformiſts, intitled "Dangerous Poſitions," and "Survey of the pretended holy Diſcipline." The prominent features in the character of this prelate were intemperate zeal and intolerant ſeverity; and if he rendered any ſervices to epiſcopacy, the general cauſe of Proteſtantiſm owed him little [illegible]; for nothing could be more inconſiſtent with the fundamental principle of the reformation, than the reſtraint and prohibition of that freedom of judgment and choice in the province of religion, which had been aſſerted and maintained by the predominant party on their ſeparation from the church of Rome. Bancroft, however, though his principles were narrow and temper rugged, poſſeſſed a degree of underſtanding and of activity of ſpirit, which fitted him for public buſineſs, and which enabled him to occupy important ſtations in the church with a conſiderable degree of reputation. A letter written by this prelate to king James I., in vindication of pluralities, is preſerved in the advocate's library at Edinburgh, and may be read in the firſt volume of ſir David Dalrymple's Memorials. Biog. Brit. Gen. Biog.

BAND, in a general ſenſe, ſome ſmall, narrow ligament, wherewith a thing is tied or faſtened.

We ſay, a *ſtay-band*, a *brow-band*, a *hat-band*, &c.

Band, in *Architecture*, denotes any flat, low member, or moulding. This amounts to the ſame with what is otherwiſe called *face*, from the Latin *faſcia*, which Vitruvius uſes for the ſame thing, and ſometimes *fillet*, *plinth*, &c.

Bands *of Columns*, properly denote a kind of emboſſments ſurrounding ſhafts of ruſtic columns, at certain diſtances, by way of decoration.

Theſe are ſometimes plain, ſometimes picked or vermiculated, and ſometimes carved with decorations of low relievo, which are different in every different band.

Columns enriched with theſe bands, are ſometimes called *banded columns*.

Band, in matters of *Artillery*, denotes a hoop of iron uſed about the carriage of a gun.

Such are the nave bands, which are iron hoops binding the nave at both ends.

Band, in *Geography*, a town of Perſia, in the province of Mekran, 400 miles S.S.W. of Candahar.

Band, *Bandum*, is uſed, in *Middle Age Writers*, for a flag or banner.

Band *of Soldiers*, in *Military Language*, ſo many as fight under the ſame flag or enſign. Thus Romulus called thoſe who fought under the ſame manipule (a handful of hay being then uſed for a flag) *manipulus militum*.

Formerly bands eſpecially denoted bodies of foot; and the French formerly called their infantry *bandes Françoiſes*.

Band *of Penſioners*, is ſtill retained, to denote a company of gentlemen, who receive a yearly allowance of 100l. for attending the king on ſolemn occaſions. See Penſioners.

Bands, *Trained*. See Trained *Bands*.

Band, gives the denomination to a military order in Spain, inſtituted by Alphonſus XI. king of Caſtile, in the year 1332. It takes its name from *banda*, *band*, or red ribband, which comes acroſs over the right ſhoulder, and under the left arm of the knight. This order is for none but the younger ſons of nobles; the eldeſt ſons of grandees are excluded; and, before admittance, it is requiſite to have ſerved at leaſt ten years, either in the army or at court. They are bound to take up arms for the Catholic faith againſt the infidels.

The king himſelf is grand-maſter of the order.

Bands *of a Saddle*, denote two flat narrow pieces of iron, nailed on each ſide the bows of the ſaddle, to retain thoſe bows in the ſituation which makes the form of a ſaddle.

Band, *to put a bow in the*, is to nail down the two ends of each band to each ſide of the bow.

Beſides the two great bands, the fore-bow has a ſmall one called the wither-band, and the hinder-bow another to ſtrengthen it.

Band, in *Surgery*, is a long ſlip of linen, or ſome other convenient material, intended for the purpoſe of binding and ſurrounding any part of the body. When a band has been rolled up for uſe, into a cylindrical form, it is generally denominated a Bandage or Roller.

BANDA, in *Geography*, the chief iſland of a group, which compriſes five others, lying cloſe to one another, and ſituated in the Eaſtern Pacific ocean, eaſt of Celebes or Macaſſar, ſouth of Ceram, and ſouth-eaſt of Amboyna, in about S. lat. 5° 45′. E. long. 130° 30′. Theſe iſlands are called the Spice or Nutmeg iſlands, and alſo Banda iſles from the name of the principal of the group. Banda formed the ſecond government of the Dutch to the eaſtward. The firſt of theſe iſlands is Neira or Nera, where ſtands the chief ſettlement of the province; it has a ſpacious and commodious harbour, but difficult of acceſs; ſhips anchor under the cannon of two forts, called Belgica and Naſſau, the firſt ſtanding on an eminence, and commanding the whole extent of the iſland and of the harbour, as well as fort Naſſau; the defence of it would require a garriſon of 400 men, and yet the whole number of military in all the iſlands ſcarcely ever exceeds 300. The next iſland is that of Banda, Lantor, or Lonthoir; it does not exceed eight Britiſh miles in length from weſt to eaſt, and the greateſt breadth at its eaſtern extremity may be five; it has a fort and two or three redoubts. The third and fourth in importance are Pulo-way or Way, and Pulo-run or Rohn: upon the firſt of which is a ſmall fort, and upon the other a redoubt. The other two are Rozingen or Roſſigen, in which there is a redoubt, and to this iſland the Dutch company often baniſh their ſtate priſoners; and Gunung-api, Gonong, or Ganapez, which has a volcano conſtantly emitting ſmoke, and often flames. The nutmeg-tree is chiefly cultivated in Neira, Gonong, Ay or Way, and Lantor or Banda; and it flouriſhes not only in the rich black mould, but even amidſt the lavas of Gonong, which is the higheſt iſle, the ſummit being 1940 feet above the ſea. When the Engliſh admiral Rainier took poſſeſſion of the iſlands of Amboyna and Banda, which he ſeized without reſiſtance, in February and March 1796, the annual produce was about 163,000 pounds of nutmegs, and 46,000 pounds of mace. The hurricane and earthquake, in 1778, almoſt annihilated the nutmeg-trees in Banda, ſo that the Dutch have become the dupes of their own avarice. From 1796 to 1798, the Engliſh Eaſt India company imported 817,312lb of cloves, 93,732lb of nutmegs, and 46,730lb of mace, beſides conſiderable quantities of each in private trade and privilege goods, amounting to about a third part of the above. The ground being entirely occupied with theſe precious plantations, cattle and grain, &c. are imported from Batavia, at the diſtance of three or four weeks' ſail. The inhabitants of the Banda iſles were found to be 5763. The Engliſh were expelled from Lantor and Rohn, at a period prior to the maſſacre of Amboyna; but ſeized the whole Spice iſlands in 1796, and reſtored them to their Batavian maſters by the treaty with France in 1801.

To the government of Banda belong likewiſe ſeveral other iſlands in the neighbourhood, known by the appellations of the South-eaſtern and the South-weſtern iſles. Their inhabitants are in alliance with the company, and furniſh a conſiderable quantity of proviſions, conſiſting of wild-boars, ſtags, ſea-cows, and other articles of food, which they barter at Neira for piece-goods and other neceſſaries. This trade, however trifling, is very beneficial to the inhabitants of Banda; and it is ſuppoſed, that the province would derive greater advantages from it, if the company would allow Neira to become a more commercial place: but this is prevented by the ſuſpicious policy of the government. Stavorinus's Voyages, by Wilcocke, vol. i. p. 331. vol. ii p. 418.

Banda, *Ican. Landa* Ruyſch. Theat. *Landaſche cucotacha* and *ikan bandan* Jang. Swangi, Valent amb. *banda* Iean Potou, *banda* Renard Piſc. in *Ichthyology*, ſynonymous names of the ſpecies of Coryphæna, called by Gmelin *pentadactyla*.

BANDAGE, in *Surgery*, is a Strap, a Fillet, Swathe, or Band, applied to its peculiar uſe upon any member, &c. of the body. The nature and application of bandages are a ſtudy of conſiderable importance in *Surgery*; for it often happens that the cure of a local diſeaſe depends principally or entirely upon the proper management of them. Their ſubſtance and form are various, according to the nature of the caſe, and the intention to be fulfilled in their application. They may be made of linen, flannel, leather, or cloth compoſed of different materials. Each of theſe ſubſtances, on particular occaſions, has its reſpective advantages or diſadvantages.

The common properties and uſes of bandages are—

1. To retain parts in their ſituation.
2. To ſeparate or keep them aſunder.
3. To expel morbid fluids, or prevent their accumulation.
4. To confine dreſſings or external remedies.
5. To compreſs and obliterate certain veſſels.

The bandages moſt in uſe are made of linen or cotton. The linen uſed for this purpoſe muſt have been already worn, but ſtill ſufficiently ſtrong, cut according to the direction of the threads, and without ſeam. In order to prevent its unravelling, the edges may be ſlightly ſtitched round, but it ought to have no ſeams whatever.

As it is often impoſſible to procure long bandages of a ſingle piece, and we are conſequently obliged to form them of ſeveral different pieces, they ſhould be ſewed together with back-ſtitches, leaving ends ſeveral lines in breadth, which muſt be doubled round and beat perfectly ſmooth and even. But in order to avoid all the inconveniences that attend the uſe of bandages made of linen, it will be beſt to uſe fillets of linen expreſsly manufactured for the purpoſe, which may be wove of different breadths and lengths.

Bandages are diſtinguiſhed into *ſimple bandages*, which conſiſt of a ſingle piece, and *compound* bandages, which are compoſed of ſeveral different pieces, and whoſe application requires greater trouble and ſkill. They are alſo divided into *general bandages*, or ſuch as may be applied to ſeveral different parts of the body, and *particular* bandages, which are adapted only for one particular part.

Every ſimple bandage conſiſts of a beginning, middle, and end. The beginning and termination are named its *ends*; and when the bandage is rolled up, they are called *heads*. The middle part of the bandage is called its *body*. When we roll up one end of the bandage to the other, we have a *ſingle-headed* bandage; but when we roll up each end ſeparately only towards the middle, it is then termed a *double-headed* bandage. In order to apply any bandage properly, it is neceſſary that it ſhould firſt be rolled up tight and perfectly even. The operator, when he applies it, holds its head between the thumb and fore-finger of one hand, in ſuch a manner that it lies directed upwards in the hand, and the end that has been rolled off is held down with the other hand upon the part till it is ſufficiently ſecured by ſeveral turns. In rolling out the bandage, the head muſt run as cloſe

clofe as poſſible to the diſeaſed part, and conſtantly be turned towards the ſurgeon; the bandage ſhould never be rolled out too far, and the head muſt be held neither too tight nor too looſe. When we wiſh to remove the bandage again, we ſhould not pull it forcibly off from any part to which it may adhere, but previouſly ſoften it with ſome water. It is then cautiouſly drawn off from the diſeaſed part, by winding it off, that part of the bandage which has been rolled off is alternately ſhifted out of the right hand into the left, and *vice verſa*.

To the ſimple bandages belong the circular bandage, the ſpiral bandage, the retaining, the expedient, the creeping, and the uniting bandages. To the compound bandages are referred the eighteen-headed bandage, the many-headed bandage, the T bandage, and the ſame ſimilar to the Tournequet. Some bandages receive their appellations from the names of the parts to which they are applied: as, bandages for the head, eyes, ears, noſe, neck, breaſt, back, belly, &c.

The *eighteen-headed bandage* may be formed of ſeveral (ſuppoſe three) pieces of linen, about a foot in length, and ten or twelve inches in breadth, more or leſs according to the length and thickneſs of the limb, and all three are laid at the middle over each other. At the middle they are ſewed together longitudinally, after which each of them is cut through on each ſide, till about two fingers breadth from the middle, into three equal parts, which form nine heads on each ſide. But as in this mode one head always covers the other, there always remains a ſlit between the heads, by which means the limb is unequally preſſed upon and ſecured. This defect may be remedied by arranging the cuts in ſuch a manner that the heads of the middle piece of linen are always covered by a ſlit and the half of two heads of the two other pieces of linen. This will be the caſe if, as Loeffler adviſes us, we give the firſt piece of linen four, the ſecond three, and the third again four heads. See the *Many-headed Bandage*.

In caſes of compound fractures, in which the bandages are frequently ſoiled, it will be more convenient, as Deſſault adviſes, to uſe a bandage conſiſting of eleven ſeparate fillets of linen, each a foot and a half in length, and four fingers broad. Four of theſe are to be laid at the bottom, three in the middle, and again four at the top, at the ſide of each other: and thus we obtain a twenty-two headed bandage of a more convenient conſtruction. This bandage may ſtill be improved by cutting the middle fillets ſhorter than the loweſt, and the upper ſhorter than the middle; by which means the bandage will apply far better to the part. Should now any of the fillets be ſoiled, we have the advantage of being able eaſily to ſubſtitute another in its place; for we need only to ſew the new fillet to the old one, and draw it by means of the latter through between the reſt, without deranging any of the other parts of the bandage.

The *Circular Bandage*. This bandage may be of various lengths and breadths; it is rolled upon one head, and is uſed for ſecuring ſmall dreſſings, ſuch as lint and compreſſes. It is applied in ſuch a manner that one turn entirely covers the other, ſo that only the laſt turn is viſible.

Retentive Bandage. This is a common ſimple bandage, which is uſed for retaining dreſſings in their proper ſituation; and it is applied ſometimes with circular, ſometimes with ſpiral, and ſometimes with creeping turns.

The Neck Bandage. A fillet, two feet or two feet and a half in length, is laid acroſs over the head in ſuch a manner that the ends reach down on both ſides to the ſhoulders; and over this another fillet, five or ſix feet in length and two or three fingers broad, is rolled round the neck with circular turns. The two ends of the firſt fillet are then doubled back to the head, and ſecured to the circular turns with pins; by which means the [illegible] are prevented [illegible] ſlipping off, or accident [illegible] particularly to [illegible] head [illegible] the bandage.

Double Bandage [illegible] the head, is formed [illegible] fillet [illegible] two [illegible] to [illegible] The [illegible] down to the [illegible] and [illegible] back [illegible] between [illegible] and [illegible], [illegible] or [illegible] [illegible] [illegible] [illegible] rolled [illegible] two [illegible] laid upon the forehead, over the firſt fillet; it is then carried over the ears, round [illegible] its heads are then [illegible] under [illegible] ders, croſſed again, carried under the axillæ over the breaſt, the heads [illegible] round with circular turns. The ſurgeon then takes hold of the two hanging [illegible] back over the head, and [illegible] other turns, after having drawn the patient's head ſtraight.

The Expulſive, or *Expelling Bandage*. This [illegible] ſimple bandage, the length and [illegible] regulated according to [illegible] uſed. It is uſed in caſes of [illegible] made with pointed inſtruments, in order [illegible] to force the pus and blood towards the orifices, and thus expel them from the body, and alſo by bringing their inner ſurfaces into contact, to promote their healing up. [illegible] all the fluids muſt be expelled out of the wound, ulcer, or fiſtula, by rubbing, preſſing, or throwing injections into it. When this has been done, compreſſes of various dimenſions are applied along the courſe of the ſore, and particularly at the region of its bottom; and generally it is neceſſary to have compreſſes that are graduated at one end, the thickeſt part of which is applied over the bottom of the ſore, and the thinneſt over its orifice. An aſſiſtant holds the compreſſes faſt in their proper ſituation, whilſt the ſurgeon applies a ſingle or a two-headed bandage, according to the ſituation of the ulcer. He commences the application over the bottom of the compreſs, ſo as to ſecure and preſs it down by two or three turns of the bandage, which he then carries towards the orifice with ſpiral turns; after which he carries it back again, and finiſhes with ſpiral turns. This mode of bandaging may alſo be uſed with great advantage in caſes in which a flap of fleſh has been partly cut or torn off from the body, whilſt it ſtill remains attached by one part, in order to make it heal up again in its proper ſituation; and in this caſe the bandage becomes an uniting one. But when we apply it in this manner, we ought always to be careful to make a ſufficient and equal preſſure at every part; for otherwiſe our intention, if not entirely fruſtrated, will at leaſt be impeded, and the cure protracted.

Galen's bandage. The four-headed or ſling bandage for the head. This bandage is formed of a piece of linen three or four feet in length, and from four to eight fingers broad, both ends of which are ſlit open ſo far as to leave the middle part about eight fingers long. It is generally applied with the middle part ſtraight upon the head, ſo that the anterior ends hang down over the cheeks, and the two others over the ears; and in order that it may lie more firmly upon the head, the edge of the middle part that lies over the forehead, as well as that on the back of the head, is doubled round, ſo as to form a kind of ſeam. The two anterior ends of the bandage are then carried over the ears, and faſtened at the back of the neck, after which the two poſterior ends are carried in the ſame manner over the ears, and faſtened under the chin. The bandage may be applied in a ſimilar manner upon various parts of the head, only it is to be

be obſerved, that the central portion muſt always be placed over the diſeaſed part, and the ends carried in oppoſite directions, either croſſed or ſtretched out.

The Uniting Neck Bandage. This bandage is formed in the following manner. The ſurgeon takes a napkin four double, lays it under the patient's axillæ, and pins it together in the front of the breaſt. He then takes two pieces of linen, faſtens one end of them to the patient's night-cap, and the other to the napkin, in ſuch a manner, that if the wound be ſituated in the trachea, or at the fore-part of the neck, the ends, after the patient's head has been inclined forwards a little, can be faſtened to the fore-part of the cloth, in order to keep the head in that poſition. But ſhould the wound be ſituated in the back of the neck, the head may be inclined a little backwards, and retained by the ſame bandage in that poſition, by drawing the ends of the two ſmall fillets more backwards, and faſtening them there to the napkin.

The application of the T bandage, according to Mr. Evers's method, is however more advantageous, eſpecially for uniting wounds acroſs the throat. For this purpoſe, we are to take a fillet, three fingers broad and ten feet long, and ſew to the middle of it another of equal breadth and ſix feet long, ſo as to repreſent the figure of the letter T. The ſmaller fillet is now to be ſlit open all but one foot. In applying it, the part at which the two fillets are ſewed together, is placed upon the back of the neck in ſuch a manner that the ſmaller fillet lies over the back of the head upon the vertex. The two heads are next brought forwards over the ſhoulders, then carried under the axillæ, which are guarded with compreſſes, to the back; the bandage is then croſſed, brought forwards again upon the breaſt, and faſtened. The ſlit ends of the ſmaller fillet are next croſſed over the vertex; after which they are carried over the face under the axillæ; the patient's chin, if neceſſary, being drawn downwards towards the breaſt, and this fillet is finally faſtened like the former. Mr. Koehler has propoſed for this purpoſe a leathern cap with ſtraps, by means of which the patient's head may be drawn into any poſition that may be neceſſary. See the T *Bandage*.

The Inguinal Bandage. The bandage for luxations of the os femoris. This is a bandage eight or nine yards in length, and three or four fingers broad, rolled up into one head.

The Six-headed Bandage of Galen. This bandage conſiſts of a piece of linen from three to four feet in length, and 8—12 fingers broad; its breadth and length being determined according to the ſize of the patient's head. The cloth is folded in ſuch a manner that its breadth can be divided into three equal parts, and theſe parts are ſlit open from both ſides, ſo far as to leave entire in the middle a ſpace of the breadth of a man's hand, by which means ſix heads are formed. It is applied nearly in the ſame manner as the four-headed bandage for the head.

The many-headed Bandage. This bandage is formed of a piece of linen or flannel, the dimenſions being regulated according to thoſe of the diſeaſed part, into which a number of ſlits are made at both ſides, ſo as to leave only one part entire in the middle for the purpoſe of connecting the reſt. In applying it, the whole piece is laid under the diſeaſed part; the loweſt of the ends, which lies on the outer ſide, is then brought obliquely upwards on the inner ſide, and that which lies within is brought obliquely upwards on the outer ſide, and ſo on; ſo that the lower ends are always half covered and ſecured by the upper. A many headed bandage may alſo be formed in another way, by cutting a piece of linen or flannel into ſeveral ſtrips, of which the one is always longer than the other, but each of the ſame breadth with the reſt. The ſhorteſt is generally made a foot, and the longeſt two feet in length. All theſe ſtrips are now laid over each other in ſuch a manner that always half the breadth of the one is covered by the other. To ſecure the whole, a narrow ſlip of linen or tape is ſewed to them behind and alſo in the middle. In applying it, the narroweſt part of the bandage muſt always come to lie over the ſmalleſt part of the limb. A bandage of this kind will perform the functions of the beſt applied circular or ſpiral bandage, and it applies to the parts far better than the eighteen-headed bandage; on which account it may be uſed inſtead of the latter.

The T Bandage, the bandage for the fiſtula in ano. This is a common compound bandage, which is chiefly uſed in leſions of the neck, the breaſt, the abdomen, the back, but particularly the genital organs, the anus, the groin, and the perinæum. It is either ſingle or double. The ſimple T bandage is formed in the following manner: take a fillet from four to eight feet in length, and fold it together in ſuch a manner as to get the exact middle point. At this middle point ſew to it another fillet in a perpendicular direction, and of ſuch length as may be moſt convenient for the purpoſe for which it is intended. To form the double T bandage, either two fillets are ſewed in the middle obliquely beſide each other, or a whole piece is ſewed on and afterwards ſlit open. According to the dimenſions of the place to which it is to be applied, it is made more or leſs broad.

The Creeping Bandage. This is a common ſimple bandage rolled upon one head, which is applied in a ſpiral manner round the limb, ſo that the one turn does not cover the other, but only lies cloſe to it, in ſuch a manner that no part of the limb remains viſible. It may ſometimes be uſed for ſecuring compreſſes and other dreſſings.

The Scapulary and Napkin. This bandage conſiſts of a napkin, and a ſcapulary as it is termed. The napkin is folded together, and rolled upon two unequal heads; the middle part is then applied under the arm in ſuch a manner that the largeſt head is carried over the back, and the ſmaller over the breaſt; but both heads are laid over each other, and then faſtened. But in order to prevent the napkin from ſlipping out of its ſituation, the ſcapulary is required. This is formed of a piece of linen 2—4 feet long, and half a foot broad. In the middle of the piece a ſlit is cut, large enough for the head to paſs conveniently through it; and in this manner one end hangs down before over the breaſt, and the other over the back. Theſe two ends are then faſtened to the napkin before applied. We may alſo ſlit open the ends, and thus attach them more extended to the napkin, by which means they will ſupport it better. This bandage may be uſed in almoſt all leſions of the breaſt, as alſo in ſimple wounds of the abdomen.

The Spiral Bandage. This is a common ſimple bandage, the length and breadth of which muſt be adapted to the dimenſions of the part: the ſecond turn of the bandage always covers the firſt, and the third and following turns always cover each the preceding turn, either half or a little more, ſo as to repreſent a ſpiral figure. The turns may be made either from the upper towards the lower part of the limb, or from the lower towards the upper; in the firſt caſe it is termed the deſcending, and in the ſecond, the aſcending ſpiral bandage. It is generally applied in the laſt-mentioned manner, and may be uſed for ſwathing whole limbs, by which means alone very obſtinate diſeaſes may ſometimes be cured.

Mr. Theden (Neue Bemurkungen u. Erfahrungen, &c. Th. I. Berl. 1781, p. 1.) was the firſt who called the attention of the public to the more frequent and rational uſe of ſwathing with this bandage; and experience has proved that this practice may certainly be attended with very great advantages. In applying it, every thing depends upon the whole limb being entirely encircled with it from the

the very points of the fingers or toes, ſo as to leave no part whatever bare, as a tumor would be produced in ſuch a part. The method of applying it to the ſuperior extremities is as follows:—For each finger we are to take a fillet a foot in length, and of the breadth of a finger, and wind it round each finger as well as the thumb in the following manner. The firſt turn is made circularly round the point of the finger, the ſecond, in order to afford a good hold for the reſt, immediately over the firſt; the third turn covers half or a little more of the ſecond, and the fourth and following turns the ſame. The ends of theſe fillets are laid upon the back of the hand, and ſecured with a fillet from 20 to 40 feet long, and 2 or 2½ fingers broad. With this long fillet, the firſt turn is made immediately over the fingers round the hand, and for the ſake of ſecurity, the ſecond ſtraight over the firſt; but the following turns always cover each one half of the preceding turn, and they aſcend as high as the elbow, being applied neither too looſe nor too tight; for we muſt always have it in our power to introduce a finger between the turns in caſe of neceſſity. If we intend to wet this bandage with any liquid, we muſt apply it ſomewhat looſer, as it contracts and becomes tighter when it is moiſt; but afterwards it muſt be kept conſtantly moiſt, as otherwiſe, when it dries, it becomes too looſe, and is conſequently rendered uſeleſs. Should the perſon who applies the bandage, not know how to hit the proper meaſure of tightneſs in this caſe, he may wet the bandage before he applies it.

Theſe turns are carried up as high as the elbow, where, if it be a caſe of injury from blood-letting, a piece of rag ſpread with a proper ointment is laid upon the inflamed or ulcerated part, and the bandage is carried two or three times up to the humerus, and back again, ſo as to form turns like ∞ ∞, as in the operation of blood-letting. If we cannot cover every part by means of theſe turns, we may lay an oblong piece of linen, 3—4 fingers broad, and a foot long, under the elbow, draw it tight, and ſecure it above and below with the bandage. The end of the piece of linen that projects under the bandage is doubled back, and another turn made round it, in order to prevent its giving way. The turns are then continued as high as the deltoid muſcle, or to the ſhoulder, and the end of the bandage is faſtened to the neck. When the tumor grows ſmaller, ſo as to render the bandage too looſe, it may be renewed.

In ſwathing the lower extremities, it is not neceſſary to bandage each toe ſeparately, and this would alſo be very difficult on account of the ſhortneſs of theſe members. We may therefore apply the middle part of a piece of linen, about twice the breadth of a man's hand in breadth and length, cloſe to the points of the toes, and turn one part over the back of the foot, and the other under the ſole; the two folds of the linen are then to be drawn tight towards the foot, and doubled downwards, both at the great and little toe, towards the ſole, where they are to be held faſt with the left hand. The ſurgeon then takes into his other hand the bandage, which may be from 30 to 40 feet long, and 2—3 fingers broad, and ſecures the piece of linen that incloſes the toes, with two circular turns, after which he proceeds to carry the bandage with ſpiral turns towards the leg. In order to obviate the difficulty that attends the bandaging of the heel, we may apply under the ſole another piece of linen, ſomewhat more than the breadth of a man's hand, ſo as to reach above the heel, ſurround it with the bandage and draw it tight, then double down the ends, and ſecure them with the bandage in order to prevent their giving way. For the greater ſecurity of the bandage, and in order to prevent the pain which it might occaſion by its preſſure upon the Tendo Achillis, we may ſtop the depreſſions on both ſides of the tendon, as high as the termination of the calf, with lint, whilſt we are bandaging the limb. A often turn is neceſſary, namely when any turn is not drawn ſo as to cover half of the preceding, we muſt turn the bandage, and this muſt be done particularly under the calf. When the limb has been ſwathed, a ſtocking that fits well ſhould be drawn over it.

Stalked Bandage with Two Heads. This bandage is uſed after blood-letting at the temporal artery. It is from 16 to 20 feet long, two fingers broad, and rolled upon two heads. Inſtead of this bandage Mr. B. Bell recommends the uſe of a well-hardened ſteel ſpring, three quarters of an inch broad, and twelve or fourteen inches long, which is covered with ſoft leather, and of equal ſtrength with the ſpring of a rupture bandage.

The ſingle Star Bandage. This is a one-headed bandage, from ſixteen to twenty-four feet long, and four fingers broad, which is uſed in ſome affections of the ſcapulæ.

The double Star Bandage. This bandage is 3—4 fingers broad, 24—32 feet long, and rolled upon two heads: it is likewiſe uſed in leſions of the ſcapulæ.

The Bandage for an Umbilical Hernia. Theſe bandages may either be elaſtic or non-elaſtic. With infants an elaſtic bandage is both troubleſome and ſuperfluous. Mr. Richter therefore recommends to apply half a nutmeg, wrapped in a piece of linen to the umbilicus, and to ſecure this with a ſingle adheſive plaiſter and a circular roller. But leſt the bandage ſhould ſlip, and the plaiſter together with the nutmeg fall off, he directs the front part of the bandage to be made almoſt as broad as the hand, and that which lies upon the hips two thirds narrower, in order that if it ſhould ſlip a little upwards or downwards, it may ſtill in ſome degree help to retain the piece of nutmeg in its place. In order to prevent the bandage from wrinkling, it is made of double linen, and at the front part which covers the navel, a piece of leather is inſerted between the two pieces of linen; by which means this part of the bandage conſtantly preſerves its proper breadth. When we wiſh to change the bandage, we ſhould introduce a finger under the bandage, and preſs down the nutmeg upon the navel till the new bandage has been applied, leſt the navel ſhould again be protruded. Inſtead of the nutmeg, we may employ for the ſame purpoſe a ſet of graduated compreſſes, or any other proper hard ſubſtance. See the article Rupture.

An unelaſtic bandage for the umbilical hernia in adults is made in the following manner. We take a piece of parchment four or five feet long and four fingers broad, and cut into the middle of it a ſlit a foot long, which paſſes over the patient's head when it is applied. To the one end, at both corners, two ſtraps are ſewed, which run on in a ſtraight line with the whole. Two other ſtraps are ſewed immediately over the former to the margin of the bandage, ſo that when the whole is laid upon a horizontal ſurface, they form a right angle with the ſlip of parchment, on each ſide. Finally, to the inner ſide of the bandage a cuſhion is attached, which is ſtuffed with horſe-hair, cork, or cotton, and in order that it may lie properly, it ought to have a degree of ſwell round the margin. In applying it, the patient introduces his head through the ſlit abovementioned, ſo that the longer portion of the ſlip of parchment hangs down perpendicularly over his breaſt, and the ſhorter down his back. After the hernia has been reduced, the two upper ſtraps attached to the margin of the bandage are carried round the body and tied upon the back; or if they be long enough, over the cuſhion in front. The other two are brought through between the thighs, and faſtened at the back to the firſt, or to the upper piece of parchment or linen.

Flat

But as the hernia is not always of equal ſize, being ſmaller in the morning, and larger after meals, and as it alternately riſes and ſinks in inſpiration and expiration, it is evident that theſe unelaſtic bandages cannot adapt themſelves to theſe diverſities, as they either render neceſſary a ſtronger, inconvenient, and often hurtful preſſure, or do not preſs ſufficiently, ſo that the hernia is conſtantly in danger of ſlipping through.

With adults therefore we can expect no ſecurity, except in the uſe of elaſtic bandages for the umbilical hernia; and of theſe there are ſimple, compound, and double bandages. The ſimple bandage conſiſts of a ſomewhat broad, round, or oval cuſhion, and an elaſtic ſemicircle. With patients whoſe umbilical region is more debilitated, an oval cuſhion is requiſite, having in the middle a bulb of the ſize of a walnut, which comes to lie upon the navel. Mr. Richter alſo recommends the uſe of a common bandage for the inguinal hernia, provided in its front with a child, to the inner ſide of which a cuſhion is attached. However, this and the above-mentioned rupture bandages are not ſufficiently ſecure againſt ſlipping out of their ſituation, on account of their being provided only with a ſingle lateral ſpring.

Mr. Theden has propoſed the uſe of elaſtic gum for bandages for the umbilical hernia; and Mr. Juville thinks that it may be ſufficient with patients that are not corpulent, and when the hernia is ſmall. But as elaſtic gum loſes its elaſticity when it grows warm, it has been propoſed to ſuperſede its uſe by the application of ſpiral ſteel ſprings to both ſides of the cuſhion. However, both theſe methods are liable to the objection, that they produce the ſame preſſure upon the whole ſurrounding part of the abdomen, as they do upon the navel itſelf; and conſequently the cuſhion either does not compreſs the navel ſufficiently, or it preſſes it more than is neceſſary.

A better bandage than theſe, for the umbilical hernia, is that of Squire, which conſiſts of a plate, with a cuſhion ſcrewed to it, and two lateral ſprings proceeding from the plate, which, when it is applied, firmly embrace the body. An elaſtic bandage of another kind is that of Suretſche, which Mr. Richter (Abhandlung von den Bruechen. Gottingen, 1785, p. 641. tab. vii.) has deſcribed, delineated, and in a high degree improved. Two bandages of Mr. Juville for umbilical hernia, of which the one is deſcribed and delineated by Mr. Bell, and the other by Mr. Hoſer. (Lehrſacke des Chirurg. Verbandes. Th. II. Erlangen, 1791, p. 278. tab. xi. fig. 77.) Dr. Alex. Monro, ſenior, has alſo deſcribed a bandage, conſiſting of a ſteel ſpring, which, after the hernia has been reduced, is placed upon the navel, and retained in this ſituation by a bandage. It is drawn as tight as may be neceſſary by means of ſtraps and buckles.

When, as ſometimes occurs, the hernia has formed adheſions, either ſpontaneouſly, or in conſequence of improper bandaging, in which caſe its reduction is altogether impracticable, we muſt uſe a concave cuſhion, inſtead of a convex one, that may receive the hernia into its hollow, and prevent the farther protruſion of the inteſtines. If the bandage be ſkilfully conſtructed, the adheſions may gradually be diminiſhed, and the hernia at length reduced.

The uniting Bandage. This is a common double-headed bandage, and one of the moſt uſeful and indiſpenſible which is uſed in caſe of freſh wounds, in order to promote their ſpeedy re-union. Properly it is only adapted for ſuch wounds as run in the direction of the body and limb, and that are ſituated in parts which admit of the application of a bandage; however, it may alſo be uſed in caſes of tranſverſe wounds; but then it rather belongs to the compound bandages. It may be formed in different ways: *viz.*

1. According to one method of forming it, its length muſt be regulated by the circumference of the wounded part, and its breadth muſt be equal to the length of the wound. In general, however, it is rather uſed narrow than broad, and it muſt always be ſo long that the wounded limb can be thrice encircled with it. In the middle part it muſt have a longiſh ſlit, through which the head of the bandage rolled up may eaſily be paſſed. In applying it, the ſurgeon takes one of its heads into each of his hands, applies that portion of the middle part that is not ſlit to the ſide of the part oppoſite to the wound, brings both the heads round the limb towards the wound, paſſes one of the heads through the ſlit, over the wound, drawing both heads in ſuch a manner as to bring the lips of the wound together; after which the one head is rolled round the limb above the wound, and the other below it. When the wound is deep, a longuette is applied under the bandage to each of the lips of the wound, at ſome diſtance from its edges; the thickneſs of theſe longuettes muſt be proportionate to the depth of the wound, and by means of them the bottom of the wound is preſſed together when the bandage is drawn tight.

When the wound is very long, we muſt either apply ſeveral bandages, one at the ſide of the other, or make ſeveral ſlits in a ſingle bandage, and paſs the head through the ſecond ſlit over the firſt turn, and there draw the lips of the wound together, and ſo alſo the ſecond and the third time. In this caſe it will be beſt to make the ſlits whilſt we are applying the bandages, namely, at the place where the two heads meet each other, as otherwiſe they do not fit accurately to the wound. The application of this bandage, however, requires great accuracy. If it be applied too tight, it excites pain, ſwelling, inflammation, and fruſtrates the purpoſe of re-union; but if it be applied too looſe, the lips of the wound do not come into contact with each other, and the re-union is not properly effected.

2. Another more convenient bandage which is equally applicable to longitudinal and to tranſverſe wounds, is that which has already been recommended by Mr. Henkel. (Anweiſung zum verbeſſ. Verbande, Berlin, 1767, 8. p. 237. *Tab.* XV. *fig.* 104.—Alſo Richter's Anfangſgruende des Wundarzneykunſt. B. I. *Tab.* I. *fig.* 2.) It conſiſts of four ſtripes of linen, each of which is from one to two feet in length, and two or three inches in breadth. The dimenſions, however, muſt always be regulated according to thoſe of the diſeaſed part. Theſe four pieces are united by means of ſix narrow ſtraps in ſuch a manner, that all the ſix ſtraps croſs each other like the fingers of the hand when folded. In this manner we obtain a four-headed crucial bandage, in which the ſix narrow ſtraps form the centre of the whole.

When it is applied, the narrow ſtraps, or the middle of the bandage, muſt be placed directly over the wound, and two of the heads muſt lie on each ſide of it, in ſuch a manner that the one entirely covers the other. Firſt, the two loweſt heads on each ſide are faſtened quite looſe round the limb with circular turns. The two heads above are then alſo firſt drawn tight with both hands, and then faſtened in the ſame manner as the former. When this bandage is uſed, we have conſtantly a view of the wound, as the narrow ſtraps lie immediately over it.

3. Mr. Boettcher (Auſwahl des chirurgiſchen Verbandes, Berlin, 1795. p. 62. § 71.) has alſo recommended a very ſimple bandage for promoting the re-union of longitudinal wounds. He takes a common two-headed bandage, two or three fingers in breadth; and firſt applies to each ſide of the wound, at the diſtance of from half an inch to three inches from the edge, a longuette, which in the mean time is held by an aſſiſtant; he then takes one of the heads into each hand, and makes the beginning with the middle of the bandage, on the ſide of the limb oppoſite to the wound.

The two heads are now brought over the longuettes, and in the ſame manner alſo over the wound; but this muſt be done in a very brisk manner. The heads are then divided into different bands, and brought tight, by which means the longuettes are brought together, and the wound united. The two heads are then ſlung round each other, over the middle of the wound, then ſhifted again into different hands, and carried back in the ſame manner as they were brought forwards to the wound. This turn may be repeated three, four, or more times, according to the ſize of the wound. The ends are then either entirely wound off in circular turns, or ſhould they not be long enough for that purpoſe, pinned to the other turns.

Should no unfavourable ſymptoms ſupervene, the uniting bandage may be ordered to remain in ſituation, five, ſix, and, if the wound be deep, ſeven days. Great accuracy, however, muſt always be uſed in applying it, as the wound is to be united from its bottom; and the dimenſions of the longuettes, or compreſſes, muſt alſo be regulated accordingly; for with deep wounds they muſt be thicker, and with ſuperficial wounds thinner. When the wound is entirely ſuperficial, none are required. When the bandage is removed, the part muſt be retained preciſely in the ſame poſition that has been given to it, and the new bandage applied in the ſame manner as the former. Even after the wound has completely healed, it will ſtill be proper, by way of precaution, to leave the bandage in its ſituation for ſome days longer.

The Bandage of the Patella fractured longitudinally. For this purpoſe is required a bandage from ſixteen to twenty-four feet long, three fingers broad, and rolled upon two heads. When it is applied, the hollow of the knee muſt be bolſtered with compreſſes, and a ſmall longuette, about half an inch thick, laid on each ſide of the knee-pan. The middle part of the bandage is then laid upon the hollow of the knee, and both heads brought forwards; a ſlit is then cut into the one part, through which the head of the other is paſſed, in ſuch a manner that the ſlit fits to the middle of the knee-pan, after which the bandage is drawn tight tranſverſely. The heads are then carried backwards, but obliquely, ſo that one comes to be ſituated higher than the other; and the bandaging is completed with circular turns. In order to keep the leg conſtantly extended, a well-bolſtered ferula or ſplint is laid into the hollow of the knee, which may be faſtened there by the laſt turns of the bandage. For greater ſecurity, the leg may alſo be incloſed in a box properly lined, which reaches as high as the thigh.

We do not here profeſs to give an entire treatiſe on *Bandages*, but only an account of thoſe which are moſt commonly uſed. Several authors, both ancient and modern, have diſcourſed on this ſubject very amply. In particular, we recommend the peruſal of Vidus Vidius, for the opinions and practice of the oldeſt ſurgeons, which he has tranſlated from the original Greek, and elucidated by various figures: edit. Lutetiæ Pariſiorum, fol. 1544. Among the moderns, the beſt writers on bandages are M. Sue, Thillaye, Heiſter, Lombard, and Bernſtein; but all of them are too prolix and tedious, eſpecially the French authors.

Mr. John Bell of Edinburgh has endeavoured to ſimplify this ſtudy in his firſt volume of "Principles of Surgery;" there is, however, a very ſingular declaration in that part of Mr. Bell's book, *viz.* "Thoſe innumerable forms in which the ancients turned the roller round the head, neck, and body," ſays he, "are to be found in the treatiſes of Soranus, Glaucus, Diocles, and Galen. In their treatiſes I find nothing but what has fallen into deſerved neglect, nothing that I could mention either for your amuſement or inſtruction." See page 129. Now it happens in this inſtance, if not in ſome others, that Mr. Bell has never peruſed the authors whom he cites; but has taken the hint, as he ſeems to have done on many occaſions, from Sharp, Gooch, and Hunter, who have referred to their poſterity. Galen, indeed, wrote on bandages, and his directions to [illegible] Vidus Vidius, and which we have recently [illegible] to have had no access to copies of any [illegible] by the more modern phyſicians.

BANDAL, or Pandal, in *Commerce*, the name of a meaſure uſed in the [illegible] which is equivalent to three-fourths of a yard; [illegible] in the market; [illegible].

BANDALEER, Bandoleer, or *Bandelier*, a large leathern belt, thrown over the [illegible] Gaul under the laſt article; [illegible] the time of James and Charles I. both [illegible] fire-arms, and for the carriage of their muſquet-charges; which being put up in little wooden, tin, or leathern cylindric boxes, were hung to the number of twelve, to each bandaleer. Each of theſe boxes contained a ſingle charge of powder.

The word is originally French. *bandouiller*, formed apparently from *bandoulier*, a kind of banditti particularly infeſting the Pyreneans, who were formerly diſtinguiſhed by this piece of furniture; and were themſelves ſo denominated, *quaſi bandes de voliers, a band of robbers.*

The French ſoldiery ſtill retain the bandaleer; their horſe, their muſqueteers, and common guards, wearing it indifferently; excepting for ſome difference in its garniture. Groſe (Treatiſe on Ancient Armour, p. 293.) [illegible] this contrivance ſeems to have been borrowed from the Dutch or Walloons.

BANDARMALANKA, in *Geography*, a town of Hindoſtan, in the Circars, ſituated at the mouth of the river Godavery. N. lat. 16° 25'. E. long. 82° 26'.

BANDE', or *in Bend*, in *Heraldry*, expreſſes the poſition of a lion, when he is placed diagonally in the ſhield.

BANDED, a term applied to a garb, or wheatſheaf, &c. when the band is of a colour different from that of the garb itſelf.

BANDEL Cape, in *Geography*, a town of Africa, on the coaſt of the kingdom of Adel.

Bandel, a town in the kingdom of Bengal, ſituate on the weſtern arm of the Ganges, or Hougly river. N. lat. 22° 53'. E. long. 88° 32'.

BANDELET, or Bandlet, in *Architecture*, any little band or flat moulding, encompaſſing a column, like a ring; as that which crowns the Doric architrave. It is alſo called *annulet*, which Vitruvius uſes for the [illegible] ſometimes *fillet*, *diadema*, &c. It is ſometimes uſed for the three parts which compoſe the architrave, called by Vitruvius, *faſciæ*; and which are ſometimes alſo denominated *bands* or *flat-bands*.

BANDELLO, Matthew, in *Biography*, a monk of Agen, was born towards the cloſe of the fifteenth century, at Caſtelnuovo of Scrivia, in the Milaneſe. He entered into the ſociety of the Dominicans; and after many changes of ſituation, he ſettled in France; and in 1550 was nominated by Henry II. to the biſhopric of Agen; but he paid little attention to the duties of his office. The time of his death is not exactly known; but he was living in 1561. He was principally diſtinguiſhed as a writer of novels. His collection was firſt printed at Lucca in 1554, in three volumes 4to. under the title of "Novelle del Bandello," to which was added another volume, printed at Lyons in 1573. The edition of London in 1740 compriſes four volumes 4to. In his narrations the author is ſaid to imitate the manner of Boccacio, and to write in a lively, pleaſing ſtyle; but he has alſo copied his model in thoſe licentious freedoms, which

were no leſs unſuitable to his office, than offenſive to the church. He was alſo author of a Latin verſion of Boccacio's ſtory of "Tito et Gilippo," of eleven cantos, in ottava rima, in honour of Lucretia Gonzaga; and of ſome other works. Nouv. Dict. Hiſtor.

BANDELVELLO, or Old Port, in *Geography*, the name of a good harbour at the mouth of the river Doara, on the eaſt coaſt of Africa, in the Indian ocean; about twenty-ſeven leagues north of Magadoria or Magadoxo, on the ſame coaſt.

BANDER Abaſſi. See Gombroon.

BANDERAS, a large bay of the Pacific ocean, on the weſt coaſt of Mexico, in North America; running inland between two points of land, the north point called Tintoque, and the ſouth cape Corientes, with an open entrance, and ſufficiently ſpacious for the accommodation and anchorage of a fleet of ſhips.

BANDER Congo, a port town of Aſia, on the eaſt ſide of the Perſian gulf, and thirty-three leagues weſt from Bander Abaſſi. N. lat. 27° 5'. E. long. 55° 8'.

BANDERE, a town of Hindoſtan, in the circar of Gohud, one hundred miles ſouth of Agra, and forty-four S. S. E. of Gohud.

BANDERET, the name appropriated to the commanders of the militia of the canton of Bern.

BANDEROLE, in *Heraldry*, is a ſtreamer affixed by ſmall lines or ſtrings immediately under the crook on the top of the ſtaff of a crozier, and folding over the ſtaff.

BANDEROLES, in *Military Language*, the ornaments which were given to pikes near the point, in order to render their appearance handſome. Theſe ſometimes had the name of pencells. (See Groſe on Ancient Armour, ii. 277.)

BANDEROLL, in *Naval Language*, a little flag, in form of a guidon, extended more in length than breadth, uſed to be hung out on the maſts of veſſels, &c.

BANDEROLLS, in *Military Language*, an ancient name for camp-colours.

BANDI, in *Geography*, a river of Africa, in the country of Calabar, in Lower Guinea, which runs into the ſea by two channels. There is a town of the ſame name on an iſland at the mouth of the river.

BANDINELLI, Baccio, in *Biography*, a painter of hiſtory, was born at Florence in 1497, and became a diſciple of Giovanni Franceſco Ruſtico, a good ſculptor. He had the ambition to become a rival of Michael Angelo, in painting as well as in ſculpture; but hearing that this great maſter treated his works contemptuouſly, he laid aſide the pencil, and would never afterwards reſume it. As a ſtatuary, he poſſeſſed ſkill and merit, and in that art he deemed himſelf equal to Buonaroti; however, when he found that the world did not concur with him in opinion, he was much mortified. He died at Florence in 1559, at the age of 62 years. Several of his pupils became eminent artiſts. The principal of his works are the bas-reliefs of the tombs of Leo X. and Clement VII. at Rome, a St. Peter, a Bacchus, the Laocoon, and ſome figures of ſome princes of the Medici family at Florence. His drawing is generally correct, and evinces an extenſive knowledge of anatomy; but his muſcles are too ſtrongly marked, and he is deficient in grace. Argenville, Vie de Sculpteurs. Pilkington.

BANDITTI, from the Italian *bandito*, perſons proſcribed, or, as we call it, outlawed; ſometimes denominated *banniti*, or *foris banniti*.

Banditti, or Banditi, is alſo a denomination given to highwaymen and robbers, who infeſt the roads in troops, eſpecially in Italy, France, and Sicily. Mr. Brydone, in his Tour through Sicily, informs us, that in the eaſtern part called Val Demoni, from the devils that are ſuppoſed to inhabit mount Ætna, it has ever been found altogether impracticable to extirpate the banditti; there being numberleſs caverns and ſubterraneous paſſages round that mountain, where no troops could poſſibly purſue them; beſides, they are known to be perfectly determined and reſolute, never failing to take a dreadful revenge on all who have offended them. Hence the prince of Villa Franca has embraced it, not only as the ſafeſt, but likewiſe as the wiſeſt and moſt political ſcheme, to become their declared patron and protector; and ſuch of them as think proper to leave their mountains and foreſts, though perhaps only for a time, are ſure to meet with good encouragement and a certain protection in his ſervice, where they enjoy the moſt unbounded confidence, which, in no inſtance, they have ever yet been found to make an improper or a diſhoneſt uſe of. They are clothed in the prince's livery, yellow and green, with ſilver lace; and wear likewiſe a badge of their honourable order, which intitles them to univerſal fear and reſpect from the people.

In ſome circumſtances, theſe banditti are the moſt reſpectable people of the iſland, and have by much the higheſt and moſt romantic notions of what they call their point of honour. However criminal they may be with regard to ſociety in general; yet, with reſpect to one another, and to every perſon to whom they have once profeſſed it, they have ever maintained the moſt unſhaken fidelity. The magiſtrates have often been obliged to protect them, and pay them court, as they are known to be perfectly determined and deſperate, and ſo extremely vindictive, that they will certainly put any perſon to death that has ever given them juſt cauſe of provocation. On the other hand, it never was known that any perſon who had put himſelf under their protection, and ſhewed that he had confidence in them, had cauſe to repent of it, or was injured by them in the moſt minute trifle; but, on the contrary, they will protect him from impoſitions of every kind, and ſcorn to go halves with the landlord, like moſt other conductors and travelling ſervants, and will defend him with their lives, if there be occaſion. Thoſe of their number who have thus enliſted themſelves in the ſervice of ſociety, are known and reſpected by the other banditti all over the iſland; and the perſons of thoſe they accompany are ever held ſacred. For theſe reaſons, moſt travellers chooſe to hire a couple of them from town to town; and may thus travel over the whole iſland in ſafety.

The term is alſo applied to a ſort of free-booters, who pillage in the iſlands of the Archipelago.

BANDOBENA, in *Ancient Geography*, a town of India, on this ſide of the Ganges, ſeated, according to Strabo, on the river Choaſpes.

BAN-DOG, in *Zoology*, a variety of the maſtiff or Canis Molossus of Linnæus. It is lighter, ſmaller, more active and vigilant than the maſtiff, but not ſo powerful; its noſe is ſmaller, and poſſeſſes, in ſome degree, the ſcent of the hound; its hair is rougher, and generally of a yellowiſh grey, ſtreaked with ſhades of a black or brown colour. It frequently ſeizes cattle by the flank, attacks with eagerneſs, and its bite is keen and dangerous. It is not often to be ſeen at preſent. Bewick's Hiſt. Quadrupeds, p. 338.

BANDOL, in *Geography*, a harbour of the Mediterranean, nearly weſt, and about five leagues from Toulon. It has a fort, and there is anchorage near the eaſt part of a ſmall iſland, which lies on the weſt point of the bay that is here formed by the coaſt.

BANDOLEERS, from the French *bandouliers*, in the *Military Art*. See Bandaleer.

BANDON, in *Geography*, the name of a fine river in the county

county of Cork, province of Munſter, Ireland, which riſes in the mountains of Caibery, and after watering the large and thriving town of Bandon-bridge, and the village of Inishonan, falls into the harbour of Kinſale. It is navigable for large ſloops as far as Collier's quay, near Inishonan, from which place Bandon is ſupplied with Engliſh coal. At the confluence of the Bandon and Brinny rivers, a little above Inishonan, the Eaſt India company of England formed a ſettlement about the year 1612, for carrying on iron works, and building large ſhips; for which purpoſe they purchaſed the adjoining woods and lands. They garriſoned a caſtle, and built three villages; but the oppoſition given to this undertaking by the natives, ſoon obliged them to relinquiſh it. The great woods in the neighbourhood were from that time much demoliſhed; though the river has not yet forfeited the character given of it by Spenſer in his Fairy Queen:

"The pleaſant Bandon, crown'd with many a wood."

Campbell's Political Survey of Great Britain, &c. Smith's Cork. Beaufort's Memoir.

BANDON-BRIDGE, or, as it is more commonly called, Bandon, a conſiderable market and poſt town of the county of Cork, province of Munſter, Ireland, ſituated on both ſides of the river Bandon, over which it has a bridge. It was one of the towns which owed their origin to the laudable exertions of Richard Boyle, the firſt, and frequently called the *great*, earl of Cork. He built it in the year 1610, in the midſt of a waſte bog and wood, which had been impaſſable, and incloſed it with walls, which were of great ſtrength for that period. In 1613, he procured for it a charter of incorporation, in conſequence of which it ſent two members to the houſe of commons; and was one of the boroughs which occaſioned ſo violent a debate at the meeting of parliament in that year. It was part of the policy of lord Cork, as appears from his letter to ſecretary Cook (quoted in Smith's Cork, vol. i. p. 236.), to admit none but Proteſtants to live in the town; which ſeems to have been conſidered a neceſſary ſupport to the infant colony. The conſequence of this was, that the inhabitants, being united among themſelves, and all trained to arms, were very powerful, and took an active part in the civil wars which diſtracted Ireland, in the middle of the ſeventeenth century. After the reſtoration of Charles II. the excluſion was not very ſtrictly obſerved, though it had been confirmed by a bye-law of the corporation; but the adherents of James II. under the earl of Clancarthy, having deſtroyed the walls in 1689, and treated the Proteſtant inhabitants with ſeverity, it was revived, and has been ſince, with few exceptions, ſtrictly attended to. The wiſdom and advantage of this excluſion have been often called in queſtion, but the ſtrongeſt objection to it certainly is, that it tends to keep alive that animoſity which has been the bane of Ireland, and which all who ſtudy the true intereſts of the country will endeavour to appeaſe. The inhabitants of Bandon have been generally induſtrious. For many years they carried on the manufactures of ſtuffs, camblets, and ſhags, very extenſively, but theſe have of late declined. Ticken of ſuperior quality, and coarſe green linens 27 inches wide, called *vittery*, are made in the town and neighbourhood; the latter of which is ſent from Cork to London and Briſtol. There are alſo ſome cotton manufacturers, who employ a great number of people. The town is chiefly the property of the duke of Devonſhire, repreſentative of the eldeſt branch of the Boyle family, and on account of the ſhortneſs of the leaſes, and the want of proper encouragement, it is in general ill built, the houſes not at all correſponding to the wealth of the inhabitants. During the late war, Bandon became a great military ſtation, being conveniently ſituated for ſending aſſiſtance to any part of the ſouth-weſtern coaſt at which it might be wanted, and a [illegible] there. The [illegible] a member to the Irish parliament. It is [illegible] from Dublin is 136 Irish miles, and S.W. from Cork [illegible] N. lat. 51° 44'. W. long. about 8° 44'. Smith's Cork, [illegible].

BANDORA, the capital of Salſet iſland, and [illegible] from Bombay iſland, on the Malabar coaſt of India, by a narrow channel, in N. lat. 19° 5'. E. [illegible].

Bandora, in *Muſic*, an inſtrument [illegible] for which the notes were written in the ſame kind of tablature as for the theorbo or great lute. See Lute.

BANDT, in *Geography*, a ſmall iſland in the German ocean, near the coaſt of Eaſt Friedland. N. lat. 55° 3'. E. long. 6° 33'.

BANDURI, Anselme, in *Biography*, an antiquary of the eighteenth century, was a native of the republic of Raguſa, in Dalmatia, and a Benedictine monk. He ſtudied at Florence, and having made rapid progreſs in the learned languages, he became a preceptor. Montfaucon employed him in 1700 to examine MSS. for his projected edition of Chryſoſtom's works; and for extending his acquaintance with eccleſiaſtical antiquities, Banduri, under the patronage of the grand duke of Tuſcany, ſpent ſome years in the abbey of St. Germain in Paris. Here he was enabled to compoſe his valuable work, intitled, "Imperium Orientale, ſive, Antiquitates Conſtantinopolitanæ," and publiſhed at Paris, in 1711, in two volumes, folio. He alſo publiſhed at Paris, in 1718, fol. a collection of Roman medals, under the title of "Numiſmata Imperatorum Romanorum à Trajano Decio ad Palæologos Auguſtos;" which was enriched and enlarged, and reprinted in 4to. at Hamburg, in 1719, by J. A. Fabricius. In 1724, Banduri was appointed librarian to the duke of Orleans, and he died at Paris in 1743. Nouv. Dict. Hiſtor.

BANDUSIAN Fountain, in *Ancient Geography*, a famous ſpring of Sicily, celebrated by Horace in the thirteenth ode of his third book, placed by ſome at his Sabine farm; but inconteſtibly proved by the abbé Chaupy, to be near Palazzo, in the principality of St. Gervaſio. No ſhady groves now hang over its banks to ſhut out the burning midday ſun; its gelid waters no longer tumble down the rocks in beautiful caſcades; but choaked with dirt and loſt in bogs, are forced to ſeek their way under ground to a vent at the foot of the hill. Swinb. Travels, vol. ii. p. 33.

BANDY-Legs, in *Surgery*, are the diſtortion of the lower extremities, in any direction. This diſeaſe is uſually occaſioned by a defective oſſification of the Tibia or leg-bone, which therefore is unable to ſuſtain the weight of the body without yielding. See Distortions, and Mollities *Oſſium*.

BANE-Berry, in *Botany*. See Actea.

BANEE, in *Geography*, a ſmall iſland of France, near the Engliſh channel, about a league S. W. of Ushant.

BANER, John, in *Biography*, a famous general of Sweden, deſcended of an illuſtrious family, was born in 1601, and was ſo much diſtinguiſhed by his proficiency in literature, that Guſtavus Adolphus uſed to call him his learned general. In very early youth, he attracted, by his magnanimity, the notice of that monarch, who pronounced him formed for great events, and placed him in the army; and he ſoon ſignalized himſelf ſo much, that, under twenty years of age, he was employed in many critical enterpriſes, which required no leſs dexterity than bravery. After the death of Guſtavus, he ſupported, as commander in chief, the luſtre of the Swediſh arms, by a ſeries of victories, which raiſed his military character as high as that of any general of the age. He ſuſtained this reputation undiminiſhed till his death, at Halberſtadt, on the 10th of May 1641, in the 40th year of his age. Baner, though not inſenſible of the glory he

had acquired by his actions, uſually ſpoke of them with great modeſty. He was accuſtomed to ſay, that he never formed an expedition, nor hazarded an action, without the moſt reaſonable hopes of ſucceſs. He was equally feared and beloved by the ſoldiers, and always inſpired them with unbounded confidence. At the head of his troops, he acted ſolely from himſelf, and without dependence, and would rather have reſigned the command, than have been directed in his military operations by the orders of the cabinet. He had the abſolute diſpoſal of all commiſſions, and eſtabliſhed a regular order of promotion; he was humane to the vanquiſhed enemy, cautious in not wantonly expoſing his troops to action, and he blamed thoſe generals who in ſieges ſacrifice the lives of their men to raiſe their own military character. Coxe's Travels in Poland, &c. vol. iv. p. 51.

BANFF, in *Geography*. See BAMFF.

BANGA, a town of Africa, in the country of Whidah, on the Slave coaſt.

BANGALORE, a town of Hindoſtan, in the Myſore country, ſituate in the centre of the peninſula, and having routes paſſing through it in every direction. It is, in itſelf, a place of great political importance, being a fortreſs of ſtrength, and from ſituation, the bulwark of the Myſore country, towards Arcot. It is placed, by major Rennell, in N. lat. 13°. E. long. 77° 37′ 10″. This is the common point of union, in the centre of the peninſula, as Coimbettore is in the ſouth-weſt, and Tritchinopoly in the ſouth-eaſt.

BANGER, one of the principal places in the iſland of Belleiſle, on the coaſt of France; and Palais is the other.

BANGIUS, PETER, in *Biography*, a Swediſh divine, was born at Helſingberg, in 1633, and having ſtudied at Upſal, travelled with a pupil through Sweden, Denmark, and the Netherlands. On his return, he was appointed profeſſor of theology in the univerſity of Abo in Finland, and filled the chair with credit 32 years. In 1682, he was appointed biſhop of Wyburg, by Charles IX. of Sweden; and died in 1696. He took great pains to ſerve his country, by eſtabliſhing ſchools and promoting knowledge. He wrote in Latin an eccleſiaſtical Swediſh hiſtory; a treatiſe on Sacred Chronology; a Commentary on the Hebrews, and other works.

BANGIUS, THOMAS, a learned Daniſh divine, of the univerſity of Copenhagen, was born in 1616. He diſcharged, with great credit, the duties of the profeſſorſhips of Hebrew, philoſophy, and divinity; and was the author of ſeveral learned works. He died in 1661. Among his writings in Latin are various diſſertations to elucidate the ſcriptures; "Philological Obſervations," printed in 8vo. at Copenhagen, in 1640; "An Exercitation on the origin of Diverſity of Languages, and on the Excellence of the Hebrew;" 8vo. 1634; and a "Hebrew Lexicon," 4to. 1641. Gen. Dict.

BANGLE EARS, in the *Manege*, an imperfection in a horſe's ears, remedied in the following manner; place his ears in ſuch a ſituation as they are wanted to ſtand; bind them with two ſmall boards, ſo faſt as not to ſtir; and then clip away the empty wrinkled ſkin cloſe by the head.

BANGO, in *Geography*, a long ſhoal on the eaſt coaſt of Africa, of variable breadth, but in ſome places about two leagues. See *Cape* CORIENTES.

BANGOR, a townſhip of America, in Hancock county in the diſtrict of Maine, on the weſt ſide of Penobſcot river, 25 miles from its mouth at Belfaſt bay; 65 N.W. by W. from Machias; 63 N.E. from Hallowell; and 280 N.E. from Boſton.

BANGOR, a ſmall city of Carnarvonſhire, North Wales, conſiſts principally of one ſtraggling ſtreet which is ſituated in a narrow valley between two low ridges of ſlate rock, opening ſouthward towards Snowdon, and terminating northwards about half a mile from the cathedral, in the beautiful bay of Beaumaris. This town is watered by the "Deva's wizard ſtream," whoſe oppoſite banks are connected now by a well-built bridge of five arches. Bangor is repreſented as the oldeſt epiſcopal ſee in Wales, but the preſent cathedral was not founded till the beginning of the fifteenth century. The choir was built by biſhop Denn, in 1496, and the tower and nave by biſhop Skevington, in 1532, as appears recorded over the weſtern door. The former meaſures 141 feet by 60, and the length of the whole from eaſt to weſt is 214 feet. This edifice contains many monuments of its biſhops and other perſonages; but it poſſeſſes no extraordinary attractions either in its architecture or ornaments. The officers belonging to the cathedral, are a biſhop, a dean, three archdeacons, a treaſurer, two endowed prebends, a precentor, chancellor, and three canons; beſides other inferior officers. The cathedral ſervice is alternately in Engliſh and Welſh. Within the dioceſe are included the whole county of Angleſea, all Carnarvonſhire, except Llyſvaen, Eglwys Roſe, and Llangwſterin, the greater half of Merionethſhire, and the Deanries of Dyffrynclwydd and Arwſtley. This biſhopric, though not large, nor rich, has ſuffered many defalcations. Among others it is ſaid, that Owen Glendower deſtroyed the cathedral by fire, and biſhop Bulkley waſted and ſold all the revenues, and reduced the ſee to great poverty. It is now valued in the king's books at 131l. 16s. 3d. The late and preſent biſhops have made conſiderable alterations and improvements in the palace, its appendages, and in the town. Among the praiſeworthy acts of the former, was the re-erection of a large free ſchool under his ſuperintendance. This city is governed by the biſhop's ſteward, who holds his court here. Beſides a weekly market on Friday, here are four fairs annually. Its number of houſes is 304, and theſe contain 1770 inhabitants. Bangor is about fifteen miles weſt of Conway, and 253 from London. Half a mile from Bangor, on the ſhore of the bay, is Abercrugin, or port Penrhyn, the grand depoſitory of the ſlates that are procured from lord Penrhyn's quarries, at Dôlawan. Great quantities of theſe ſlates are ſhipped for London, Liverpool, Briſtol, and other large towns.

About two miles S.E. of Bangor, is Penrhyn-hall, the elegant manſion of lord Penrhyn. The improvements made by this nobleman in the commercial character of this part of the country, and by plantations, buildings, &c. are highly honourable to his liberality and judgment. There is a ferry into Angleſea, about two miles from this town, which is much more commodious than that of Conway.

BANGOR, *Bangor-Iſcoed*, or *Bangor Monachorum*, is a ſmall village in Flintſhire, North Wales, remarkable for a handſome bridge over the river Dee, and the ſite of an extenſive and rich monaſtery. Bede, and ſeveral of our hiſtorians, deſcribe this place as very flouriſhing at the coming of St. Auguſtine; and moſt of them relate, that Ethelfrith king of the Angles, advanced to Cheſter with a large army, and obſerving the monks praying for the ſucceſs of their countrymen, he ruſhed upon them, and conſigned 1200 to death. This abbey, according to Leland, ſtood in a fair valley cloſe on the Dee; but when he viſited the place, every veſtige of the buildings was deſtroyed, and the ſite ploughed over. Some writers have confounded this with the Bangor in Carnarvonſhire. It is probable that the latter derived its name and conſequence from and after the deſtruction of the former.

BANGOR, a poſt town, and ſea-port of the county of Down

Down, in the province of Ulſter, in Ireland, ſituated on the ſouth ſide of the bay of Carrickfergus; but though parliamentary aid was granted to improve its port, it has very little trade. An abbey was founded here in the ſixth century, part of the ruins of which yet ſubſiſts. Near this town duke Schomberg landed with the Engliſh army, 13th Auguſt 1689. Dublin N. from Dublin, 90 Iriſh miles. N. lat. 54° 38'. W. long. 5° 33'.

BANGUE, in the *Materia Medica*, a ſpecies of opiate, in great uſe throughout the Eaſt for drowning cares, and inſpiring joy.

This, by the Perſians, is called *bang*; by the Arabs *aphyon*, corruptly *afiun* and *afium*; by the Turks, *haſchiſch*, and vulgarly *aſchiſch*; by the Europeans naturalized there, *bangue* or *bange*. The Indians, from Arabia, eat the ſeed and leaves to increaſe their vigour, and to excite an appetite to their food. The nobles, and chief military officers, when they are diſpoſed to feaſt their friends, and to deep in perfect ſafety and ſecurity, take of the powder of the ſeed and leaves, as much as they think ſufficient; and add to it an *amra*, or green Indian haz-lout; with as much opium as they think fit, and eat them all together with ſugar. If they deſire to be entertained with variety of ſcenes, and images of things in their ſleep, they add ſome of the choiceſt camphor, cloves, nutmegs, and mace. If they have a mind to be merry, witty, and to indulge their amours, they add ambergriſe and muſk, and make themſelves into an electary with ſugar. It is by many affirmed that the ſeed and leaves promote luſt; whence ſays J. Bauhine, it appears that this herb has no affinity with hemp, though it be very much like it; ſince hemp, according to Dioſcorides, is of a hot and dry nature, and extinguiſhes amorous deſires.

Ray, from whom this account is taken, ſays, he learned from ſir Hans Sloane, that it is a different plant from hemp. It grows in Hindoſtan, and other parts of the Eaſt Indies, where it is principally in uſe. Among the Indians, the ſeed is prepared among other meliorating and aromatic ſubſtances into an electuary, which excites pleaſing viſions, and as ſome ſay, emboldens them to perform the moſt daring and atrocious deeds. See DATURA.

Bangue, in reality, is a *ſuccedaneum* to wine, and obtains in thoſe countries where Mahometaniſm is eſtabliſhed; which prohibiting the uſe of that liquor abſolutely, the true muſſulmen are forced to have recourſe to *ſuccedanea*, to rouſe their ſpirits. The principal *are opium*, and this *bangue*, which, ſays Sale (Prel. Diſc. p. 124.), conſiſts of the leaves of hemp in pills or confective, and by the moſt Mahometans is eſteemed unlawful, though not mentioned in the Koran, becauſe it intoxicates and diſturbs the underſtanding as wine does, and in a more extraordinary manner. It is, however, commonly uſed in the Eaſt, but they who addict themſelves to the uſe of it, are generally looked upon as debauchees. According to the account given of this ſubſtance by Alexander Maurocordato, counſellor and phyſician to the Ottoman Porte, in a letter to Wedelius, bangue is prepared of the leaves of wild hemp, dried in the ſhade, then ground to powder, put into a pot, in which butter has been kept; put in an oven till it begin to torrefy; then taken out, and pulverized again; and thus to be uſed in the quantity of as much, at a time, as will lie on the point of a knife. As to the opinion among the Europeans, that the Turks prepare themſelves for battle by a doſe of bangue, which routes their courage, and impels them with ardour to certain death, Dr. Maurocordato aſſures us, that it is a popular error. The Turks think they are then going to receive the crown of martyrdom; and would not, for any conſideration, forfeit the merit of it, which they would do by eating the bangue, which is held to be unlawful by their apoſtle, among other things which intoxicate.

BANGUEY, in *Geography*, an iſland of the Indian ocean, at the northern extremity of Borneo, not far from Balabac, the moſt eaſtern weſtern of the Philippines. N. lat. 7° 12'. E. long. 117° 25'.

BANGUEY *Point* is the eaſtern cape of Malaya. N. lat. 7° 18'. E. long. 117° 17' 20'.

BANIAS, Punto de, a ſmall iſland and head-land, north of Madagaſcar, and near the ſouth-eaſt coaſt of the iſland of Amſterdam, in about S. lat. 5° 15', and E. long. 5° 10'.

BANIOS, Punto de, a ſmall iſland ſituated by a ſmall bank, off of the ſame iſland, in lat. and long. 5° 30'. E. long. 5° 20'.

BANI, a ſmall iſland of Africa, in the county of Calabar, ſituated near the coaſt.

Bani, a town of Italy, in the kingdom of Naples, and province of Capitanata, ten miles ſouth of Troia.

BANIA, a river of Croatia, which runs into the Lake.

BANIAC, a ſmall iſland on the weſt coaſt of Sumatra, in lat. N. lat. 1° 42'. E. long. 97° 52'.

BANJALUKA, or BAGNALUKA, a conſiderable town of European Turkey, in Boſnia, the reſidence of a pacha, ſeated near the river Setina, on the frontiers of Dalmatia, 144 miles W. of Belgrade. It is ſuppoſed to contain 15,000 perſons. N. lat. 44° 20'. E. long. 18° 20'.

BANIAN-*Days*, in *Mariners Language*, a cant term among ſailors, to ſignify thoſe days in which they have no fleſh meat. It ſeems to be derived from the practice of the people mentioned in the article BANIANS.

BANIAN *Tree*, in *Botany*. See FICUS.

BANIANA, in *Ancient Geography*, a town of Hiſpania Betica, in the country of the Turduli. Ptolemy.

BANIANS, a religious ſect in the country of the Mogul who believe a *metempſychoſis*, and will therefore eat no living creature, nor even kill noxious animals, but endeavour to releaſe them, if they ſee them in the hands of others.

The *Banians* are ſaid to be ſo fearful of having communication with other nations, that they break their cups, if one of a different religion have drank out of them, or even touched them; and empty the water out of a pond where he has waſhed himſelf. It is added, that if they happen to touch one another, they muſt waſh and purify themſelves before they eat, or enter their own houſes. They carry hanging at their necks, a ſtone called *bezoar*, as big as an egg, and perforated in the middle, through which run three ſtrings: the *Banians*, they ſay, reverence three great gods, and upon this account, they have great reſpect ſhown them by all the Indians.

In a more general ſenſe, the appellation of Banians comprehends all the idolaters of India, as contradiſtinguiſhed from the Mahometans: but in a more reſtricted and peculiar ſenſe, it is appropriated to one of the four principal caſts, into which the Indians are commonly divided; the other three being the Bramins or prieſts, the Rajaputs or men of the ſword, or the warriors and huſbandmen. See HINDOOS.

The proper *Banians* are called, in the SHASTER, or book of their law, by the name of *ſhuddery*, under which are comprehended all who live after the manner of merchants, or that deal and tranſact for others, as brokers; excluſive of the mechanics, or artificers, who make another caſt, called *neyſe*. Their name in the Bramin language, in which their law is written, ſignifies "an innocent and harmleſs" people; and ſuch they really are; for they cannot bear to ſee a fly, worm, or any other living creature hurt; and and if they receive a blow, they take it meekly and patiently. Theſe Banians have no peculiar ſect or religion, unleſs it be,

be, that two of the eight general precepts given by the legiſlator, Bremaw to the Indian nation, are, on account of the profeſſion of the Banians, ſuppoſed more immediately to relate to them, viz. thoſe which enjoin veracity in their words and dealings, and avoiding all practices of circumvention in buying and ſelling.

The Banians and the Chineſe are the greateſt traders in the Indies, to whom muſt alſo be added the Jews and Armenians who are greatly diſperſed over thoſe parts. But the moſt conſiderable trade is carried on by the Banians, in the whole peninſula on this ſide the Ganges. They are extremely ſkilful and cunning in commerce. Moſt of them follow brokerage, and moſt of the brokers of the Engliſh, Dutch, and French companies are of that nation. They are deemed, in general, very honeſt, and have almoſt conſtantly in their hands the ſtock and caſh of thoſe companies.

They are likewiſe bankers; and there are few places in the Eaſt Indies for which they cannot furniſh bills of exchange. They have alſo a ſort of ſtanding caſh or bank where perſons may depoſit their money, and take it out again whenever they pleaſe.

Their form of contract, in buying and ſelling, is remarkable; being done in the profoundeſt ſilence, only by touching each others fingers: the buyer looſening his *pamerin*, or girdle, ſpreads it on his knee; and both he and the ſeller having their hands underneath, by the intercourſe of the fingers, mark the price of pounds, ſhillings, &c. demanded, offered, and at length agreed on. When the ſeller takes the buyer's whole hand, it denotes a thouſand, and, as many times as he ſqueezes it as many thouſand pagods, or roupees, according to the ſpecies in queſtion, are demanded: when he only takes the five fingers, it denotes five hundred, and when only one, one hundred; taking only half a finger, to the ſecond joint, denotes fifty; the ſmall end of the finger, to the firſt joint, ſtands for ten. See CEURAWATH.

Their children are betimes accuſtomed to trade, and to imitate the gentleneſs of manners, which diſtinguiſhes this claſs of perſons. Thoſe of the Banians, who have ſlaves, treat them with great humanity. Their manner of living is very frugal, and they never depart from it, except when they ſettle their children; on which occaſion, they ſpend a ſum amounting to no leſs than 12,500l. Their women are alſo diſtinguiſhed by their ſimplicity of manners. They hold the nuptial tie in great veneration; and never allow themſelves the leaſt intercourſe with ſtrangers. Their huſbands will not be ſatisfied without this reſerve; alleging againſt every kind of familiarity between the ſexes this proverb; "if you bring butter too near the fire, you can hardly keep it from melting."

BANIAS, in *Geography*, a town of Syria, fifty miles S.W. of Damaſcus.

BANIER, ANTONY, in *Biography*, a French abbé, was a native of Clermont, in Auvergne, who completed his education at Paris. Having been employed in claſſical inſtruction, he directed his particular attention to the ſubject of ancient mythology, and publiſhed in two volumes, 12mo., "An Hiſtorical Explanation of the Fables of Antiquity." This work gained him the reputation of being a writer of taſte and erudition; and 1714, he was admitted into the Academy of Inſcriptions and Belles Lettres. In 1715, his treatiſe, deſigned to trace the fables of the ancients to hiſtorical facts as their true origin, was much enlarged and publiſhed in the form of dialogue. The ſame ſubject was purſued by the author in ſeveral diſſertations communicated to the academy of which he was a member, and publiſhed in its Memoirs. With a view to the ſame ſubject, he preſented the public with the reſult of his reſearches during the laſt ten years of his life, firſt in his "Tranſlation of the Metamorphoſes of Ovid," with hiſtorical remarks and illuſtrations, and the plates of Picart, publiſhed at Amſterdam, in folio, in 1732, and reprinted in 1738 at Paris, in two volumes, 4to; and afterwards in a work, intitled, "Mythology, or the Fables explained by Hiſtory," printed in 4to. and alſo in 12mo. at Paris, in 1740, tranſlated into Engliſh, and printed at London in 1741, in 4 vols. 8vo. Banier died in November 1741, aged 69 years. He publiſhed an improved edition of Marville's "Melanges d'Hiſtoire et de la Literature," and had a great ſhare in the new edition of Picart's "General Hiſtory of Religious Ceremonies," publiſhed in 1741. Nouv. Dict. Hiſtor.

BANJERMASSING, or BENDER MASSIN of M. d'Anville, in *Geography*, a town and diſtrict on the ſouth ſide of the iſland of Borneo; the chief product and trade of which are pepper. The factory of the Dutch lies in S. lat. 3°. They have here a ſmall fort, where a junior merchant, as reſident, with about 25 or 30 ſoldiers, are ſtationed. The object of this eſtabliſhment is chiefly the collection or purchaſe of the pepper and rough diamonds produced in the country. The reſident is allowed five per cent on the pepper. The contract with the king obliges him to deliver 600,000 pounds at three ſtivers per pound; and this is the only article which induces the company to retain this poſſeſſion; for the profits on the rough diamonds, gold, wax, canes, and ſago, would not be ſufficient to make good the charges. Banjermaſſing is of no importance to the company as a ſource of revenue, for they do not poſſeſs a foot of land without their fort, and are obliged to be conſtantly on their guard againſt the inſidious attacks of the natives. The charges of this eſtabliſhment in 1779 were about 1100 l. ſterling, which, together with thoſe of conveying the pepper to Batavia, are ſcarcely covered by the profits accruing from this ſcanty trade. The river Banjar, called Biajos by d'Anville, flows from the centre of the country almoſt due ſouth, and forms the harbour of the town; and on this river is experienced a difference of twelve feet in the riſe and fall of the tide. The Biajos, as they are denominated, come down this river to the port in rude boats, with gold duſt, and other articles, among which are diamonds; the Moors called Banjareens being the factors. Theſe Biajos are tattooed blue, with a ſmall wrapper about the loins. The chiefs extract one or two of the fore-teeth, ſubſtituting others of gold; and ſtrings of the teeth of tigers, which abound in the iſland, a real badge of knighthood or of courage, are worn round the neck.

BANILLIA, in the *Materia Medica*, a name uſed by ſome for the *vanillia*, or vanilloes, uſed in making the ſcented chocolate.

BANISHMENT, EXILE, in *Law*, among us, is of two kinds: the one voluntary, and upon oath; the other by compulſion, for ſome offence or crime.

The former, properly called *aljuration*, was aboliſhed by ſtat. 21. Jac. I. c. 28.; and has now ceaſed, 2 Inſt. 629: the latter is enjoined by judgment of parliament. Yet outlawing and tranſportation may be alſo conſidered as a ſpecies of exile.

However, no power on earth, except the authority of parliament, can ſend any ſubject of England *out* of the land againſt his will; no, not even a criminal. For exile and tranſportation are puniſhments at preſent unknown to the common law; and whenever the latter is now inflicted, it is either by the choice of the criminal himſelf to eſcape a capital puniſhment, or elſe by the expreſs direction of ſome modern act of parliament. To this purpoſe Magna Charta declares (c. 29.) that no freeman ſhall be baniſhed, unleſs by the judgment of his peers, or by the law of the land. And

by

by the *habeas corpus* act (31 Car. II. c. 2.), it is enacted, that no subject of this realm, who is an inhabitant of England, Wales, or Berwick, shall be sent prisoner into Scotland, Ireland, Jersey, or Guernsey, or places beyond the seas, where they cannot have the full benefit and protection of the common law: but that all such imprisonments shall be illegal; that the person who shall dare to commit another contrary to this law, shall be disabled from bearing any office, shall incur the penalty of a præmunire, and be incapable of receiving the king's pardon; and the party suffering shall also have his private action against the person committing, and all his aiders, advisers, and abettors, and shall recover treble costs besides his damages, which no jury shall assess at less than 500 l. Blackst. Com. vol. i. p. 137.

BANISTER, John, in *Biography*, was educated at Oxford. In 1573, having taken a bachelor's degree, he obtained a licence to practise physic. He then went to Nottingham, and professing both medicine and surgery, "was wonderfully followed (Wood says) by all sorts of people, for his happy practice in those arts." Banister published several works, of which the following are the titles: "A needful, new, and necessary Treatise of Chirurgery, briefly comprehending the general and particular Curation of Ulcers, with certain Experiments of his own Invention," London, 1575, 8vo. It is dedicated to Tho. Stanhope, esq. high sheriff of Nottinghamshire. "The History of Man, suck'd from the Sap of the most approved Anatomists," nine books, fol. Lond. 1578; decorated, Douglas says, with anatomical engravings, copied from Vesalius, but miserably executed. "Compendious Chirurgery, gathered and translated, especially out of Wecker," Lond. 1585, 12mo. This is not a mere translation, the work being corrected and much improved by Banister. "Antidotary Chirurgical," containing variety of all sorts of medicines, Lond. 1589, 8vo. In 1633, several years after his death, his chirurgical works were published together in six books, in 4to. The Antidotary was dedicated to the earl of Warwick, by whom he appears to have been patronised. Wood's Athenæ Oxon. Aikin's Biograph. Mem.

Banister, *Richard*, was in great credit in the end of the sixteenth and beginning of the seventeenth century, for his skill in surgery, which he practised at Stamford in Lincolnshire. His knowledge in the art he learned of his near kinsman, John Banister, by whom he had been educated. "Sitting at the feet," he says, "of a Gamaliel in that art, let his name (he adds) be as a precious ointment poured out; for he was one to whom malice itself could do no mischief, nor hatred hurt." He continued in the general practice of surgery several years. "At length," he says, "I left the greatest mass of that unmeasurable mystery, and confined myself to the cure of the eyes, of the hare lip, the wry neck, and to assist the hearing by an instrument." But his principal object was relieving the blind; to perfect himself in this art, he appears to have associated with Henry Blackbourne, Robert Hall of Worcester, master Velder, Surflet, and Barnabie, of Fenny Stanton, Lynn, and Peterborough, all famed for their skill in couching and performing their operations on the eyes. Following their example, he visited many of the principal cities in the kingdom, particularly London, which place he visited spring and autumn for several years. It appears to have been his custom to procure certificates of the cures he performed at each place. "I can shew," he says, "that in the year 1609, I made, with the help of God, twenty-four blind people see in the city of Norwich; and I came thither again in 1611, and all of them had their sight; for confirmation of which, I had a certificate from the mayor and aldermen, with the city seal annexed." A similar certificate he obtained from Sir Wm. Cockaine, lord mayor of London, in the year 1621, which appears to have been the last time of his coming hither. "But now," he says, "I know it is not long to the period of my days, for I mean to rest at home the small remnant that God hath allotted to me." He promises, however, to continue to assist those who visit him at his house. The time of his death is not known.

In 1622, he published "A Treatise of one hundred and thirteen diseases of the eyes and eye-lids; the second time published with some profitable additions of certain principles and experiments by Richard Banister, master in chyrurgery, oculist, and practitioner in physic," 12mo. The book is not paged. The part added by Banister seems to be a small treatise at the beginning of the volume, which he calls "Banister's Breviary of the Eyes." He here complains of the number of ignorant persons, and among them many women, who interfered in the art, to the hurt of the people. This part is interspersed with poetical effusions, in which he laughs at some pretended cures performed by drinking and washing the eyes with the waters of the Malvern and other springs.

"So many folks unto the town did run
For water, that alewives were half undone.
At first, when this news unto me was told,
I daunted was, it touched my freehold.
I dwelt from thence, at least some twenty miles,
Yet there my patients went o'er fields and styles."

He had the satisfaction, however, to see them come back,

"Their bodies wearied, and their griefs made worse,
And eas'd and purged only in the purse."

The treatise which gives the general title to the volume, and of which Banister has with most people the credit of being the author, was written originally in French by Jacques Guillemeau, translated into English by an anonymous writer, and dedicated to John Banister. Wood's Athenæ Oxon. Aikin's Biog. Mem.

BANISTERIA, in *Botany*, so named by Dr. Houstoun in memory of the Rev. John Banister, a curious botanist, who lost his life in the search after plants in Virginia. Linn. gen. n. 573. Reich. 622. Schreb. 750. Cavanilles, t. 243, 258. Gært. t. 116. Class, *decandria trigynia*; *monadelphia* Cav. Nat. Order, *tribilatæ; malpighiæ*, Juss. Gen. Char. *Cal.* perianth, five-parted (four, seldom five, Cavan.) very small, stiff underneath with tubercles, permanent; two melliferous glands under each division of the calyx, except one; and they are therefore eight in number. *Cor.* petals five, orbiculate, very large, spreading, crenate (fimbriate C.); claws oblong, linear. *Stam.* filaments ten, very small, coalescing at bottom; anthers simple. *Pist.* germs three, winged, coalescent; styles three, simple; stigmas obtuse (enlarged into a leaflet, Cav.) *Per.* capsules three, running out into a long wing, one-celled, marked at the sides with small appendicles, not gaping. *Seeds* solitary, covered, toothed on the lateral edge. *Obs.* The flower, especially the glands of the calyx, shew the affinity between this and malpighia. It differs however in the leafy stigmas and winged fruit. B. *leona* has ten, the rest have eight glands. Cav.

Ess. Char. *Cal.* five-parted, with melliferous pores at the base on the outside. *Pet.* roundish with claws; stigmas leaf-shaped; seeds three, winged with membranes.

Species, 1. B. *angulosa*. Reich. 2. 571. Cavan. d. t. 426. t. 252. Lamarck. Dict. n. 1. Aublet. Guian. 2. 466. Acer scandens, fol. angulosa. Plum. Spec. 18. Clematis angulosa folio, aceris fructu. Plum. Amer. 77. t. 92. "Leaves sinuate-angular." Stem twining, with opposite branches, thickened at the base; leaves cordate, angular, terminating

at top in a ſhort dagger point, green above, whitiſh beneath, nearly equal to the petioles, on which and near the leaf are two oppoſite glands; without ſtipules; flowers in oppoſite axillary umbels; common pedicle compound; rays five to ſeven, an inch long, jointed, with two ſhort, oppoſite bractes; at the inſertion of the rays are two ſmall ſuborbiculate leaves; corolla tulip-ſhaped. A native of Dominique, Hiſpaniola, &c. 2. B. [illegible]. Lam. Dict. n. 2. Plum. Spec. 18. ic. 15. Mſ. t. 2. Acer. Surin. Amer. t. 15. "Leaves ovate; ſpikes lateral; ſtem erect." Stem ſtrong and woody, dividing into many oppoſite and twining branches; leaves ovate, on ſhort petioles; there are five or ſix pairs of branches, nearly of the ſame ſize with thoſe of the common acacia, but whitiſh on their underſide; flowers axillary, in a kind of ſpike; petals purpliſh, ſhort; thrum often abortive, whence Plumier ſays that the fruit is bicapſular and two winged; and Miller, that the greater number of ſpecies have only two ſtyles. A native of the Caribbee iſlands, ſent to Miller from Campeachy, and cultivated by him in 1759. 3. B. *laurifolia*. Lamarck. Dict. n. 3. Acer ſcand. fol. laurinis. Sloan. Jam. 2. 26. Plum. Spec. 18. ic. 14. "Leaves ovate-oblong, rigid; racemes terminal." Stem ſhrubby, climbing, with looſe, reflex, diverging, roundiſh, rugged branches; leaves petioled, ovate-lanceolate, acute, entire, nerved, ſmooth; racemes panicled; peduncles commonly one-flowered, ſhort, yellow; leaflets at the baſe of the peduncles two, minute, tomentoſe; calyx five-leaved; petals ſpatulate; anthers elliptic; germ three-cornered, trifid at the tip; ſtyles ſubulate, ſhort; ſtigmas dilated, one of the three capſules uſually abortive; wings three or four times longer than the capſules. A native of Jamaica and Hiſpaniola. 4. B. *longifolia*. "Leaves oblong, acuminate, rigid, ſhining, panicle terminating; branches ſpreading very much." A native of the Weſt Indies. 5. B. *benghalenſis*. "Leaves ovate-oblong, acuminate; racemes lateral; ſeeds ſpreading." This ſpecies recedes from the genus, it has only one ſtyle, and the capſule has four wings. It has ſtrong woody ſtalks, twining about trees which grow near it, and riſes twenty feet high. A native of the Eaſt and Weſt Indies. 6. B. *dichotoma*. B. convolvulifolia. Cavan. diſſ. 428. t. 236. Lamarck. Dict. n. 6. "Leaves ovate; branches dichotomous." Plumier firſt obſerved it in the iſland of Martinico. 7. B. *fulgens*. "Leaves ſubovate, tomentoſe underneath; racemes brachiate; peduncles umbelled." Its ſlender winding ſtalks riſe five or ſix feet high; the flowers grow in a round bunch at the extremity of the branches, of a browniſh yellow colour; the ſeeds are ſmaller, and have narrower wings than in the third ſpecies. A native of Jamaica and Barbadoes. 8. B. *brachiata*. "Leaves ſubovate; branches brachiate; ſeeds narrower within." Very like the foregoing; but the leaves more blunt; ſending out many branches, dividing into others, and yielding tendrils which faſten to neighbouring trees, and mounting to a great height; the flowers, in looſe cluſters at the ends of the branches, are firſt of a gold colour, and fade to a ſcarlet, ſucceeded by ſlender thin ſeeds. A native of Carthagena. 9. B. *aculeata*. "Leaves pinnate; leaflets oblong, obtuſe; flowers ſpiked; ſtem branching, prickly." Climbing ſtalks, dividing into many branches with long winged leaves, compoſed of about twenty pair of ſmall blunt pinnæ, each having a deep furrow on the under ſide; the flowers grow on looſe ſpikes at the end of the branches, and are ſucceeded by ſingle ſeeds, as large as thoſe of the greater maple. A native of Tolu. 10. B. *cærulea*. Acer. Plum. Mſ. 2. t. 109. Spec. 18. "Branches tubercled; leaves ovate-acute, coriaceous; racemes axillary." A native of Jamaica and Dominique. 11. B. *nitida*. "Leaves ovate-oblong, quite entire, ſhining beneath; panicle terminating leafy." A native of Braſil, where it was found by Commerſon. 12. B. [illegible]. "Branches tubercled; leaves ovate-acute, with a [illegible] on the lower ſurface; wings very long." Found by Commerſon near Rio-Janeiro in Braſil. 13. B. *marmorata*. "Leaves ovate-acute, tomentoſe beneath; racemes axillary; capſules intricate." A native of Peru, where it was found by Joſeph de Juſſieu. 13. B. *Lama*. "Branches tubercled; leaves ovate-acuminate, coriaceous; flowers panicled." It varies with more elongated leaves. A native of America, and found by Smeathman at Sierra Leona in Africa, whither perhaps it has been tranſported. 15. B. *ferruginea*. "Leaves ovate-acuminate, ferruginous beneath; flowers panicled; bractes imbricate. A native of Rio-Janeiro, near St. Sebaſtian, in Braſil, found there by Commerſon. 16. B. *emarginata*. "Leaves ovate, ſubcordate, emarginate-cuſpidate at the end, tomentoſe on the lower ſurface, flowers raceme-corymbed." A native of America. 17. B. *Guianæ*. "Leaves ovate, tomentoſe beneath, flowers in corymbs, ſeeds erect." A ſhrub, ſix feet high, putting out many tomentoſe twining branches, by which it climbs up trees. A native of Guiana, on the borders of meadows, flowering in Auguſt, obſerved there by Aublet. 18. B. *ſinemarienſis*. "Leaves ovate, acuminate, flowers in corymbs, yellow, wings gradually widening." A ſhrub with a trunk five feet high, putting forth many climbing, twining branches. A native of Guiana, on trees, by the ſides of meadows and fields, flowering and fruiting in Auguſt, obſerved there by Aublet. 19. B. *orbiculata*. "Stem twining; leaves orbiculate, beneath tomentoſe and ſilky: petioles biglandular." A native of Jamaica, Guadaloupe, and St. Domingo. Cavanilles attributes to this the ſame ſynonyms of Sloane and Browne, which Linnæus has given to B. *fulgens*. 20. B. *ciliata*. "Leaves cordate-roundiſh, eared, ſmooth, ciliate." A native of Braſil, where it was found by Dombey. 21. B. *auriculata*. "Stem twining, leaves ſubſagittate, ſmooth, with rounded lobes, flowers in umbels." A native of Rio Janeiro, found there by Commerſon. 22. B. *ovata*. "Stem twining, leaves ovate, acute, quite entire, flowers in umbels, involucres ſtipuled." A native of the iſland of Dominique, where it was found by Deſportes and Surian. 23. B. *palmata*. "Stem twining, leaves palmate, tomentoſe beneath, petioles biglandular." A native of St. Domingo, found there by Deſportes. 24. B. *ſagittata*. "Stem twining, leaves ſagittate, large, tomentoſe, petioles biglandular." A native of St. Domingo, found there by Deſportes.

The ſpecies of this genus are all inhabitants of very hot climates, chiefly of America, from Braſil to Louiſiania, particularly the iſlands. They are ſhrubs, moſtly with twining ſtems, adorning the woods with the beauty of their flowers, and the variety of their oppoſite leaves. Plumier diſcovered four ſorts; and for the reſt, we are obliged to Aublet, Commerſon, and other modern travellers.

Propagation and Culture. Theſe plants, being natives of hot countries, cannot be preſerved in England, unleſs they are kept in a bark-ſtove. They are propagated by ſeeds, procured from the countries where they grow, naturally gathered when fully ripe, and brought to England in ſand or earth. When they arrive, they ſhould be ſown immediately in pots, and if it be autumn, or winter, the pots ſhould be plunged into a hot-bed of tanner's bark, and ſecured from froſt and wet, till ſpring, when they muſt be removed to a freſh hot-bed, which will bring up the plants; when the plants come up, let them be put into ſeparate pots, filled with light earth, and plunged into the bark-bed, after which they muſt be treated like other tender plants from the ſame countries. Martyn's Miller.

BANISTERIA. See GOUANIA.

BANK, in *Commerce*, is a denomination given to certain societies or communities, who take on them the charge of the money of private perſons to improve it, or keep it ſecure; or it is a common repoſitory, where many perſons agree to keep their caſh, to be always ready at their call, or direction. The word *bank* in this ſenſe comes from the Italian *banca*, formed of the Spaniſh *banco*, a bench, whereon the ancient money-changers ſat in the public markets; or, as others think, a table whereon they told their money; for the Spaniſh *banco* ſignifies a table, as well as a bench; as among the Greeks the word τραπεζα ſignified *a bench*, as well as a *table*, whence the word τραπεζιτης for a *banker*. Accordingly the inſtitution of banks commenced in Italy, where the Lombard Jews kept benches in the market-places for the exchange of money and bills. Mr. John Law, indeed, in his treatiſe, intitled, "Money and Trade conſidered," aſcribes the invention of banks to Sweden; alleging that the bulk of their money being copper, rendered it inconvenient; and in order to remedy this, a bank was ſet up, where the money might be pledged, and paper credit given to the value, which paſſed in payments, and facilitated trade. But this opinion, ſays Anderſon (Hiſt. Comm. vol. i. p. 476.), is ſo far from being barely probable, that it is in a manner paſt all doubt, that the free cities of Italy were, in very early times, the inventors of banks (lumber-houſes, or lombard-houſes) and bills of exchange, long before the countries on the north extremity of Europe knew any thing of commerce, which Sweden knew leaſt and lateſt of all the reſt.

It cannot be doubted but that the beginning of traffic was by exchanging one commodity for another, as men could beſt ſuit each others occaſions. But the neceſſities of men being ſo various and different, in reſpect to the quantity and quality of requiſites, money was inſtituted as the moſt convenient medium for commerce, whereby people might procure whatſoever they ſtood in need of, in quantities according to their exigencies.

This changed the term of bartering into that of buying and ſelling; yet all trading at length reſults into a general barter, For he who ſells any thing to receive money for it, purchaſes what he requires with the ſame money. Money then becoming the principal engine for circulating the bulk of commerce, its application to trade is proper to be conſidered.

Money is uſed in the minuter kinds of dealings, as retailing, &c. when it is commuted for all kinds of labour, and to furniſh the neceſſary proviſions for daily uſe. This requires its being divided into the ſmalleſt denominations of the pieces, as into ſhillings and pence; ſo that this way of dealing is not capable of being tranſacted by bills and aſſignments.

Money is alſo employed in the more extenſive and wholeſale way of trade, wherein large ſums are negotiated; and this occaſions frequent payments from one tradeſman to another. In which payments, although ſtrictly ſpeaking ready caſh be required as often as contracts are made, yet as commerce in general conſiſts in the mutual dealings and tranſactions of many traders, it may often ſo fall out, by means of interchangeable debts and credits, that divers traders may ſatisfy each others occaſions, without making any payments in ſpecie, by transferring the debts to each other.

But when ſuch mutual conveniences do not occur, traders uſually receive their money in ſpecie, and ſo pay it from one to the other. Yet this way of payment is attended with many inconveniences, as trouble in counting the money, hazard in ſecuring it from the attempts of robbers, and loſs from truſting it with unfaithful ſervants: for the prevention of all which, ſome of large commerce have very naturally introduced the uſe of banks.

Of theſe banks ſome are *public*, conſiſting of a company of monied men, who, being duly eſtabliſhed and incorporated by the laws of their country, agree to depoſit a conſiderable fund or joint ſtock, to be employed in various ways for the uſe of the ſociety: or *private*, being ſuch as are ſet up by private perſons or partnerſhips, who traffic in the ſame way upon their own ſingle ſtock or credit. Of the former ſort of banks, ſeveral have been eſtabliſhed in the principal trading cities of Europe, as in Venice, Genoa, London, Edinburgh, Amſterdam, Hamburgh, Paris, &c. The moſt ancient of theſe is the bank of Venice.

BANK, or BANCO, *of Venice*, commonly called *banco del giro*, was eſtabliſhed in the middle of the twelfth century, or as Anderſon ſuggeſts (Hiſt. Com. vol. i. p. 84.), A.D. 1157, though ſome have dated its eſtabliſhment in 1176, or ſomewhat later. It is properly a board of public credit and intereſt, or a general and perpetual purſe for all merchants and traders, eſtabliſhed by a ſolemn edict of the commonwealth, which enacts, that all payments of wholeſale merchandiſe, and letters of exchange, ſhall be in banco, or bank notes; and that all debtors and creditors ſhall be obliged, the one to carry their money to the bank, the other to receive their payments at banco; ſo that payments are performed by a ſimple transfer from the one to the other; he who was before creditor on the bank books, becoming debtor as ſoon as he has reſigned his right to another, who is entered down as creditor in his place; ſo that the parties only change name, without any effective payment being made. Indeed there are ſometimes actual payments made, eſpecially in matters of retail, and when foreigners are diſpoſed to have ready money to carry off in ſpecie; or when particular traders chooſe to have a ſtock by them to negotiate in bills of exchange, &c. The neceſſity of theſe effective payments has given occaſion to the opening a fund of ready money; which is found ſo far from diminiſhing the ſtock, that this liberty of withdrawing money at pleaſure rather augments it. By means of this bank, the republic, without encroaching on the freedom of commerce, or without paying any intereſt, is miſtreſs of 5,000,000 ducats, to which the capital of the bank is limited, to be in readineſs on any preſſing occaſion; the republic being ſecurity for the capital. The original fund of this bank was two millions of ducats. In one of its wars with the Turks, the ſtate became ſecurity to pay the money lodged in it, which they had been under a neceſſity of uſing in that exigency. Its agio, in proceſs of time, aroſe ſo high as to be 30 per cent. better than current money, although the ſtate by ſeveral edicts endeavoured to keep it lower. Its capital was afterwards made double the original ſum; and the ſtate, in another exigeney, made free with that increaſed capital. In after times the ſtate enacted, that bank money, or the agio of the bank, ſhould never exceed 20 per cent. advance, as it ſtill remains to this day.

The conſtitution of this bank was originally founded on ſuch juſt principles, that it has ſerved as a model in the eſtabliſhment of banks in other countries, and the adminiſtration of its affairs has been conducted with ſo much integrity, that its credit has never been ſhaken: and it has been of infinite benefit to the ſtate. For adjuſting and balancing all their accounts in banking, they ſhut their books four times in every year, for three weeks at each period. Accordingly, Venice may boaſt of having given the firſt example to Europe of an eſtabliſhment altogether unknown

to the ancients, and which is the pride of the modern commercial ſyſtem.

Bank *of England*, was firſt eſtabliſhed in the year 1694, partly for the convenience of commerce, and partly alſo for the emolument of the proprietors; and it is the greateſt bank of circulation in Europe. The ſcheme was projected by Mr. W. Paterſon, a merchant, and debated for a long while in the privy council, till at length, by an act of 5 & 6 William & Mary, cap. 20. it was enacted, that their majeſties might grant a commiſſion to take particular ſubſcriptions for 1,200,000l. of any perſons, natives or foreigners, whom their majeſties were hereby empowered to incorporate with a yearly allowance of 100,000l. viz. 96,000l. or 8 per cent. for intereſt till redeemed, and 4000l. to be allowed the intended bank for charges of management. The corporation was to have the name of "The governor and company of the bank of England;" their ſaid fund to be redeemable upon a year's notice, after the 1ſt of Auguſt 1705, and payment of the principal, and then the corporation to ceaſe. The company was enabled by this act to purchaſe lands, &c. unlimitedly, and to enjoy the other uſual powers of corporations; their ſtock was to be transferrable. They were reſtricted from borrowing more than 1,200,000l. except on parliament funds, and from trading in any merchandiſe, except in bills of exchange, and in bullion, and in the ſale of ſuch goods as were the produce of lands purchaſed by the corporation: and all bills obligatory under the ſeal of the ſaid corporation, were made aſſignable by indorſement. The charter of incorporation was executed July 27, 1694; which directs, that there be a governor, deputy-governor, and twenty-four directors; and ſpecifies the qualifications of voters and of directors, together with other regulations, which have been farther amended and enlarged by ſubſequent ſtatutes.

In 1697, the bank was allowed to enlarge its capital ſtock, by an engraftment of 1,001,171l. 10s. Its whole capital ſtock, therefore, amounted at this time to 2,201,171l. 10s. This engraftment is ſaid to have been for the ſupport of public credit. In 1696, tallies had been at 40, and 50, and 60 per cent. diſcount, and bank notes at 20 per cent. During the great recoinage of ſilver, which was going on at this time, the bank had thought proper to diſcontinue the payment of its notes, which neceſſarily occaſioned their inſredit. By this engrafting act, as it was called, the capital ſtock of the bank was to be exempted from any tax; no act of the corporation, nor of its court of directors, nor ſub-committees, ſhould ſubject the particular ſhare of any member to forfeiture; but theſe ſhares were ſubject to the payment of all juſt debts contracted by the corporation; and it was made felony to counterfeit the common ſeal of the bank, affixed to their ſealed bills, or to alter or eraſe any ſum in, or any indorſement on their ſealed notes, ſigned by order of the ſaid governor and company, or to forge or counterfeit the ſaid bills or notes. This act was judiciouſly framed for the reſtoration of public credit; and it ſerved to effect two points; viz. the reſcue of the exchequer tallies and orders from the ſtock-jobbing harpies by engrafting them into this company, and alſo by cancelling the bank notes, alſo engrafted, which had been at 20 per cent. diſcount; becauſe the government had been greatly deficient in their payments to the bank; and a good intereſt was ſecured to the proprietors of the increaſed capital. By ſtat. 6 Anne c. 22. it was enacted, for ſecuring the credit of the bank of England, that no other banking company in England ſhall conſiſt of more than ſix perſons, empowered to iſſue bills or notes payable on demand, or for any time leſs than ſix months, which is the only excluſive privilege belonging to the bank. In purſuance of the 7th Anne, c. 7. the bank advanced and paid into the exchequer the ſum of 400,000l.; making in all the ſum of 1,600,000l. which it had advanced upon its original annuity of 96,000l. intereſt, and 4000l. for expence of management. In purſuance of the ſame act, the bank cancelled exchequer bills to the amount of 1,775,027l. 17s. 10½d. at 6 per cent. intereſt; it likewiſe undertook the circulation of 2,500,000l. of exchequer bills iſſued for the ſupply of the year; and it was at the ſame time allowed to take in ſubſcriptions for doubling its capital. In 1709, therefore, the capital of the bank amounted to 4,402,343l.; and it had advanced to government the ſum of 3,375,027l. 17s. 10½d. By a call of 15 per cent. towards the 400,000l. advanced to government, there was paid in and made ſtock 656,204l. 1s. 9d.; and by another call of 10 per cent. in 1710, 501,448l. 12s. 11d. In conſequence of theſe two calls, the bank capital amounted to 5,559,995l. 14s. 8d. In conſideration of the ſum of 400,000l. advanced to government without intereſt, the excluſive privileges of the bank were prolonged to one year's notice, after the 1ſt of Auguſt 1732.

The convenience which government found in iſſuing exchequer bills by means of the bank, produced an agreement in 1713, when the company undertook to circulate new bills for raiſing 1,200,000l. towards the ſupplies, on having an allowance of 3 per cent. per annum, payable weekly, and a farther allowance of 8000l. per annum, payable quarterly. On this occaſion, by 12 Anne, c. 11. the company obtained an additional term of 10 years to the period of their continuance as a corporation; ſo that they were not to be diſſolved but upon twelve months notice after 1ſt of Auguſt 1742; and to enable them to fulfil their engagements, they were empowered to make a call for money upon the proprietors. In the following year, they firſt received the ſubſcriptions to a loan for the public ſervice, which had been hitherto uſually taken at the exchequer; but the bank, being found more convenient for monied perſons, has uſually received them ever ſince.

In purſuance of ſtat 3 Geo. I. c. 7, 8, 9. in 1717, the bank delivered up two millions of exchequer bills to be cancelled; and it had, therefore, at this time, advanced to government 5,375,027l. 17s. 10½d. It was now agreed to reduce the intereſt from 6 to 5 per cent. In purſuance of the ſtat. 8 Geo. I. c. 21. in 1722, the bank purchaſed of the South Sea company ſtock to the amount of 4,000,000l.; and in this year, in conſequence of the ſubſcriptions which it had taken in for enabling it to make this purchaſe, its capital ſtock was increaſed by 3,400,000l. At this time, therefore, the bank had advanced to the public 9,375,027l. 17s. 10½d.; of which the ſum of 1,600,000l. was entitled to 6 per cent. intereſt, till the 1ſt of Auguſt 1743; but the reſt was to be reduced to 4 per cent. from and after Midſummer 1727; and the capital ſtock of the bank amounted only to 8,959,995l. 14s. 8d. It was upon this occaſion, that the ſum which the bank had advanced to the public, and for which it received intereſt, began firſt to exceed its capital ſtock, or the ſum for which it paid a dividend to the proprietors of bank ſtock; or, in other words, that the bank began to have an undivided capital, over and above its divided one; and it has continued to have an undivided capital of the ſame kind ever ſince.

In 1728, the company of the bank advanced to government 1,750,000l. at 4 per cent. intereſt, without any power of enlarging their capital. In the following year, they advanced the farther ſum of 1,250,000l. at 4 per cent. The capital due from government, after ſundry redemptions, was 10,100,000l.; of which the ſum of 1,000,000l. was redeemed

deemed in 1738, being part of the principal for exchequer bills cancelled in 1717.

In 1742, the company advanced a farther ſum of 1,600,000l. towards the ſupply for that year, without receiving any additional allowance for intereſt or management; but they were empowered to enlarge their capital ſtock to the ſame amount; and by the act 15 Geo. II. c. 13. eſtabliſhing this contract, by which the privileges of the bank were continued till one year's notice after the 1ſt of Auguſt 1764, it was declared, that the acts of 7 and 12 Anne, and all other acts for determining the corporation, ſhould be void; and that the governor and company of the bank ſhould remain a body corporate and politic for ever, ſubject to ſuch reſtrictions and regulations as were contained in the acts and charters then in force. The whole ſum, advanced on the original fund of 100,000l. per annum, thus became 3,200,000l. and the intereſt upon it from 1ſt of Auguſt 1742, 3 per cent. per annum.

By this act, perſons forging, counterfeiting, or altering any bank note, bill of exchange, dividend warrant, or any bond or obligation under that company's ſeal, or any indorſement upon it, or knowingly uttering the ſame, ſhall ſuffer death without benefit of clergy. Moreover, the company's ſervants breaking their truſt to the company, ſhall ſuffer death as a felon without benefit of clergy. It was alſo enacted, that when, at a court of directors of the bank, neither the governor nor deputy governor ſhall attend in two hours after the time appointed for buſineſs, then any 13 or more of the directors may chuſe a chairman for the time, for the diſpatch of buſineſs; and that ſuch court ſhall be as valid as if either the governor or deputy governor had duly attended.

In conſequence of the ſtat. 19 Geo. II. c. 6. in 1746, the bank agreed to deliver up to the treaſury 986,800l. in exchequer bills; in lieu of which it was to have an annuity of 4 per cent for that ſum, out of the fund for licenſing ſpirituous liquors; and the bank was empowered to add the ſaid 986,800l. to its capital ſtock, by taking in ſubſcriptions for that purpoſe. Accordingly, at Michaelmas 1746, the whole debt due to the bank from the public was 11,686,800l. and its divided capital had been raiſed by different calls and ſubſcriptions to 10,780,000l. The ſtate of theſe ſums has continued to be the ſame ever ſince.

In 1764, the company of the bank agreed to advance 1,000,000l. towards the ſupplies, in exchequer bills, to be repaid in 1766; and to pay into the exchequer 110,000l. without any repayment of the principal or allowance of intereſt for the ſame; in conſideration of which, the term of their charter was extended to 1ſt of Auguſt 1786; and the dividend on the company's ſtock was raiſed at Michaelmas from 4½ to 5 per cent. At Michaelmas 1767 it was raiſed to 5½ per cent.

From a very early period after the eſtabliſhment of the bank, it had been the practice of the company to aſſiſt government with money in anticipation of the land and malt taxes, and by making temporary advances on exchequer bills and other ſecurities. In the year 1781, the ſums thus lent to government amounted to upwards of eight millions, in addition to the permanent debt of 11,686,800l. An agreement was now entered into for the renewal of their charter, the term of which was extended to Auguſt 1812, on the company's engaging to advance 2,000,000l. on exchequer bills, at 3 per cent. intereſt, to be paid off within three years out of the ſinking fund. In order to enable them to make this advance, a call of 8 per cent. on their capital was thought neceſſary, by which their former capital ſtock of 10,780,000l. was increaſed to 11,642,400l. the ſum on which they now divide. The dividend was alſo increaſed one half per cent. ſo that it now became 6 per cent. In conſequence of this agreement, the total of their advances to government on the land and malt taxes, exchequer bills, and treaſury bills, was increaſed, on the 25th of February 1782, to 9,991,678l. The amount of the bank-notes in circulation muſt of courſe be augmented by the increaſe of advances to government.

In conſequence of large advances to government, the great exportation of coin and bullion to Germany and Ireland, and ſeveral concurring circumſtances, which, at the commencement of the year 1797, produced an unuſual demand of ſpecie from different parts of the country on the metropolis, an order of the privy council was iſſued on the 26th of February, prohibiting the directors of the bank from iſſuing any cash in payment till the ſenſe of parliament on the ſubject was obtained. This reſtriction was ſanctioned by parliament; and a committee was appointed to examine the ſtate of the bank, from whoſe report it appeared, that, on the 25th of February, after examining the outſtanding claims againſt it with the correſponding aſſets, the amount of demands on the bank was 13,770,390; and that of aſſets, not including the ſum of 11,686,800l. of permanent debt due by government, was 17,597,290l.; ſo that there was a ſurplus of 3,826,903l.

Soon after the meeting of parliament, in November following, the committee of ſecrecy, appointed to inquire into the expediency of continuing the reſtriction on the bank, reported, that the total amount of outſtanding demands on the bank, on the 11th of November, was 17,578,910l. and of the funds for diſcharging the ſame, excluſively of the permanent debt, 21,418,640l. leaving a balance in favour of the bank at that time of 3,839,550l. The report ſtated that the advances to government had been reduced to 4,258,110l. and that the caſh and bullion in the bank had increaſed to more than five times the value at which they ſtood on the 25th of February 1797, when it was about 1,272,000l.

By this ſtatement, the ſolvency and ſolidity of the bank were ſatisfactorily evinced; and, indeed, its ſtability muſt be coeval with that of the Britiſh government. All that it has advanced to the public muſt be loſt before its creditors can ſuſtain any loſs. No other banking company in England can be eſtabliſhed by act of parliament, or can conſiſt of more than ſix members. It acts, not only as an ordinary bank, but as a great engine of ſtate. It receives and pays the greater part of the annuities which are due to the creditors of the public (See *National* DEBT, and FUND); it circulates exchequer bills; and it advances to government the annual amount of the land and malt taxes, which are frequently not paid up for ſome years. It likewiſe diſcounts the bills of merchants, and has, upon ſeveral different occaſions, ſupported the credit of the principal houſes, not only of England, but of Hamburgh and Holland. The buſineſs of the bank is under the direction of a governor, ſub-governor, and 24 directors, who are elected annually by a general court; and it is tranſacted by a great number of ſubordinate clerks in different offices. The qualification of a director is 2000l. of a deputy-governor 3000l. and of a governor 4000l.; 500l. bank ſtock intitles the proprietor to vote at the general courts, provided he has been in poſſeſſion of it ſix months.

The company may not improperly be denominated a trading company, and that which is peculiarly diſtinguiſhed by the appellation of bank ſtock is a trading ſtock, the dividend of which, amounting to 11,642,400l. paid half-yearly, and now 7 per cent. accrues from the annual income of the com-

pany; and this arifes from the intereft received for the money advanced by the proprietors to the public, or the permanent debt of 11,686,800l.; from intereft on the annual temporary advances; from the profits of their dealings in bullion, and of their difcounts; from the intereft of ftock held by the company; from the fums allowed by government for the management of the annuities paid at the offices of the bank, fuch as, an allowance of 450l. per million for management of the public funds, and the allowance of 805l. 15s. 10d. per million for receiving the contribution to loans, and from fome other fmaller articles.

The bank of England may be confidered as the main fpring of that complicated mechanifm, by which the commercial payments of this country are tranfacted; and by which the comparatively fmall fum of money with which they are performed is kept in perpetual and regular circulation. The fubordinate parts of this machine conift of about 70 *private* banking-houfes in London, and about 386 banks difperfed over the country. By the joint operation of thefe various money-dealers, almoft all bank payments, founded on commercial bargains, are ultimately fettled in London, with the money which iffues from the bank of England. This money confifts, in ordinary times, partly of coin, and partly of bank notes. From its large capital and extenfive iffue of paper, that bank indirectly fupplies the whole kingdom with as much gold as is required for circulation. Its notes are iffued in loans, granted either for the accommodation of the public treafury, or for that of merchants by difcount of their bills; and in confequence of a common agreement among the bankers, no notes of any private houfe are current in London. All the large payments of that metropolis are in this manner effected by the paper of the bank of England; and they are chiefly tranfacted by the private bankers, who, according to a conjectural eftimate, make daily payments to the amount of four or five millions, and have probably in their hands a very large proportion of the whole of the notes circulating in the metropolis.

The following table will exhibit, at one view, the ftate of the cafh and bullion, the average of bank notes in circulation, and alfo the difcounts and advances to government during the feveral periods which it comprehends.

Date.	Cafh and Bullion.	Average of Bank Notes circulated.	Bills Difcounted.	Average Advan. to Government.
1793. March	3,600,000	11,663,820	4,817,000	8,735,200
June	4,272,000	12,100,650	5,126,000	9,434,000
September	6,330,000	12,[illegible]20	2,[illegible]65,000	9,[illegible]3,[illegible]00
December	5,700,000	12,[illegible]7,[illegible]50	3,[illegible]7[illegible],000	8,[illegible]37,[illegible]00
1794. March	8,600,000	11,[illegible]84,[illegible]20	2,[illegible],000	8,494,10[illegible]
June	9,[illegible],000	10,[illegible],450	3,[illegible]3,000	7,735,[illegible]00
September	7,[illegible],000	10,[illegible],940	2,[illegible],000	6,[illegible]7,[illegible]00
December	7,760,000	12,927,070	1,[illegible],000	7,545,100
1795. March	7,[illegible],000	12,[illegible],240	2,[illegible],000	9,[illegible]73,[illegible]00
June	7,356,000	10,[illegible],[illegible]80	2,[illegible],000	[illegible]8 9,[illegible]00
September	5,[illegible],000	11,[illegible],[illegible]60	1,[illegible],000	[illegible],197,600
December	4,[illegible],000	11,[illegible],070	[illegible],[illegible]06,000	0,[illegible]63,100
1796. March	2,[illegible],000	10,[illegible],150	2,[illegible],000	[illegible],[illegible]1,0[illegible]
June	2,[illegible],000	9,770,200	2,[illegible],000	[illegible],209,[illegible]00
September	2,[illegible],000	9,720,440	3,[illegible]52,000	9,901,[illegible]00
December	2,[illegible],000	9,[illegible]45,710	3,796,000	9,511,400
1797. Feb. 26.	1,272,000	8,640,250	2,905,000	10,[illegible]2,49[illegible]

In the beginning of 1708, the bank advanced to government 3,000,000 on exchequer bills, and in the progrefs of the year a farther advance of 500,000l.; fo that the total fum, advanced by the bank for the public fervice, and outftanding on the 7th of December, was 6,777,739l. At a general court, held 14th of March 1799, it was agreed to advance to government 1,500,000l. on exchequer bills, and it was propofed to divide among the proprietors the 5 per cent. ftock held by the company for the million fubfcribed to the loyalty-loan; and with this view to purchafe 39,240l. of the fame ftock, to make up the fum held by them 1,164,240l. in order to make a dividend of 10l. 5 per cent. ftock for every 100l. bank capital. Accordingly the transfer was made on the 1ft of June.

In November following, a negotiation was entered into for renewing the term of the company's charter, although about 13 years of it remained. The propofition was agreed to at a general court held January the 9th, 1800. The conditions were, that the bank fhould advance to government 3,000,000l. for the fervice of the year 1800, on exchequer bills, payable, without intereft, out of the fupplies to be granted for the year 1806, in confideration of which the term of their charter was continued till the end of twelve months notice after the 1ft of Auguft 1833.

The amount of bank notes in circulation had gradually increafed fince the beginning of 1797; and, during the year 1800, amounted to about 15,000,000l. The amount, on an average of a month, to 25th of January 1801, was 16,365,200l.; confifting of 13,845,800l. in notes of 5l. and upwards, and 2,519,400l. in 1l. and 2l. notes.

At a general court, held 19th of March 1801, another occafional dividend of ftock was propofed. This dividend was to be made of 582,120l. of 5 per cent. navy annuities, at the rate of 5 per cent. for every 100l. bank capital; and the transfer was made on the 1ft of May.

The commerce of London itfelf is immenfe; not only as a feat of populous and luxurious confumption, but as a ftation of manufactures, and an emporium of maritime trade. The number of payments occafioned by fuch various tranfactions, is farther increafed by the dividends which the national creditors receive on the great fum of our public debt. But in addition to all thefe payments, originating within the capital itfelf, bills are drawn upon London, and remittances are fent thither to provide for them, from all parts of the kingdom. Even foreign drafts, on account of merchants in the country, are, with fcarcely any exceptions, made payable in London. And thus a great proportion of the pecuniary engagements, to which the whole commerce of the kingdom gives birth, are ultimately fettled there. This transfer of the country payments to London, has, in fome degree, fubfifted for a long time; the practice, once begun, was likely, from its great advantages, to be gradually extended; and, of late years, it feems to have been reduced to a regular and very commodious fyftem. It was much facilitated by the multiplication of country banks, during that period of high profperity and confidence which immediately preceded the late war. The formation of thefe throughout the whole country was actively encouraged by the private bankers of London; and, indeed, the exiftence of a great national bank, which, like that of England, muft provide a conftant refervoir of gold, naturally fuggefts the creation of fmaller eftablifhments. Upon the formation of fuch banks in the country, many traders of all defcriptions, who had formerly maintained a direct correfpondence with merchants in London, fell into the practice of tranfacting their bufinefs with the metropolis through the banker in their own neighbourhood with whom they kept their cafh. On their account, he drew largely upon a banker in London; who agreed to execute the extenfive country bufinefs he had thus acquired, at a much lower commiffion than what had formerly been paid by the feveral country traders to their

their ſeparate correſpondents. The rate of commiſſion was reduced, in conſequence of the diminiſhed trouble as well as riſk; the labour of keeping accounts, writing letters, receiving and paying bills, was now transferred to one houſe, which had before been divided among many; and a new ſecurity was afforded to the tranſactions between the metropolis and the country, by the interpoſed credit of wealthy and reſpectable country bankers.

The eſtabliſhment of ſuch a ſyſtem of banks, and the transference of ultimate payments to one particular place, are in the natural courſe of that progreſſive ſubdiviſion of labour, which extends itſelf over an opulent and induſtrious country. The receipt and payment of money, inſtead of being conducted at home, are transferred, by every trader, to his banker; who deviſes means both of abridging his own labour, and of economiſing the uſe of money, eſpecially of that coſtly part of it which conſiſts of ſpecie. By his ſkill and ſucceſs in attaining theſe objects, he manages an important part of trade, at an expence far inferior to what the merchants themſelves muſt have incurred, had they continued to conduct it ſeparately by their own clerks. In proportion, likewiſe, as the amount and number of payments and receipts is augmented in one particular place, the buſineſs of paying and receiving is more eaſily and cheaply tranſacted; the guineas or bank notes required, though more upon the whole, are fewer in proportion to the ſums paid and received. So complete, accordingly, and ſo ſyſtematic is that economy in the uſe of notes, which long experience has introduced among the London bankers, that the preſent payments of that metropolis could ſcarcely be tranſacted, with due regularity, if the quantity of notes were to ſuffer any conſiderable diminution. In this they are aſſiſted by the fitneſs of bills of exchange and government ſecurities to ſupply the place of bank notes; for the intereſt that grows on ſuch negotiable paper while it is detained, ſaves all the loſs which the banker would undergo from the detention of coin or notes; and there is a certain ſort and quantity of bills, on the converſion of which into money he may rely almoſt as confidently as on the changing of a note into guineas, or of a guinea into ſilver. The ingenuity of theſe money-dealers, in ſparing the circulating medium, is aptly illuſtrated by a cuſtom which prevails among the city bankers. Each of them ſends a clerk, at an appointed hour in the afternoon, to a room provided for their uſe. Each clerk there exchanges the drafts on other bankers received at his own houſe for the drafts on his own houſe received at the houſes of other bankers. The balances of the ſeveral bankers are transferred from one to another, in a manner which it is unneceſſary to explain in detail, and the ſeveral balances are finally wound up by each clerk into one balance. The difference between the whole ſum which each banker has to pay to all other city bankers, is, therefore, all that is diſcharged in bank notes or money; a difference evidently much leſs in its amount than that to which the ſeveral differences would be equal.

But the economiſed uſe of circulating medium is by no means the only collateral advantage that ariſes from this ſyſtem of banks, connected in ſubordination to each other, with the great national bank at their head. Although a very few of the country eſtabliſhments have occaſionally ſubjected themſelves to the charge of encouraging rath ſpeculation, the ſyſtem, in its complex operation, has a real tendency to ſtrengthen as well as to enlarge the baſis of credit. Bankers poſſeſs, from their ſituation, very ſuperior means of diſtinguiſhing the careful trader from the improvident. The bill tranſactions of the neighbourhood paſs under their inſpection; and by this information they are enabled to meaſure out confidence very nearly in a juſt proportion. In fact, it is conſidered as a regular branch of their profeſſional experience, that they ſhould appreciate the credit of the various traders within their diſtrict of circulation; and this ſort of practical ſagacity they are underſtood to cultivate with great aſſiduity. It is ſaid to be the general practice of banks, to communicate ſuch intelligence for their mutual advantage. Each of them endeavours to limit, not only the ſum which any one trader ſhall obtain from themſelves, but the total amount alſo, ſo far as they are able, of the ſum which the ſame perſon ſhall borrow in different places. They endeavour, above all, to diſcourage bills of accommodation. While the tranſactions of country traders are thus ſurveyed by the banks of their reſpective diſtricts, thoſe of the country banks themſelves are ſubject to the view of the London bankers, their correſpondents; and theſe, again, are in ſome degree controled by the bank of England, which reſtricts, according to its own diſcretion, the credit with which they are accommodated. A ſeries of checks is thus maintained, which, though far from eſtabliſhing a complete ſecurity againſt all injurious ſpeculation, preſents a powerful obſtacle to its progreſs.

But the bank of England retains another check, of a highly important nature, over the banks in the country. The iſſue of its own notes is reſtricted, in ordinary times, by the obligation to convert them into ſpecie. The quantity of country paper, even during the preſent times, is limited by its accuſtomed convertibility into the notes of the bank of England. If a particular country banker is imprudent enough to iſſue an extraordinary quantity of paper, while that of the bank of England does not exceed the demands of London circulation, a local riſe of prices will be produced within the diſtrict of that country paper, but prices in London will remain as before. In this ſituation, the holders of country paper, in order that they may purchaſe goods where they are cheaper, will return that paper to the banker, demanding in return bank of England notes, or at leaſt bills upon London. The exceſs of his notes will thus be continually returned upon the country banker, and he will at length find himſelf under the neceſſity of limiting his iſſue to that quantity which the circulation of his own diſtrict can abſorb. The quantity of bank of England paper may thus be ſaid to regulate the quantity of that which is iſſued by the country banks. It is not, that one uniform ratio is maintained between theſe two quantities; but that both are in the ſame proportion to the demand that is created for each by the trade which it is deſtined to circulate. Whenever the bank of England paper happens to exceed what is required for the purpoſes of London circulation, the country paper may become exceſſive in the ſame degree. And ſuch an exceſs of bank of England paper may be produced, either by a diminution in the number of payments, while that of notes remains undiminiſhed; or by whatever has a tendency, while the number of payments remains unaugmented, to augment the number or the effective power of the notes in circulation.

The moſt ſerious danger to which the bank of England is expoſed is that of being drained of its ſpecie. To ſuch a drain it may be ſubjected in conſequence of any alarm that occaſions a great demand for guineas, either to be hoarded, or to ſupply the place of paper thrown out of circulation. If the alarm ſhould be of long continuance, and the bank maintains its circulation no more than its uſual quantity of notes, it may be altogether exhauſted of its guineas, however ſmall that quantity of notes may be; becauſe if theſe are always reiſſued in loans upon the diſcounts of bills, they may be perpetually returned upon the bank in demand for more ſpecie.

Should

Should the alarm be great and of long continuance, the bank, by maintaining only a million of notes in circulation, may, by the continual return of theſe, be exhauſted of fifty millions of guineas. Beſides, a more permanent cauſe of a run upon the bank of England for ſpecie is the exceſs of the market price of gold above its mint price. This was formerly occaſioned by the debaſed ſtate of gold currency; and the bank has been reduced to the neceſſity of coining new guineas, which were immediately melted down, that the bullion might be ſold to the bank itſelf at the high market price. In whatever manner the high price of gold is produced, immediate demands are made upon the bank for guineas, in order to export them. Theſe it endeavours to replace, though gold cannot be purchaſed without a conſiderable loſs. A moſt unequal competition will thus be eſtabliſhed between the bank, on the one hand, which buys and coins at a great loſs, and the clandeſtine dealers, on the other hand, who melt and ſell at a great profit. If the unfavourable balance of trade, which has cauſed this high price of bullion, were not of a temporary nature, the bank of England, by this continued accumulation of unproductive expence, might ultimately be reduced to very great diſtreſs. Beſides, the exceſs of the market price of gold above its mint price may likewiſe be produced by too great a quantity of paper-money. The bank, indeed, has the power of reſtricting the country paper, by limiting its own notes to thoſe which are actually needed for the purpoſes of circulation. It has, therefore, the power in a great degree of preventing that high price of gold, and the conſequent drain of its own guineas, which proceed from an exceſſive circulation of paper. So long, then, as the bank is liable to payments in ſpecie, it has an evident intereſt to prevent its own paper, as well as that of the whole country, from being ſo exceſſive, as to occaſion a riſe in the price of commodities. To limit the total amount of paper iſſued, and to reſort, whenever the temptation of borrowing is ſtrong, to ſome effectual principle of reſtriction; never to diminiſh greatly the ſum in circulation, but to let it vibrate only within certain limits; to afford a ſlow and cautious extenſion of it, as the general trade of the country is enlarged; and to permit a temporary increaſe during an extraordinary period of difficulty or alarm:—this, according to Mr. Thornton (ubi infra), is the true policy of an inſtitution placed in the circumſtances of the bank of England.

If the bank of England, ſays an anonymous writer (Edinb. Rev. N°. I. p. 196.), muſt now be conſidered as a national eſtabliſhment, not merely influencing, by the ſuperior magnitude of its capital, the ſtate of commercial circulation, but guiding its movements according to views of public policy, an important revolution has taken place ſince the firſt erection of that corporation as a banking eſtabliſhment. That power of iſſuing the medium of exchange, with the opportunities it implies of varying its quantity and value, which, while precious coin was in uſe, was exerciſed under the immediate prerogative of the crown, is now virtually inveſted in the governor and directors of the bank of England. In the official character of that board, ſome of the functions of ſovereignty are united to thoſe of a trader; and the opportunities of banking profits are blended with a truſt and charge of the public intereſt. It will be pleaſing if theſe ſhall prove more happily compatible, than they have been found in other inſtances. The organization of this eſtabliſhment, poſſeſſed of ſuch means to control the operations of commerce, as well as to facilitate the advance of financial ſupplies, may, into our political conſtitution already ſo complicated, introduce a new principle of action, the effect of which cannot be clearly diſcerned. Perhaps an unbounded field will be opened for the extenſion of miniſterial influence; perhaps an unexpected control may be gained to the people, over the views and meaſures of the executive.

The ſuſpenſion of caſh payments in 1797, was an event, in the opinion of Mr. Thornton, to which the national bank was liable from its very nature; the probability of which has been too ſtudiouſly concealed; and to the recurrence of which we may look forward. The gold, in the coffers of the bank, had been much reduced by the effect of an unfavourable balance of trade. The alarms of invaſion had led to the failure of ſome country banks in the north of England; this occaſioned a further demand of guineas from the bank, and a diminution in the circulating notes of London. The directors aggravated the diſtreſs, and augmented the demand for guineas, by unadviſedly ſuppreſſing ſome of their notes, inſtead of enlarging the quantity. It has alſo been alleged, that the loans of the bank to government, which occaſioned a limitation in its diſcount of commercial paper, contributed, by their indirect and unavoidable operation, to aggravate that diſtreſs of the circulation which was chiefly produced by other cauſes. Although the loans to government could have no tendency to diminiſh the ſum of notes in circulation, it nevertheleſs tended to diſtreſs the circulation, by rendering that ſum of notes leſs adequate to the wants of commerce, than if they had flowed into the market through the uſual channel of diſcounts. The ſuſpenſion of payments in ſpecie was properly continued, according to Mr. Thornton, from the permanence of thoſe circumſtances which rendered it originally neceſſary:—an unfavourable exchange, produced partly by our heavy expenditures, but chiefly aggravated by vaſt importations of corn; and the prevalence, till the eve of peace, of alarms about hoſtile invaſions. Mr. Thornton maintains that the circulating paper of the bank of England does not in fact amount now to a greater ſum than, upon an average of years, was in circulation before the ſuſpenſion of caſh payments. Upon an average of three years, ending in December 1795, their amount, according to the evidence laid before parliament, was 11,975,573 l. By a ſubſequent ſtatement preſented to the houſe of Commons, they amounted in December 1800, to 15,450,970l. From the difference between theſe two ſums, Mr. Thornton inſiſts that we ought to deduct the amount of two millions, conſiſting of one and two pound notes, which according to him have diſplaced in the circulation an equal ſum of guineas. After this deduction, there ſtill remains the ſum of 1,475,397 l. by which the bank paper exceeded in 1800, its average amount before the ſuſpenſion of caſh payments. But in the ſpring of 1801, the governor of the bank ſtated to the houſe of commons, that the company had reduced its notes to a ſum leſs, by about a million and a half, than their amount in the preceding December. Lord King, in his "Thoughts on the Reſtriction of Payments in Specie at the Banks of England and Ireland," 8vo. 1803, diſputes the correctneſs of Mr. Thornton's ſtatement; and alleges, that in the ſpring of 1801, the iſſue of notes amounted to 16,365,206l. which was ſtill farther increaſed, in the ſummer of 1802, to 16,747,300l. According to the laſt account preſented to the houſe of commons, the bank of England notes in circulation amounted to 16,108,560l. If we compare, ſays his lordſhip, this ſum with the above average of three years ending in December 1795, even after we add to the latter the whole two millions of which Mr. Thornton ſpeaks, and which ſeems a very large allowance, the preſent iſſue from the bank will be found to exceed that, which was formerly convertible into ſpecie, by ſomething leſs than one-

fixth of the whole. If we conſider the quick circulation which paper admits of, and the increaſe which an accelerated rate of circulation gives to the effective powers of currency, this addition of almoſt one-fixth muſt be regarded as an immenſe augmentation of the maſs of effective currency. While the iſſue of bank of England notes was moderate and reſtrained, the market price of bullion, particularly of ſilver bullion, which is a more certain ſtandard than gold, becauſe it is a more regular article of commerce, continued very nearly the ſame as its eſtabliſhed price in our mint. In the ſummer of 1799, however, about the ſame time with the great increaſe of bank paper, a rapid and extraordinary advance took place in the market price of bullion. That of ſilver roſe at once to 5s. 8d. almoſt ten per cent. above the mint price. It continued to riſe along with the progreſſive increaſe of notes; and in 1801, when they exceeded ſixteen millions, it was as high as 6s. more than 16 per cent. and even as 6s. 1d. more than 17 per cent. above the mint price. Thus alſo, while the iſſue of the bank of England notes was moderate and reſtrained, the rate of exchange at Hamburgh continued in favour of this country, being from three to five per cent. above par. But in the ſummer of 1799, about the ſame time with the great increaſe of bank paper, a very rapid fall took place. It fell at once to 32, above eight per cent. below par; and continued to fall almoſt regularly, though not quite ſo regularly as the price of bullion roſe, along with the progreſſive increaſe of notes. At the commencement of 1801, when they exceeded ſixteen millions, the exchange with Hamburgh was as low as 29l. 10s. almoſt 16 per cent. below par. Lord King has ſubjoined a ſet of tables, which exhibit the remarkable correſpondence between the variations in the quantity of bank notes, and the variations in the price of bullion and rate of exchange. His lordſhip has alſo ſhewn, that the paper currency of the bank of Ireland has been augmented from 621,917l. to 2,633,864l.; and that its notes at preſent in circulation exceed more than four times the amount of what were in circulation when the act of reſtriction was paſſed. During the ſame period, the price of ſilver in Dublin has experienced a great advance, having varied from 6s. 6d. to 7s. Iriſh currency; an increaſe, which, eſtimating the mint price at 5s. 7d. is from 14 to 20 per cent. The rate of exchange between Dublin and London has been alſo remarkably affected; the difference having progreſſively increaſed from 8½, the ordinary difference, to 10, 12, 14, and even 16. This proof of the depreciation of bank of Ireland notes has not been confined to the courſe of exchange with London; but is felt in the tranſactions of Dublin with many of the provincial towns, where thoſe notes have not acquired a general circulation; the currency ſtill conſiſting either of ſpecie, or of country notes. In conſequence of this, and of the depreciated condition of the Dublin currency, there is an actual difference of exchange between Dublin and thoſe towns. This is the caſe, for inſtance, in Belfaſt; when a payment is there made in bank of Ireland notes, an additional ſum is paid proportional to the diſcount. Hence lord King infers, that the meaſure of 1797 has actually had a pernicious influence upon the ſyſtem of circulation; and in ſtrong terms deprecates its continuance. Mr. Thornton ſtates the following fact, that the enumeration of *country-banks* taken in 1800, differed from that taken in 1797, by the exceſs of 386 above 353.

It is not, ſays Dr. Smith (ubi infra), by augmenting the capital of the country, but by rendering a greater part of that capital active and productive than would otherwiſe be ſo, that the moſt judicious operations of banking can increaſe the induſtry of the country. That part of his capital which a dealer is obliged to keep by him unemployed, and in ready money for anſwering occaſional demands, is ſo much dead ſtock, which, ſo long as it remains in this ſituation, produces nothing either to him or to his country. The judicious operations of banking enable him to convert this dead ſtock into active and productive ſtock; into inſtruments of trade, which will make a profit to him and the country. The gold and ſilver money which circulates in any country may very properly be compared to a highway, which while it circulates and carries to market all the graſs and corn of the country, produces itſelf not a ſingle pile of either. The judicious operations of banking, by providing, if I may be allowed ſo violent a metaphor, a ſort of waggon-way through the air; enable the country to convert, as it were, a great part of its highways into good paſtures and corn fields, and thereby to increaſe very conſiderably the annual produce of its land and labour. The commerce and induſtry of the country, however, it muſt be acknowledged, though they may be ſomewhat augmented, cannot be altogether ſo ſecure, when they are thus, as it were, ſuſpended upon the Dædalian wings of paper money, as when they travel about upon the ſolid ground of gold and ſilver. Over and above the accidents to which they are expoſed from the unſkilfulneſs of the conductors of this paper money, they are liable to ſeveral others, from which no prudence or ſkill of thoſe conductors can guard them. Mr. Hume (Eſſays, vol. i. Eſſ. iii. p. 301.) expreſſes his doubt concerning the benefit of banks and paper credit. That proviſions and labour, he ſays, ſhould become dear by the increaſe of trade and money, is, in many reſpects, an inconvenience, but an inconvenience that is unavoidable, and the effect of that public wealth and proſperity which are the end of all our wiſhes. It is compenſated by the advantages, which we derive from the poſſeſſion of theſe precious metals, and the weight which they give the nation in all foreign wars and negotiations. But there appears no reaſon, as he conceives, for increaſing that inconvenience by a counterfeit money, which foreigners will not accept of in any payment, and which any great diſorder in the ſtate will reduce to nothing. (See PAPER-MONEY.) Inquiry into the nature and effects of the Paper Credit of great Britain, by Henry Thornton, Eſq. M.P. London, 1802. Smith's Nature and Cauſes of the Wealth of Nations, vol. i. p. 479—484.

In Scotland, there are two *public* banks erected at Edinburgh; of which the one, called "The Bank of Scotland," was eſtabliſhed by act of parliament in 1695; the other, called "The Royal Bank," by royal charter in 1727. New banking companies have been alſo erected within the laſt thirty and forty years in almoſt every conſiderable town, and even in ſome country villages. The buſineſs of the country, ſays Dr. Smith (vol. i. p. 442), is almoſt entirely carried on by means of the paper of theſe different banking companies, with which purchaſes and payments of all kinds are commonly made. Silver very ſeldom appears except in the change

change of a twenty ſhilling bank note, and gold ſeldomer. But though the conduct of all theſe different companies has not been unexceptionable, and has accordingly required an act of parliament to regulate it; the country, notwithſtanding, has derived great benefit from their trade. It has been aſſerted, ſays this writer, that the trade of the city of Glaſgow doubled in about fifteen years after the firſt erection of the banks there; and that the trade of Scotland has more than quadrupled ſince the firſt erection of the two public banks at Edinburgh. Whether this ſtatement be ſtrictly juſt or not, it is certain, that the trade and induſtry of Scotland have increaſed very conſiderably during this period, and it muſt be allowed, as an unqueſtionable fact, that the banks have greatly contributed to this increaſe. The whole value of the gold and ſilver, which circulated in Scotland before the union, cannot be eſtimated at leſs than a million ſterling. In the preſent times, ſays Dr. Smith, the whole circulation of Scotland cannot be eſtimated at leſs than two millions, of which that part which conſiſts in gold and ſilver, moſt probably, does not amount to half a million. But though the circulating gold and ſilver of Scotland have ſuffered ſo great a diminution during this period, its real riches and proſperity do not appear to have ſuffered any. In agriculture, manufactures, and trade, on the contrary, the annual produce of its land and labour has evidently been augmented. It is chiefly by diſcounting bills of exchange, that is, by advancing money upon them before they are due, that the greater number of banks and bankers iſſue their promiſſory notes; deducting always, upon the ſum they advance, the legal intereſt till the bill ſhall become due. The payment of the bill when it becomes due, replaces to the bank the value of what had been advanced, together with a clear profit of the intereſt. The banker, who advances to the merchant whoſe bill he diſcounts, not gold and ſilver, but his own promiſſory notes, has the advantage of being able to diſcount to a greater amount by the whole value of his promiſſory notes, which he finds by experience are commonly in circulation. He is thereby enabled to make his clear gain of intereſt into a much larger ſum. The commerce of Scotland was much leſs conſiderable than it is now, when the two firſt banking companies were eſtabliſhed, and thoſe companies would have had but little trade, if their buſineſs had been reſtricted to the diſcounting of bills of exchange. They invented, therefore, another method of iſſuing their promiſſory notes; by granting, what they called "caſh accounts," that is, by giving credit to the extent of a certain ſum (e. g. 2 or 3000 pounds), to any individual who could procure two perſons of undoubted credit and good landed eſtate to become ſecurity for him, that whatever money ſhould be advanced to him within the ſum for which the credit had been given, ſhould be repaid upon demand, together with the legal intereſt. Credits of a ſimilar kind are commonly granted by banks and bankers, in all different parts of the world. But the eaſy terms upon which the Scotch banking companies accept of repayment are, ſays Dr. Smith, peculiar to them, and have, perhaps, been the principal cauſe, both of the great trade of theſe companies, and of the benefits which the country has received from it. Whoever has a credit of this kind with one of theſe companies, and borrows e. g. a thouſand pounds upon it, may repay this ſum by piece-meal, by 20l. and 30l. at a time; the company diſcounting a proportionable part of the intereſt of the great ſum from the day on which each of thoſe ſmall ſums is paid in, till the whole be in this manner repaid. All merchants, therefore, and almoſt all men of buſineſs, find it convenient to keep ſuch caſh accounts with them, and are thereby intereſted to promote the trade of thoſe companies, by readily receiving their notes in all payments, and by encouraging all thoſe with whom they have any influence to do the ſame. The banks, when their cuſtomers apply to them for money, generally advance it to them in their own promiſſory notes. Theſe the merchants pay away to the manufacturers for goods, the manufacturers to the farmers for materials and proviſions, the farmers to their landlords for rent, the landlords repay them to the merchants for the conveniences and luxuries with which they ſupply them, and the merchants again return them to the banks in order to balance their caſh accounts, or to replace what they may have borrowed of them; and thus almoſt the whole money buſineſs of the country is tranſacted by means of them. Hence the great trade of thoſe companies.

By means of theſe caſh accounts, every merchant can, without imprudence, carry on a greater trade than he otherwiſe could do. If there are two merchants, one in London, and the other in Edinburgh, who employ equal ſtocks in the ſame branch of trade, the Edinburgh merchant can, without imprudence, carry on a greater trade, and give employment to a greater number of people, than the London merchant. The London merchant muſt always keep by him a conſiderable ſum of money, either in his own coffers, or thoſe of his banker, who gives him no intereſt for it, in order to anſwer the demands continually coming upon him for payment of the goods which he purchaſes upon credit. Let the ordinary amount of this ſum be ſuppoſed 500l. The value of the goods in his warehouſe muſt always be leſs by 500l. than it would have been, had he not been obliged to keep ſuch a ſum unemployed. Let us ſuppoſe that he generally diſpoſes of his whole ſtock upon hand, or of goods to the value of his whole ſtock upon hand, once in the year. By being obliged to keep ſo great a ſum unemployed, he muſt ſell in a year 500l. worth leſs goods than he might otherwiſe have done. His annual profits muſt be leſs by all that he could have made by the ſale of 500l. worth more goods; and the number of people employed in preparing his goods for market, muſt be leſs by all thoſe that 500l. more ſtock could have employed. The merchant in Edinburgh, on the other hand, keeps no money unemployed for anſwering ſuch occaſional demands. When they actually come upon him, he ſatisfies them from his caſh account with the bank, and gradually replaces the ſum borrowed with the money or paper which comes in from the occaſional ſales of his goods. With the ſame ſtock, therefore, he can without imprudence, have at all times in his warehouſe a larger quantity of goods than the London merchant; and can thereby both make a greater profit himſelf, and give conſtant employment to a greater number of induſtrious people who prepare thoſe goods for the market. Hence the great benefit which the country has derived from this trade.

The late multiplication of banking companies in both parts of the united kingdom, an event by which many people have been much alarmed, inſtead of diminiſhing, increaſes the ſecurity of the public. It obliges all of them to be more circumſpect in their conduct, and, by not extending their currency beyond its due proportion to their caſh, to guard themſelves againſt thoſe malicious runs, which the rivalſhip of ſo many competitors is always ready to bring upon them. It reſtrains the circulation of each particular company within a narrower circle, and reduces their circulating notes to a ſmaller number. By dividing the whole circulation into a greater number of parts, the failure of any company, an accident which, in the courſe of things, muſt ſometimes happen, becomes of leſs conſequence to the public. This free competition too obliges all bankers to be

more liberal in their dealings with their cuſtomers, leſt their rivals ſhould carry them away. In general, if any branch of trade, or any diviſion of labour, be advantageous to the public, the freer and more general the competition, it will always be the more ſo. Smith's Wealth of Nations, vol. i. p. 446, &c. p. 498, &c.

Banks *of Depoſit* are ſuch as are inſtituted wholly for the benefit of the public. Of theſe Dr. Smith has given the following account: "The currency of a great kingdom, ſuch as France or England, generally conſiſts almoſt entirely of its own coin. Should this currency, therefore, be at any time worn, clipt, or otherwiſe degraded below its ſtandard value, the ſtate by a reformation of its coin can effectually re-eſtabliſh its currency. But the currency of a ſmall ſtate, ſuch as Genoa or Hamburgh, can ſeldom conſiſt altogether in its own coin, but muſt be made up, in a great meaſure, of the coins of all the neighbouring ſtates with which its inhabitants have a continual intercourſe. Such a ſtate, therefore, by reforming its coin, will not always be able to reform its currency. If foreign bills of exchange are paid in this currency, the uncertain value of any ſum, of what is in its own nature ſo uncertain, muſt render the exchange always very much againſt ſuch a ſtate, its currency being, in all foreign ſtates, neceſſarily valued even below what it is worth.

In order to remedy the inconvenience to which this diſadvantageous exchange muſt have ſubjected their merchants, ſuch ſmall ſtates, when they began to attend to the intereſt of trade, have frequently enacted, that foreign bills of exchange of a certain value ſhould be paid, not in common currency, but by an order upon, or by a transfer in the books of a certain bank, eſtabliſhed upon the credit, and under the protection of the ſtate; this bank being always obliged to pay, in good and true money, exactly according to the ſtandard of the ſtate. The bank of Venice eſtabliſhed in 1157, that of Genoa in 1345, that of Amſterdam in 1609, that of Hamburgh in 1619, and the bank of Nuremberg, ſeem to have been all originally eſtabliſhed with this view, though ſome of them may have afterwards been made ſubſervient to other purpoſes. The money of ſuch banks being better than the common currency of the country, neceſſarily bore an agio, which was greater or ſmaller, according as the currency was ſuppoſed to be more or leſs degraded below the ſtandard of the ſtate. The agio of the bank of Hamburgh, for example, which is ſaid to be commonly about fourteen per cent. is the ſuppoſed difference between the good ſtandard money of the ſtate, and the clipt, worn, and diminiſhed currency, poured into it from all the neighbouring ſtates.

Before 1609, the great quantity of clipt and worn foreign coin which the extenſive trade of Amſterdam brought from all parts of Europe, reduced the value of its currency about nine per cent. below that of good money freſh from the mint. Such money no ſooner appeared than it was melted down or carried away, as it always is in ſuch circumſtances. The merchants, with plenty of currency, could not always find a ſufficient quantity of good money to pay their bills of exchange; and the value of thoſe bills, in ſpite of ſeveral regulations which were made to prevent it, became in a great meaſure uncertain.

In order to remedy theſe inconveniences, a bank was eſtabliſhed in 1609, under the guarantee of the city. This bank received both foreign coin, and the light and worn coin of the country, at its real intrinſic value in the good ſtandard money of the country, deducting only ſo much as was neceſſary for defraying the expence of coinage, and the other neceſſary expence of management. For the value which remained after this ſmall deduction was made, it gave a credit in its books. This credit was called bank money, which, as it repreſented money exactly according to the ſtandard of the mint, was always of the same real value, and intrinſically worth more than current money. It was at the ſame time enacted, that all bills drawn upon or negotiated at Amſterdam, of the value of ſix hundred guilders and upwards, ſhould be paid in bank money, which by this means took away all uncertainty in the value of those bills. Every merchant, in conſequence of this regulation, was obliged to keep an account with the bank in order to pay his foreign bills of exchange, which neceſſarily occaſioned a certain demand for bank money.

Bank money, over and above both its intrinſic ſuperiority to currency, and the additional value which the bank neceſſarily gives it, has likewiſe ſome other advantages. It is ſecure from fire, robbery, and other accidents; the city of Amſterdam is bound for it; it can be paid away by a ſimple transfer, without the trouble of counting, or the riſk of tranſporting it from one place to another. In conſequence of theſe different advantages, it ſeems from the beginning to have borne an agio, and it is generally believed, that all the money originally depoſited in the bank is allowed to remain there, nobody caring to demand payment of a debt which he could ſell for a premium in the market. By demanding payment of the bank, the owner of a bank credit would loſe this premium. As a ſhilling freſh from the mint will buy no more goods in the market than one of our common worn ſhillings, ſo the good and true money which might be brought from the coffers of the bank into those of a private perſon, being mixed and confounded with the common currency of the country, would be of no more value than that currency, from which it could no longer be readily diſtinguiſhed. While it remained in the coffers of the bank, its ſuperiority was known and aſcertained. When it had come into thoſe of a private perſon, its ſuperiority could not well be aſcertained without more trouble than perhaps the difference was worth. By being brought from the coffers of the bank, beſides, it loſt all the other advantages of bank money; its ſecurity, its eaſy and ſafe transferability, its uſe in paying foreign bills of exchange. Over and above all this, it could not be brought from thoſe coffers, as will appear by and by, without previouſly paying for the keeping.

Thoſe depoſits of coin, or thoſe depoſits which the bank was bound to reſtore in coin, conſtituted the original capital of the bank, or the whole value of what was repreſented by what is called bank money. At preſent they are ſuppoſed to conſtitute but a very ſmall part of it. In order to facilitate the trade in bullion, the bank has been for theſe many years in the practice of giving credit in its books upon depoſits of gold and ſilver bullion. This credit is generally about five per cent. below the mint price of ſuch bullion. The bank grants at the ſame time what is called a recipice or receipt, entitling the perſon who makes the depoſit, or the bearer, to take out the bullion again at any time within ſix months, upon transferring to the bank a quantity of bank money equal to that for which credit had been given in its books when the depoſit was made, and upon paying one-fourth per cent. for the keeping, if the depoſit was in ſilver; and one-half per cent. if it was in gold; but at the ſame time declaring, that in default of ſuch payment, and upon the expiration of this term, the depoſit ſhould belong to the bank at the price at which it had been received, or for which credit had been given in the transfer books. What is thus paid for the keeping of the depoſit may be conſidered as a ſort of warehouſe rent; and why the

houſe rent ſhould be ſo much dearer for gold than for ſilver, ſeveral different reaſons have been aſſigned. The fineneſs of gold, it has been ſaid, is more difficult to be aſcertained than that of ſilver. Frauds are more eaſily practiſed, and occaſion a greater loſs in the moſt precious metal. Silver, beſides, being the ſtandard metal, the ſtate, it has been ſaid, wiſhes to encourage more the making of depoſits of ſilver than thoſe of gold.

Depoſits of bullion are moſt commonly made when the price is ſomewhat lower than ordinary; and they are taken out again when it happens to riſe. In Holland, the market price of bullion is generally above the mint price, for the ſame reaſon that it was ſo in England before the late reformation of the gold coin. The difference is ſaid to be commonly from about ſix to ſixteen ſtivers upon the mark, or eight ounces of ſilver of eleven parts fine, and one part alloy. The bank price, or the credit which the bank gives for the depoſits of ſuch ſilver (when made in foreign coin, of which the fineneſs is well known and aſcertained, ſuch as Mexico dollars), is twenty-two guilders the mark; the mint-price is about twenty-three guilders, and the market-price is from twenty-three guilders ſix, to twenty-three guilders ſixteen ſtivers, or from two to three per cent. above the mint price. The proportions between the bank price, the mint price, and the market price, of gold bullion, are nearly the ſame. A perſon can generally ſell his receipt for the difference between the mint price of bullion and the market price. A receipt for bullion is almoſt always worth ſomething, and it very ſeldom happens, therefore, that any body ſuffers his receipt to expire, or allows his bullion to fall to the bank at the price at which it had been received, either by not taking it out before the end of the ſix months, or by neglecting to pay the one-fourth or one-half per cent. in order to obtain a new receipt for another ſix months. This, however, though it happens ſeldom, is ſaid to happen ſometimes, and more frequently with regard to ſilver, on account of the higher warehouſe rent which is paid for keeping of the more precious metal.

The perſon who by making a depoſit of bullion obtains both a bank credit and a receipt, pays his bills of exchange as they become due with his bank credit; and either ſells or keeps his receipt according as he judges that the price of bullion is likely to riſe or to fall. The receipt and the bank credit ſeldom keep long together, and there is no occaſion that they ſhould. The perſon who has a receipt, and who wants to take out bullion, finds always plenty of bank credits, or bank money to buy at the ordinary price; and the perſon who has bank money, and wants to take out bullion, finds receipts always in equal abundance.

The owners of bank credits, and the holders of receipts, conſtitute two different ſorts of creditors againſt the bank. The holder of a receipt cannot draw out the bullion for which it is granted, without re-aſſigning to the bank a ſum of bank money equal to the price at which the bullion had been received. If he has no bank money of his own, he muſt purchaſe it of thoſe who have it. The owner of bank money cannot draw out bullion without producing to the bank receipts for the quantity which he wants. If he has none of his own, he muſt buy them of thoſe who have them. The holder of a receipt, when he purchaſes bank money, purchaſes the power of taking out a quantity of bullion, of which the mint price is five per cent. above the bank price. The agio of five per cent. therefore, which he commonly pays for it, is paid, not for an imaginary, but for a real value. The owner of bank money, when he purchaſes a receipt, purchaſes the power of taking out a quantity of bullion of which the market price is commonly from two to three per cent. above the mint price. The price of the receipt, and the price of the bank money, compound or make up between them the full value or price of the bullion.

Upon depoſits of the coin current in the country, the bank grants receipts likewiſe as well as bank credits; but thoſe receipts are frequently of no value, and will bring no price in the market. Upon ducatoons, for example, which in the currency paſs for three guilders three ſtivers each, the bank gives a credit of three guilders only, or five per cent. below their current value. It grants a receipt likewiſe entitling the bearer to take out the number of ducatoons depoſited at any time within ſix months, upon paying one-fourth per cent. for the keeping. This receipt will frequently bring no price in the market. Three guilders bank money generally ſell in the market for three guilders three ſtivers, the full value of the ducatoons, if they were taken out of the bank; and before they can be taken out, one-fourth per cent. muſt be paid for the keeping, which would be mere loſs to the holder of the receipt. If the agio of the bank, however, ſhould at any time fall to three per cent. ſuch receipts might bring ſome price in the market, and might ſell for one and three-fourths per cent. But the agio of the bank being now generally about five per cent. ſuch receipts are frequently allowed to expire, or, as they expreſs it, to fall to the bank. The receipts which are given for depoſits of gold ducats fall to it yet more frequently, becauſe a higher warehouſe rent, or one half per cent. muſt be paid for the keeping of them before they can be taken out again. The five per cent. which the bank gains, when depoſits either of coin or bullion are allowed to fall to it, may be conſidered as the warehouſe rent for the perpetual keeping of ſuch depoſits.

The ſum of bank money for which the receipts are expired muſt be very conſiderable. It muſt comprehend the whole original capital of the bank, which, it is generally ſuppoſed, has been allowed to remain there from the time it was firſt depoſited, nobody caring either to renew his receipt or to take out his depoſit, as for the reaſons already aſſigned, neither the one nor the other could be done without loſs. But whatever may be the amount of this ſum, the proportion which it bears to the whole maſs of bank money is ſuppoſed to be very ſmall. The bank of Amſterdam has for theſe many years paſt been the great warehouſe of Europe for bullion, for which the receipts are very ſeldom allowed to expire, or, as they expreſs it, to fall to the bank. The far greater part of the bank money, or of the credits upon the books of the bank, is ſuppoſed to have been created, for theſe many years paſt, by ſuch depoſits which the dealers in bullion are continually both making and withdrawing.

No demand can be made upon the bank but by means of a recipice or receipt. The ſmaller maſs of bank money, for which the receipts are expired, is mixed and confounded with the much greater maſs for which they are ſtill in force; ſo that, though there may be a conſiderable ſum of bank money, for which there are no receipts, there is no ſpecific ſum or portion of it which may not at any time be demanded by one. The bank cannot be debtor to two perſons for the ſame thing; and the owner of bank money who has no receipt, cannot demand payment of the bank till he buys one. In ordinary and quiet times, he can find no difficulty in getting one to buy at the market price, which generally correſponds with the price at which he can ſell the coin or bullion it entitles him to take out of the bank.

It might be otherwiſe during a public calamity; an

invaſion

invaſion for example, ſuch as that of the French in 1672. The owners of bank money being then all eager to draw it out of the bank, in order to have it in the town-keeping, the demand for receipts might raiſe their price to an exorbitant height. The holders of them might form extravagant expectations, and inſtead of two or three per cent. demand half the bank money for which credit had been given upon the depoſits that the receipts had been reſpectively granted for. The enemy, informed of the conſtitution of the bank, might even buy them up, in order to prevent the carrying away of the treaſure. In ſuch emergencies, the bank, it is ſuppoſed, would break through its ordinary rule of making payment only to the holders of receipts. The holders of receipts, who had no bank money, muſt have received within two or three per cent. of the value of the depoſit for which their reſpective receipts had been granted. The bank, therefore, it is ſaid, would in this caſe make no ſcruple of paying, either with money or bullion, the full value of what the owners of bank money who could get no receipts were credited for in its books: paying at the ſame time two or three per cent. to ſuch holders of receipts as had no bank money, that being the whole value which in this ſtate of things could juſtly be ſuppoſed due to them.

Even in ordinary and quiet times it is the intereſt of the holders of receipts to depreſs the agio, in order either to buy bank money (and conſequently the bullion, which their receipts would then enable them to take out of the bank) ſo much cheaper, or to ſell their receipts to thoſe who have bank money, and who want to take out bullion, ſo much dearer; the price of a receipt being generally equal to the difference between the market price of bank money and that of the coin or bullion for which the receipt had been granted. It is the intereſt of the owners of bank money, on the contrary, to raiſe the agio, in order either to ſell their bank money ſo much dearer, or to buy a receipt ſo much cheaper. To prevent the ſtock jobbing tricks which theſe oppoſite intereſts might ſometimes occaſion, the bank has of late years come to the reſolution to ſell at all times bank money for currency, at five per cent. agio, and to buy it again at four per cent. agio. In conſequence of this reſolution, the agio can never either riſe above five, or ſink below four per cent. and the proportion between the market price of bank and that of current money, is kept at all times very near to the proportion between their intrinſic values. Before this reſolution was taken, the market price of bank money uſed ſometimes to riſe ſo high as nine per cent. agio, and ſometimes to ſink ſo low as par, according as oppoſite intereſts happened to influence the market.

The bank of Amſterdam profeſſes to lend out no part of what is depoſited with it, but, for every guilder for which it gives credit in its books, to keep in its repoſitories the value of a guilder either in money or bullion. That it keeps in its repoſitories all the money or bullion for which there are receipts in force, for which it is at all times liable to be called upon, and which, in reality, is continually going from it and returning to it again, cannot well be doubted. But whether it does ſo likewiſe with regard to that part of its capital, for which the receipts are long ago expired, for which in ordinary and quiet times it cannot be called upon, and which in reality is very likely to remain with it for ever, or as long as the ſtates of the United Provinces ſubſiſt, may perhaps appear more uncertain. At Amſterdam, however, no point of faith is better eſtabliſhed than that for every guilder, circulated as bank money, there is a correſpondent guilder in gold or ſilver to be found in the treaſure of the bank. The city is guarantee that it ſhould be ſo. The bank is under the direction of four burgomaſters, who are changed every year. [illegible] receives it upon oath, and delivers it over, with the ſame [illegible] to the [illegible] [illegible] [illegible]

Bank of *France* was firſt projected by Mr. Law, a native of Scotland, with a view of paying off the public debts of France, by drawing its creditors into the newly projected Miſſiſſippi and India companies, and erected in the year 1716. It was taken into the king's hands in 1718, and denominated the royal bank; and by its union with both the companies above-mentioned, formed a bubble, which occaſioned great confuſion and diſtreſs in the year 1720.

Bank, *Million*, derived its name from king William's million lottery in the year 1695; the proprietors agreeing in partnerſhip to purchaſe tickets in this lottery. They afterwards purchaſed many reverſions of the 14 per cent. annuities, and admitted many proprietors of annuities to purchaſe their joint ſtock, which amounted to 2,000,000l. They were a partnerſhip by deed enrolled in chancery, in the year 1721. They divided 5 per cent. till Lady-day 1728, when they reduced their annual dividend to 4 per cent. and it was again raiſed to 5 per cent. which it continued till its diſſolution.

Bank of *Loan*, *Copenhagen*, has a capital ſtock, conſiſting of 500,000 rix-dollars, each being of the value of about 4s. 6d. ſterling. Its notes are received in payment of the royal revenues. It lends money on pledges, not exceeding 100 rix-dollars, at an intereſt of 4 per cent. In 1762, his Daniſh majeſty directed the bank for current caſh-notes, to exchange their 100 rix-dollar notes, for notes of 50, 10, or 1 rix-dollar: and not to pay to any one perſon above one crown in ſpecie.

Bank of *Rotterdam* was erected in 1635. It pays bills of exchange in large money, and only 10 per cent. in ſhillings.

Bank of *Aſſignation*, a new bank eſtabliſhed in Ruſſia during the hoſtilities againſt the Turks. When copper-money could not be coined with ſufficient expedition to anſwer the neceſſities of the ſtate, bank-notes to the value of 50, 75, and 100 rubles, in copper, were iſſued. Theſe notes are changed at the bank in Peterſburgh and Moſcow. The former is a brick building, containing ſeveral vaulted rooms, each capable of holding 400,000l. of copper coin in bags, piled one above another. Since the year 1784, the old bank notes were called in, and a new iſſue made to the acknowledged amount of 100,000,000 rubles, in notes of 5, 10, 15, 25, and 100 rubles. On the firſt appearance of this paper, it was received, particularly in the remote parts of the empire, not without difficulty, and the diſcount againſt it was commonly about 3½, and in ſome places even 6 per cent. The obvious advantages, however, over copper money ſoon recommended it to general uſe, and it was found ſo beneficial to commerce, that in 1779 the diſcount in favour of ſilver ſpecie was only 1 per cent. and it bore a premium of 1½ per cent. over copper money. But ſo large a quantity was circulated, and the loans to government ſo lowered the credit of the ſtate, that in 1790 the diſcount againſt the paper currency was near 20 per cent.

The *Loan Bank* is an inſtitution eſtabliſhed at Peterſburgh for the benefit of the nobility and corporations. With this view Catherine II. in 1786, made a depoſit of 22 millions of rubles for the nobility, 11 millions for the corporate towns, and 3 millions for the province of Taurida, to be lent out for the improvement of rural economy, of ſocial induſtry, and the benefit of civilization in general. This bank lends only on real eſtates. As the value of a landed eſtate in Ruſſia is eſtimated according to the number of boors upon it, the bank takes the boors at 40 rubles per head; ſo that the proprietor of an eſtate, requiring the loan of 1000 rubles, muſt give 25 boors as his pledge. The loan is made for 20 years; the mortgagor annually paying 5 per cent. intereſt, and 3 per cent. on the capital, ſo that after 20 years he has paid back the whole of his loan. The loans are ſubject to no other limitations than what ariſe from the value and the ſecurity of the pledge; every one being allowed to apply for and receive as much money as he is capable of laying down a lawful pledge for. The bank, however, lends no ſum under 1000 rubles, and only by thouſands, for the ſake of avoiding perplexing accounts. The mortgaged property is ſubject to no ſuit, to no confiſcation, nor to any demands from the crown or from private individuals. Every four years one part of the pawn is diſcharged, equal in value to that part of the capital already paid. The bank can redeem eſtates elſewhere mortgaged or appropriated to the payment of debts; and mortgaged eſtates may be ſold; but in that caſe the purchaſer takes upon himſelf all the obligations which the ſeller was under to the bank. The municipal magiſtracy vouches for the worth of the pledge; and muſt be reſponſible for it. The intereſt is paid annually. The bank gives ten days grace; whoever exceeds one month pays a ſtated penalty per cent. and this likewiſe holds good the ſecond and third month. If payment be delayed beyond three months, the mortgaged eſtate is taken into charge by the noble court of wards. The intereſt and fines are paid from the incomings of the eſtate, and the remainder is paid to the proprietor. The inhabitants of towns obtain loans on their real eſtates, paying yearly 4 per cent. intereſt, and 3 per cent. capital, and are conſequently freed from their debt in 22 years. Storch's Pict. of Peterſb. p. 211.

Bank of *Philadelphia*, called the *Bank of the United States*, was founded in 1787, and ſeems to have been ſucceſsful. Its capital ſtock was 10 millions of dollars.

Bank of *Stockholm* owes its origin to Palmſhut, a merchant, who carried on an extenſive trade, and poſſeſſed great property in iron mines. He eſtabliſhed at Stockholm a bank for the purpoſe of exchanging and lending money, divided into two departments. Such was his credit, and ſuch were his reſources, that, though he was the only banker in the kingdom, and his connections of courſe very extenſive, the notes which he iſſued at the intereſt of 8 per cent. for a term of ten years and upwards, were circulated through the kindom, and received as caſh by the trading part of the nation. In proceſs of time, by the iſſue of counterfeit notes and other unfavourable circumſtances, the bank was drained of caſh, and its credit was in danger of ſinking into diſrepute. In this dilemma Palmſhut applied to Charles XI., and induced the king to take the bank under his royal direction. Accordingly, the king appointed Palmſhut director, and having eſtabliſhed the credit of the bank, transferred the direction of it to the ſtates of the kingdom aſſembled in 1688; and declared himſelf and his ſucceſſors protectors of the bank, but renounced all interference in the diſpoſal of the money. The ſtates being thus declared guarantees, proprietors, and directors of the bank, ſeveral regulations were made. The bank was permitted to lend money on good ſecurity, at the intereſt of 8 per cent. but to pay for all money borrowed only 6 per cent.; the debtors to diſcharge intereſt upon intereſt, but the bank not to pay intereſt upon intereſt; all the king's revenues were to be depoſited in the bank, without receiving intereſt. The bank was empowered to iſſue notes not exceeding the value of thirty-ſix dollars copper mint, or ten ſhillings; and it was finally reſolved, that the ſtates, or thoſe whom they ſhould depute, ſhould have the power of inſpecting the accounts, and inquiring into the nature of its conſtitution. By theſe regulations the credit and riches of the bank increaſed to ſuch a degree, that towards the cloſe of the 17th century, it became the univerſal depoſitary of the whole kingdom, both

both as to public and private circulation, and lowered the intereſt from 8 to 7, and afterwards to 6, 4, and 3 per cent. In return, the intereſt for all money borrowed, or depoſited in the bank by way of loan, was likewiſe leſſened from 6 to 4½, 3 and 2 per cent. The large quantity of copper money then current in the country, being by its bulk and weight extremely inconvenient, the circulation of bank notes became advantageous to commerce. From 1714 to 1717, the bank ſupplied Charles XII. with ſuch conſiderable ſums, that the revenues arising from the tolls and cuſtoms were inſufficient to pay the intereſt, and of courſe there was a conſiderable deficiency. Theſe ſupplies lowered the credit of the bank in the eſtimation of the public; and therefore the king, on the remonſtrance of the ſtates, mortgaged certain revenues of the crown, for the diſcharge of the intereſt; and declared that all the revenues then mortgaged ſhould remain in the bank till the debt ſhould be fully diſcharged; and alſo promiſed, that he would not, on any pretext or emergency, recur again to the bank for money, except for ſuch as belonged to the crown. Its credit was thus in ſome meaſure retrieved; but its ſtock was too far drained to repair its former credit, until baron Goertz undeſignedly contributed to it by a ſcheme which was in every other reſpect detrimental to the nation. To ſupply Charles with money for his conſtant wars, Goertz compelled perſons, by means of fines and penalties, and afterwards by a ſpecies of torture, to deliver up their plate, jewels, and coin. In return for theſe effects, they received copper-money, called "Myntellen," or ſigns of coins, each weighing only one-third of a ſtiver, but paſſing for a ſilver dollar, of which it was only a ninety-ſixth part. The public ſecretly transferred their property, conſiſting of plate, jewels, and money, which was thus to be forced from them and exchanged for a debaſed currency, to the bank, confiding in the royal promiſe, that the bank ſhould be exempted from the interference and inſpection of the crown. Goertz adviſed the king to ſeize the property depoſited in the bank; but Charles refuſed to violate his promiſe, and prohibited Goertz from making any propoſals tending to the prejudice of the bank. In this criſis, the bank received ſuch large ſums of money, a great part of which paid no intereſt, that the profits were very conſiderable. Accordingly the bank, in this flouriſhing ſtate, was induced, by order of the ſtates, in 1741, to preſent the king with a donative of 100,000 ſilver dollars, or 8,333l. 4s., and to furniſh him with 500,000, or 41,666l., without intereſt, towards carrying on the war againſt Ruſſia. Since that period it has frequently advanced large ſums of money to the crown and to the board of manufactures, by order of the ſtates. The bank is divided into two departments; *lene*, or loan; and *vexel*, or exchange bank; each keeping ſeparate accounts, but mutually ſupplying the other as occaſion requires. The former lends money on mortgages or pledges. The proprietors on depoſiting theſe pledges in the bank, receive the full value, on paying 3 per cent. annual intereſt; theſe pledges conſiſt of gold and ſilver in block, copper, braſs, and bank ſeddler, or certificates of having ſent money to the bank; and particularly iron, for which latter article the proprietor receives three-fourths of its value at the intereſt of 3 per cent.; and when he diſpoſes of it, it is again delivered to him on producing a certificate from the bank that the loan is duly diſcharged. Jewels were formerly received as pledges; but as their value is fluctuating, and the bank was once defrauded in that article, they are no longer admitted. Mortgaged lands and houſes, being of a leſs certain value than other articles, pay an intereſt of 4 per cent. on the money borrowed: and for the purpoſe of liquidating the debt, the following regulations were adopted: all borrowers on lands and houſes ſhall pay 6 per cent. annually; of this ſum 4 per cent. is the lawful intereſt, and the remaining 2 per cent. annually deducted from the capital, by which means the original debt is gradually diminiſhed.

The *vexel*, or exchange bank, exchanges and iſſues bank notes, diſcounts bills, receives and aſſigns the money depoſited for intereſt or ſecurity, and diſcharges the intereſt of 2 per cent. on all money placed in their hands. Towards the latter end of the reign of Adolphus Frederic, bank notes were iſſued in ſuch numbers, and many of them at ſo low a value as 1s. 6d., that ſcarcely any ſpecie was left in the kingdom; the bank was ſo drained of caſh as not to be able to exchange its notes except in copper-money, and paper was almoſt the only currency. For preventing a total bankruptcy, and calling in the paper currency, the ſtates, in 1766, voted a loan of 3,000,000 rix-dollars, or 750,000l. to effect the realization of the bank notes, and to circulate a ſufficient quantity of ſpecie. Other regulations were alſo adopted; and in order to counteract the efforts of party, the diet, in 1772, committed to the king the difficult province of realizing the bank notes, and reforming the currency, which was happily effected. In 1777 and 1779, the ſtates confirmed the realization, and made ſeveral new regulations, for ſecuring the credit of the bank, and rendering it ſtill farther independent of the crown. The independence of the bank was farther eſtabliſhed by the diet of 1784. The accounts were ſubmitted to a committee of reviſors, which conſiſts of a certain number of perſons choſen by the three houſes of nobles, clergy, and burghers, from their reſpective orders, who continue in office till the meeting of a new diet, when they are either renewed or confirmed. They aſſemble once every three years, and continue ſitting not more than a month. They inſpect the general ſtate of the bank, compare the accounts of the directors, and obſerve that no abuſes have been committed, and that the regulations of the ſtates have been obſerved. Coxe's Travels in Sweden, &c. vol. iv. p. 130—139.

BANK, *Agents of*. See AGENT.

BANK-*Bills*. See BILL.

BANK, *Days in*. See DAY.

BANK, *Land*, an inſtitution projected during the years 1694 and 1695, by Dr. Hugh Chamberlain, for lending of money at a low intereſt on land ſecurity, which was the principal difference between this and the bank of England; in oppoſition to which corporation, then in its infancy and ſtruggling with difficulties, this ill-judged project was ſet up. It was principally encouraged by the Tory party; and an act of parliament, viz. 7 & 8 W. III. c. 32. was obtained for the purpoſe. The ſubſcriptions for its eſtabliſhment failed, and the plan proved abortive.

BANK *Notes*. See NOTE.

BANK, or *Bench*, in *Law*. See BENCH.

BANK, *Fort*. See BANQUETTE.

BANK, in *Natural Hiſtory*, denotes an elevation of the ground, or bottom of the ſea, ſo as ſometimes to approach the ſurface of the water, or at leaſt to leave the water ſo ſhallow, as uſually not to allow a veſſel to remain afloat over it. In this ſenſe, bank amounts to much the ſame with flat, ſhoal, &c.

There are banks of ſand, and others of ſtone, called alſo ſhelves or rocks. In the North ſea, they alſo ſpeak of banks of ice, which are large pieces of that matter floating. See ICEBERGS.

Vapours at ſea ſometimes occaſion ſuch a deception in it, that mariners imagine they ſee land with trees, &c. They call

call such deceptions fog-banks. For the account of a remarkable deception of this kind, see Dr. Hawkſworth's Account of the Voyages to the Southern Hemiſphere, vol. i. p. 10. A long narrow bank is ſometimes called a *reef*.

The *bank* abſolutely ſo called, or the *main bank*, or *great bank*, denotes that of Newfoundland, the ſcene of the cod-fiſhery.

It is called the *great bank*, not only by reaſon of its vaſt extent, being, according to the Engliſh computation, two hundred miles long, and, according to the French, one hundred leagues, or three hundred miles; but alſo on account of ſeveral leſſer banks near it, where cod are alſo caught. Theſe laſt the French call *banquereaux*.

This is one of thoſe banks which have water enough to float a ſhip, and which, on this account, are not dangerous.

Banks are uſually diſtinguiſhed by a buoy, poſt, or the like. On charts, ſand-banks are uſually marked by little dots, and banks of ſtone by croſſes. The colours of the buoys are alſo varied accordingly; ſand-banks being denoted by light-coloured buoys, and rocks by black ones.

In large rivers, as the Elbe, &c. ſandbanks, by high tides and inundations, are liable to change places; care is therefore taken to ſhift the buoys from time to time, to ſhew the true channel of the river.

An exact knowledge of the banks, their extent, and the depth of water on them, makes the moſt eſſential part of the ſcience of a pilot, and a maſter of a ſhip: if the veſſel be large, and draw much water, great attention will be neceſſary to keep clear of the banks: on the contrary, if it be ſmall, the ſame banks afford a ſure aſylum, where it may brave the largeſt and ſtouteſt veſſels, which dare not follow it here. By means of this barrier, many a ſmall craft has eſcaped its enemy.

Bank, in veſſels which move with oars, is uſed for the bench where the rowers are ſeated; popularly called, by our ſeamen, the *thought*.

In this ſenſe we read of banks of gallies, of galeaſſes, of galliots, of brigantines, and the like.

The Venetian gondolas have no banks; for the watermen row ſtanding.

The common gallies have twenty-five banks, that is, twenty-five on each ſide, in all fifty banks, with one oar to each bank, and four or five men to each oar. The galeaſſes have thirty-two banks on a ſide, and ſix or ſeven rowers to a bank. See Double-*banked*.

Bank alſo denotes an elevation of earth, ſtones, ſtakes, or other materials in form of a wall, or cauſeway, to ſtop the waters, and prevent inundations.

Theſe, on other occaſions, are denominated *dams*, and *ſea-walls*, &c. and by the ancients *aggeres*; thoſe on the coaſts of Holland are more particularly denominated *dykes*. The beſt bank, in the opinion of Dr. Hales, is that contrived by Dr. Wark of Scotland. A quantity of furze is fixed to the bottom of the channel, of ſuch a breadth as is proportioned to the force which it is to reſiſt. The ſand, or ſlime, will ſoon ſettle in the furze, and when this is covered, another bed of furze is to be laid on as before, and ſo on till the bank is raiſed to a ſufficient height.

Bank is alſo uſed in ſeveral games, for the ſtock or fund of him who undertakes the game.

Bank *at baſſet*, a ſum of money laid down by the *tailleur*, before the gameſters, to anſwer all the winning cards that ſhall turn up in his courſe of dealing. Yet it is to be obſerved, that what the banker's gain per cent. of all the money adventured at *pharo*, is greater than that at baſſet; it being two pounds fifteen ſhillings and ten-pence per cent. in the firſt, and but fifteen ſhillings and three-pence in the ſecond. Vid. D. Mor. Dict. Circ. p. 93.

Banker, in *Commerce*, a perſon who traffics in money, and remits it from place to place, and ſupplies his correſpondents or cuſtomers with money from the ſtock depoſited in his hands for bills of exchange and other ſecurities. (See Bank.) The hiſtory of private banks is as follows. The royal mint in the tower of London had for ſome years, before the year 1640, been made uſe of as a kind of bank, or depoſit, for merchants to lodge their caſh in. But king Charles the Firſt having in that year made free with their money, the mint loſt its credit. After this, the merchants and traders of London generally truſted their caſh with their ſervants, until the breaking out of the civil war, when it was very cuſtomary for apprentices and clerks to leave their maſters and go into the army. Whereupon, in ſuch unſettled times, merchants, not daring longer to confide in their apprentices, began firſt, about the year 1645, to lodge their neceſſary caſh in goldſmith's hands, both to receive and pay for them; until which time, the whole and proper buſineſs of London goldſmiths was to buy and ſell plate, and foreign coins of gold and ſilver, to melt and cull them, to coin ſome at the mint, and with the reſt to ſupply the refiners, plate-makers, and merchants, as they found the price to vary. This account of the matter we have from a ſcarce and moſt curious ſmall pamphlet, publiſhed in 1676, intitled, "The Myſtery of the new-faſhioned Goldſmiths, or Bankers, diſcovered," in only eight quarto pages.

Bankers on their firſt eſtabliſhment allowed to thoſe who entruſted their money in their hands a moderate intereſt for the ſame, and hereby their buſineſs was very conſiderably increaſed, and roſe to great reputation in the year 1667, when the Dutch burnt our ſhips at Chatham; but this event cauſed a *run* on the bankers, which hurt their credit; and in the year 1672, king Charles II. ſhut up the exchequer, and ſeized the money which the bankers had lent him at 8 per cent. intereſt, the whole ſum amounting to 1,328,526 l. The king was afterwards neceſſitated to pay ſix per cent. intereſt for this debt out of his hereditary exciſe, but the principal was never paid. However, the parliament of 12 William, cap. 12. provided for a large arrear of intereſt, and ſettled an intereſt of three per cent. for the future. The debt was hereby made redeemable, on paying one moiety of the principal ſum, viz. 664,263 l. farther confirmed by an act of 2 & 3 Anne, cap. 15. which moiety now became the proper debt of the public; and being reduced from ſix to five per cent. in 1717, was finally ſubſcribed into the South-ſea capital ſtock in the year 1720.

Bankers now allow no intereſt, and by inveſting a certain proportion of their capital in the funds, or laying it out on other ſufficient ſecurity, and trafficking with it in the ſtocks, in diſcounts, &c. reap very conſiderable advantage from it; and by negotiating bills, &c. on the part of their creditors, greatly contribute to the convenience and diſpatch of buſineſs.

When the people of any particular country, ſays Dr. Smith (ubi infra), have ſuch confidence in the fortune, probity, and prudence of a particular banker, as to believe that he is always ready to pay upon demand ſuch of his promiſſory notes as are likely to be at any time preſented to him, thoſe notes come to have the ſame currency as gold and ſilver money, from the confidence that ſuch money can at any time be had for them.

A particular banker lends among his cuſtomers his own promiſſory notes, to the extent, we ſhall ſuppoſe, of a hundred

dred thouſand pounds. As thoſe notes ſerve all the purpoſes of money, his debtors pay him the ſame intereſt as if he had lent them ſo much money. This intereſt is the ſource of his gain. Though ſome of thoſe notes are continually coming back upon him for payment, part of them continue to circulate for months and years together. Though he has generally in circulation, therefore, notes to the extent of a hundred thouſand pounds, twenty thouſand pounds in gold and ſilver may, frequently, be a ſufficient proviſion for anſwering occaſional demands. By this operation, therefore, twenty thouſand pounds in gold and ſilver perform all the functions which a hundred thouſand could otherwiſe have performed. The ſame exchanges may be made, the ſame quantity of conſumable goods may be circulated and diſtributed to their proper conſumers, by means of his promiſſory notes, to the value of a hundred thouſand pounds, as by an equal value of gold and ſilver money. Eighty thouſand pounds of gold and ſilver, therefore, can, in this manner, be ſpared from the circulation of the country; and if different operations of the ſame kind ſhould, at the ſame time, be carried on by many different banks and bankers, the whole circulation may thus be conducted with a fifth part only of the gold and ſilver which would otherwiſe have been requiſite.

Let us ſuppoſe, for example, that the whole circulating money of ſome particular country amounted, at a particular time, to one million ſterling, that ſum being then ſufficient for circulating the whole annual produce of their land and labour. Let us ſuppoſe too, that ſome time thereafter, different banks and bankers iſſued promiſſory notes, payable to the bearer, to the extent of one million, reſerving in their different coffers two hundred thouſand pounds for anſwering occaſional demands. There would remain, therefore, in circulation, eight hundred thouſand pounds in gold and ſilver, and a million of bank notes, or eighteen hundred thouſand pounds of paper and money together. But the annual produce of the land and labour of the country had before required only one million to circulate and diſtribute it to its proper conſumers, and that annual produce cannot be immediately augmented by thoſe operations of banking. One million, therefore, will be ſufficient to circulate it after them. The goods to be bought and ſold being preciſely the ſame as before, the ſame quantity of money will be ſufficient for buying and ſelling them. The channel of circulation, if I may be allowed ſuch an expreſſion, will remain preciſely the ſame as before. One million we have ſuppoſed ſufficient to fill that channel. Whatever, therefore, is poured into it beyond this ſum, cannot run in it, but muſt overflow. One million eight hundred thouſand pounds are poured into it. Eight hundred thouſand pounds therefore muſt overflow, that ſum being over and above what can be employed in the circulation of the country. But though this ſum cannot be employed at home, it is too valuable to be allowed to lie idle. It will, therefore, be ſent abroad, in order to ſeek that profitable employment which it cannot find at home. But the paper cannot go abroad; becauſe at a diſtance from the banks which iſſue it, and from the country in which payment of it can be exacted by law, it will not be received in common payments. Gold and ſilver, therefore, to the amount of eight hundred thouſand pounds, will be ſent abroad, and the channel of home circulation will remain filled with a million of paper, inſtead of a million of thoſe metals which filled it before.

But though ſo great a quantity of gold and ſilver is thus ſent abroad, we muſt not imagine that it is ſent abroad for nothing, or that its proprietors make a preſent of it to foreign nations. They will exchange it for foreign goods of ſome kind or another, in order to ſupply the conſumption either of ſome other foreign country, or of their own.

If they employ it in purchaſing goods in one foreign country in order to ſupply the conſumption of another, or in what is called the carrying trade, whatever profit they make will be an addition to the neat revenue of their own country. It is like a new fund, created for carrying on a new trade; domeſtic buſineſs being now tranſacted by paper, and the gold and ſilver being converted into a fund for this new trade.

If they employ it in purchaſing foreign goods for home conſumption, they may either, firſt, purchaſe ſuch goods as are likely to be conſumed by idle people who produce nothing, ſuch as foreign wines, foreign ſilks, &c.; or, ſecondly, they may purchaſe an additional ſtock of materials, tools, and proviſions, in order to maintain and employ an additional number of induſtrious people, who re-produce, with a profit, the value of their annual conſumption.

So far as it is employed in the firſt way, it promotes prodigality, increaſes expence and conſumption, without increaſing production, or eſtabliſhing any permanent fund for ſupporting that expence, and is in every reſpect hurtful to ſociety.

So far as it is employed in the ſecond way, it promotes induſtry; and though it increaſes the conſumption of the ſociety, it provides a permanent fund for ſupporting that conſumption, the people who conſume, re-producing, with a profit, the whole value of their annual conſumption. The groſs revenue of the ſociety, the annual produce of their land and labour, is increaſed by the whole value which the labour of thoſe workmen adds to the materials upon which they are employed; and their neat revenue by what remains of this value, after deducting what is neceſſary for ſupporting the tools and inſtruments of their trade. Smith's Wealth of Nations, vol. i. p. 434, &c.

In Italy, the employment of a banker, eſpecially in republics, does not derogate from nobility; and hence it is, that moſt of the cadets, or younger ſons of perſons of condition, undertake it for the ſupport of their family. The nobility of Venice and Genoa were for a long time the chief bankers in the other countries of Europe.

The ancient bankers were called *argentarii*, and *nummularii*; and by the Greeks τραπεζίται, καπηλοι, and κολλυβισται. Their chief buſineſs was to put out the money of private perſons to intereſt; they had their boards and benches for this purpoſe in all the markets and public places, where they took in the money from those to [illegible]. The Romans had two kinds of bankers, though their office was much more extenſive than that of the bankers among us, theirs being that of public officers, in whom were united the functions of a broker, agent, banker, and notary; managing the exchange, taking in money, [illegible] ing and ſelling, and drawing up the writings neceſſary on all theſe occaſions.

BANKERS *in the Court of Rome*, are perſons authorized, excluſive of all others, to ſolicit and procure by their correſpondents at Rome, all bulls, diſpenſations, and other acts diſpatched at the papal datary, or in the legateſhip of Avignon; they are diſperſed in all the cities of France, where there is a parliament, or a preſidial; and were erected into a regular and hereditary office, by an edict [illegible].

They owe their origin to the Guelphs, who took ſhelter at Avignon, and in other cities within the obedience of the pope, in the time of the civil wars in Italy. The favour they were in with the pontiffs, for having eſpouſed the pa-

pal cauſe, occaſioned their being employed in procuring expeditions of the court of Rome. But the heavy extortions they practiſed towards their clients, ſoon rendered them odious, and occaſioned ſeveral denominations of reproach, as *cauerini*, *caturcini*, *cas ſini*, *cajini*, &c. from the city Cahors, the native place of pope John XXII. in whoſe pontificate they were in their higheſt power.

BANKER, in *Bricklaying*, a piece of timber whereon they cut the bricks.

The banker is ſix feet long or more, according to the number of men to work at it, and nine or ten inches ſquare: it is to be laid on two piers of timber, three feet high from the floor they ſtand on.

BANKER, in *Sea Language*, ſignifies a veſſel employed in the cod-fiſhery on the banks of Newfoundland.

BANKES, Sir JOHN, in *Biography*, lord chief juſtice of the common pleas in the reign of king Charles I. was deſcended from a good family at Keſwick in Cumberland, and born there in the year 1589. In 1604 he removed to Queen's college, Oxford, and afterwards purſued the ſtudy of the law in Gray's inn. By his application and proficiency he acquired a reputation which recommended him to his ſovereign Charles I. who, in 1629, made him his attorney. In Auguſt 1634, he was knighted, and appointed to the office of attorney-general; from which office he was advanced, in 1640, to that of chief juſtice of the common pleas. In both theſe offices he acted with wiſdom and integrity, and obtained univerſal approbation. So ſingular was his merit, that, though he decidedly took part with the king in his conteſt with the parliament, it was deſired by the latter, in 1643, that he might be continued in office. However, he ſoon after loſt all his credit at Weſtminſter; for he declared from the bench at Saliſbury, that the actions of Eſſex, Mancheſter, and Waller, were treaſonable; and the commons voted him and the reſt of the judges who were of this opinion, traitors. Lady Bankes manifeſted extraordinary fortitude in the defence of Corff caſtle in the iſle of Purbeck, where ſir John and his family reſided. When it was beſieged by the parliamentary forces, ſhe refuſed to ſurrender it, though ſhe had about her only her children, a few ſervants and tenants, amounting at one time only to five and at moſt to no more than forty. When the town was obliged to ſurrender, and the beſiegers became remiſs under a notion that their buſineſs was completed, lady Bankes procured a ſupply of proviſion and ammunition, and was thus enabled to hold out till the ſiege was raiſed. Sir John remained with the king at Oxford, in the diſcharge of his duty as a privy-counſellor, till his death, which happened in December 1644. By his will he bequeathed, beſides other charities, an annuity of thirty pounds to the town of Keſwick for the ſupport of a manufacture of coarſe cottons, which had been lately eſtabliſhed, and which, without this aid, would have been loſt. Sir John Bankes was diſtinguiſhed by ſound integrity, cool judgment, and an amiable temper. Biog. Brit.

BANKIANA, in *Entomology*, a ſpecies of PHALÆNA (*Tortrix*), named after ſir Joſeph Banks; it inhabits the woods of England and Germany: is of a large ſize; and is diſtinguiſhed by having the wings brown, with two ſnowy white bands, the poſterior one unidentated. Fabricius.

BANKING, in general, the making of banks to oppoſe the force of the ſea, rivers, or the like, and ſecure the land from being overflowed thereby.

With reſpect to the water which is to be kept out, this is called banking; with reſpect to the land, which is hereby to be defended, imbanking.

BANKING, in a *Salt-Work*, the raiſing a fence againſt the ſea, whereby its waters may be kept out, excepting ſo much as is neceſſary for the preparation of the ſalt.

BANKING, in *Commerce*. See BANK, and BANKER.

BANKOK, or BANCOK, in *Geography*, a town of Siam, at the mouth of the river Meinam, which diſcharges itſelf into the gulf of Siam.

BANKRUPT, in *Commerce* and *Law*, a trader, who ſecretes himſelf, or does certain other acts, tending to defraud his creditors.

The word is formed from the ancient Latin *bancus*, a *bench*, or *table*, and *ruptus*, *broken*.

Bank, we have elſewhere obſerved, originally ſignified a bench, which the firſt bankers had in the public places, in markets, fairs, &c. on which they told their money, wrote their bills of exchange, &c. Hence, whence a banker failed, they broke his bank, to adverti ſe the public, that the perſon to whom the bank belonged was no longer in a condition to continue his buſineſs. As this practice was very frequent in Italy, it is ſaid the term bankrupt is derived from the Italian *banco rotto*, *broken bench*.

Cowel rather chuſes to deduce the word from the French *banque*, *table*, and *route*, *veſtigium*, *trace*, by metaphor from the ſign left in the ground, of a table once faſtened to it and now gone. On this principle he traces the origin of bankrupts from the ancient Roman *menſarii*, or *argentarii*, who had their *tabernæ* or *menſæ* in certain public places; and who, when they fled, or made off with the money that had been truſted to them, left only the ſign or ſhadow of their former ſtation behind them. 4 Inſt. 277.

And it is obſervable, that the title of the firſt Engliſh ſtatute concerning this offence, 34 Hen. VIII. cap. 4. "againſt ſuch perſons as do make bankrupt," is a literal tranſlation of the French idiom *qui font banque route*.

A bankrupt was formerly conſidered merely as a criminal or offender (ſtat. 1. Jac. I. c. 15. § 17.); but at preſent the laws of bankruptcy are regarded as laws calculated for the benefit of trade, and founded on the principles of humanity as well as juſtice: and to that end, they confer ſome privileges, not only on the creditors, but alſo on the bankrupt himſelf:—on the creditors, by compelling the bankrupt to give up all his effects to their uſe, without any fraudulent concealment;—and on the debtor, by exempting him from the rigour of the general law, whereby his perſon might be confined at the diſcretion of his creditor, though in reality he has nothing to ſatisfy the debt; whereas the law of bankrupts, taking into conſideration the ſudden and unavoidable accidents to which men in trade are liable, has given them the liberty of their perſons, and ſome pecuniary emoluments, upon condition of ſurrendering their whole eſtate to be divided among the creditors.

By the Roman law of the twelve tables, the creditors might cut the debtor's body into pieces, and each of them take his proportionable ſhare; though ſome learned men have doubted whether the law "de debitore in parte ſecando," is to be underſtood in ſo very butcherly a light. There were alſo other laws, leſs inhuman, for impriſoning the debtor's perſon in chains, ſubjecting him to ſtripes and hard labour, at the mercy of his rigid creditor, and ſometimes ſelling him, his wife and children, to perpetual foreign ſlavery "trans Tiberim;" but this was an oppreſſion that produced many popular inſurrections, and ſeceſſions to the "mons ſacer." In Pegu, and the adjacent countries in Eaſt India, the creditor is entitled to diſpoſe of the debtor himſelf, and likewiſe of his wife and children; inſomuch that he may even violate with impunity the chaſtity of the debtor's wife; but then, by ſo doing, the debt is underſtood to be diſcharged. In ſome places, bankrupts are condemned to

wear a green cap; at Lucca, an orange cap. Our legiſlators, however, in framing the laws of bankruptcy, have humanely and wiſely to have attended to the example of the Roman law of "Ceſſion," introduced by the Chriſtian emperors; by which, if a debtor ceded or yielded up all his fortune to his creditors, he was ſecured from being dragged to a gaol; "Omni quoque corporali cruciatu ſemoto." (Cod. 7. 71. *per tot.*) For as the emperor juſtly obſerves (Inſt. 4. 6. 40.), "inhumanum erat ſpoliatum fortunis ſuis in ſolidum damnari." But by a deviation into the other extreme, it was afterwards enacted (Nov. 135. c. 1.), that if the debtor by any unforeſeen accident was reduced to low circumſtances, and would *ſwear* that he had not ſufficient left to pay his debts, he ſhould not be compelled to cede or give up even that which he had in his poſſeſſion;—a law which, under a falſe notion of humanity, ſeems to be fertile of perjury, injuſtice, and abſurdity. The laws of England ſteer between theſe extremes; providing at once againſt the inhumanity of the creditor, who is not ſuffered to confine an honeſt bankrupt who has delivered up all his effects, and at the ſame time taking care that all his juſt debts ſhall be paid, ſo far as the effects will extend. But they are ſtill cautious of encouraging prodigality and extravagance by this indulgence to debtors; and, accordingly, allow the benefit of the laws of bankruptcy to none but actual *traders*, who, generally ſpeaking, are the only perſons liable to accidental loſſes, and to an inability of paying their debts, without any fault of their own. Trade cannot be carried on without mutual credit on both ſides; and here the contracting of debts is not only juſtifiable, but even neceſſary. And if by accidental calamities, as by the loſs of a ſhip in a tempeſt, the failure of brother traders, or by the non-payment of perſons out of trade, a merchant or trader becomes incapable of diſcharging his own debts, it is his misfortune and not his fault. To the misfortunes of debtors, therefore, the law has given a compaſſionate remedy, but denied it to their faults; ſince, while it provides for the ſecurity of commerce, by enacting that every conſiderable trader may be declared a bankrupt, for the benefit of his creditors as well as himſelf, it has alſo, with a view of diſcouraging extravagance, declared, that no one ſhall be capable of being made a bankrupt, but only a *trader*; nor capable of receiving the full benefit of the ſtatutes, but only an *induſtrious* trader.

The firſt ſtatute made concerning any Engliſh bankrupts was 34 Hen. VIII. c. 4. when trade began firſt to be properly cultivated in England: which has been almoſt totally altered by ſtatute 13 Eliz. c. 7. whereby bankruptcy is confined to ſuch perſons only as have uſed the trade of merchandiſe, in groſs or by retail, by way of bargaining, exchange, rechange, bartering, cheviſance, or otherwiſe; or have ſought their living by buying and ſelling. And by ſtatute 21 Jac. I. c. 19. perſons uſing the trade or profeſſion of a ſcrivener, receiving other men's monies and eſtates into their truſt and cuſtody, are alſo made liable to the ſtatutes of bankruptcy; and the benefits, as well as the penal parts of the law, are extended as well to aliens and denizens as to natural born ſubjects, being intended entirely for the protection of trade, in which aliens are often as deeply concerned as natives. By many ſubſequent ſtatutes, but laſtly by ſtatute 5 Geo. II. c. 30. bankers, brokers, and factors, are declared liable to the ſtatutes of bankruptcy; and this upon the ſame reaſon that ſcriveners are included by the ſtatute of James I. viz. for the relief of their creditors; whom they have otherwiſe more opportunities of defrauding than any other ſet of dealers; and they are properly to be looked upon as traders, ſince they make merchandiſe of money, in the ſame manner as other merchants do of goods and other moveable chattels. But by the ſame act, no farmer, grazier or drover, ſhall (as ſuch) be liable to be deemed a bankrupt; for though they buy and ſell corn, and hay, and beaſts, in the courſe of huſbandry, yet trade is not their principal, but only a collateral, object; their chief concern being to manure and till the ground, and make the beſt advantage of its produce. And, beſides, the ſubjecting them to the laws of bankruptcy might be a means of defeating their landlords of the ſecurity which the law has given them above all others, for the payment of their reſerved rents; wherefore alſo, upon a ſimilar reaſon, a receiver of the king's taxes is not capable, as ſuch, of being a bankrupt; leſt the king ſhould be deprived of the extenſive remedies againſt his debtors, which are put into his hands by the prerogative. By the ſame ſtatute, no perſon ſhall have a commiſſion of bankrupt awarded againſt him, unleſs at the petition of ſome one creditor to whom he owes 100l.; or of two, to whom he is indebted 150l.; or of more, to whom altogether he is indebted 200l. For the law does not look upon perſons, whoſe debts amount to leſs, to be traders conſiderable enough, either to enjoy the benefit of the ſtatute themſelves, or to entitle the creditors, for the benefit of public commerce to demand the diſtribution of their effects.

In the interpretation of theſe ſeveral ſtatutes, it hath been held, that buying only, or ſelling only, will not qualify a man to be a bankrupt; but it muſt be both buying and ſelling, and alſo getting a livelihood by it; as, by exerciſing the calling of a merchant, a grocer, a mercer, or, in one general word, a chapman, who is one that buys and ſells any thing. But no handicraft occupation (where nothing is bought and ſold, and where therefore an extenſive credit for the ſtock in trade is not neceſſary to be had) will make a man a regular bankrupt; as that of a huſbandman, a gardener, and the like, who are paid for their work and labour. Alſo an inn-keeper cannot, as ſuch, be a bankrupt; for his gain or livelihood does not ariſe from buying and ſelling in the way of merchandiſe, but in a great degree from the uſe of his rooms and furniture, his attendance, and the like; and though he may buy corn and victuals, to ſell again at a profit, yet that no more makes him a trader, than a ſchoolmaſter or other perſon is, that keeps a boarding-houſe, and makes conſiderable gains by buying and ſelling what he ſpends in the houſe; and ſuch a one is clearly not within the ſtatutes. But where perſons buy goods, and make them up into ſaleable commodities, as ſhoe-makers, ſmiths, and the like; here, though part of the gain is by bodily labour, and not by buying and ſelling, yet they are within the ſtatutes of bankrupts; for the labour is only in melioration of the commodity, and rendering it more fit for ſale.

One ſingle act of buying and ſelling will not make a man a trader; but a repeated practice, and profit by it. Buying and ſelling bank-ſtock, or other government ſecurities, will not make a man a bankrupt; they not being goods, wares, or merchandiſe, within the intent of the ſtatute, by which a profit may be fairly made. Neither will buying and ſelling under particular reſtraints, or for particular purpoſes; as if a commiſſioner of the navy uſes to buy victuals for the fleet, and diſpoſe of the ſurplus and refuſe, he is not thereby made a trader within the ſtatute. An infant, though a trader, cannot be made a bankrupt; for an infant can owe nothing but for neceſſaries; and the ſtatutes of bankruptcy create no new debts, but only give a ſpeedier and more effectual remedy for recovering ſuch as were before due; and no perſon can be made a bankrupt for debts which he is not liable at law to pay. But a feme covert in London, being a ſole trad-

trader according to the cuſtom, is liable to a commiſſion of bankrupt.

Having ſhewn who may, and who may not be made a bankrupt, the next ſubject of inquiry comprehends the particular acts of bankruptcy which render a man a bankrupt. For full ſatisfaction on this point, it will be neceſſary to conſult the ſeveral ſtatutes, and the reſolutions formed upon them by the courts. Among theſe may be reckoned, 1. Departing from the realm, whereby a man withdraws himſelf from the juriſdiction and coercion of the law, with intent to defraud his creditors. 2. Departing from his own houſe, with intent to ſecrete himſelf, and avoid his creditors. 3. Keeping in his own houſe privately, ſo as not to be ſeen or ſpoken with by his creditors (except for juſt and neceſſary cauſe), which is likewiſe conſtrued to be an intention to defraud his creditors, by avoiding the proceſs of the law. 4. Procuring or ſuffering himſelf willingly to be arreſted, or outlawed, or impriſoned, without juſt and lawful cauſe; which is likewiſe deemed an attempt to defraud his creditors. 5. Procuring his money, goods, chattels, and effects, to be attached or ſequeſtered by any legal proceſs; which is another plain and direct endeavour to diſappoint his creditors of their ſecurity. 6. Making any fraudulent conveyance to a friend, or ſecret truſtee, of his lands, tenements, goods, or chattels; which is an act of the ſame ſuſpicious nature with the laſt. 7. Procuring any protection, not being himſelf privileged by parliament, in order to ſcreen his perſon from arreſts; which alſo is an endeavour to elude the juſtice of the law. 8. Endeavouring or deſiring, by any petition to the king, or bill exhibited in any of the king's courts againſt any creditors, to compel them to take leſs than their juſt debts; or to procraſtinate the time of payment, originally contracted for; which are an acknowledgement of either his poverty or his knavery. 9. Lying in priſon for two months, or more, upon arreſt or other detention for debt, without finding bail, in order to obtain his liberty. For the inability to procure bail, argues a ſtrong deficiency in his credit, owing either to his ſuſpected poverty, or ill character; and his neglect to do it, if able, can ariſe only from a fraudulent intention; in either of which caſes it is high time for his creditors to look to themſelves, and compel a diſtribution of his effects. 10. Eſcaping from priſon after an arreſt for a juſt debt of 100l. or upwards. For no man would break priſon that was able and deſirous to procure bail; which brings it within the reaſon of the laſt caſe. 11. Neglecting to make ſatisfaction for any juſt debt to the amount of 100l. within two months after ſervice of legal proceſs, for ſuch debt, upon any trader having privilege of parliament. Stat. 13 Eliz. c. 7. 1 Jac. I. c. 15. 21 Jac. I. c. 19. 4 Geo. III. c. 33.

The legiſlature having thus by poſitive laws declared what are the acts which ſhall be regarded as criterions of inſolvency or fraud, on which a commiſſion of bankruptcy may be grounded, our courts of juſtice will not allow of extending or multiplying acts of bankruptcy by any conſtruction or implication. And, therefore, ſir John Holt held (Lord Raym. 725.) that a man's removing his goods privately to prevent their being ſeiſed in execution, was no act of bankruptcy. It has alſo been determined expreſsly, that a banker's ſtopping or refuſing payment is no act of bankruptcy; and if in conſequence of ſuch refuſal, he is arreſted and puts in bail, it is ſtill no act of bankruptcy (7 Mod. 139.); but if he goes to priſon, and lies there two months, then, and not before, he is become a bankrupt.

The proceedings in a commiſſion of bankrupt, depend entirely on the ſeveral ſtatutes of bankruptcy; and they are digeſted by Blackſtone into the following conciſe order.

And, firſt, there muſt be a petition to the lord chancellor by one creditor to the amount of 100l., or by two to the amount of 150l., or by three or more to the amount of 200l.; which debts muſt be proved by affidavit: upon which he grants a commiſſion to ſuch diſcreet perſons as to him ſhall ſeem good, who are then ſtiled commiſſioners of bankrupt. The petitioners, to prevent malicious applications, muſt be bound in a ſecurity or bond to the lord chancellor of 200l., to make the party amends in caſe they do not prove him a bankrupt. And if on the other hand they receive any money or effects from the bankrupt, as a recompence for ſuing out the commiſſion, ſo as to receive more than their rateable dividends of the bankrupt's eſtate, they forfeit not only what they ſhall have ſo received, but their whole debt. Theſe proviſions are made, as well to ſecure perſons in good credit from being damnified by malicious petitions, as to prevent knaviſh combinations between the creditors and bankrupt, in order to obtain the benefit of a commiſſion. When the commiſſion is awarded and iſſued, the commiſſioners are to meet, at their own expence, and to take an oath for the due execution of their commiſſion, and to be allowed a ſum not exceeding 20s. per diem each, at every ſitting. And no commiſſion of bankrupt ſhall abate, or be void, by the death of the bankrupt, ſubſequent to the commiſſion, ſtat. 1 Jac. I. c. 15.; nor upon any demiſe of the crown, ſtat. 5 Geo. II. c. 30. The granting of a commiſſion of bankruptcy is not diſcretionary, but a matter of right. 1 Vern. 153. Stat. 13 Eliz. c. 7.

When the commiſſioners have received their commiſſion, they are firſt to receive proof of the perſon's being a trader, and having committed ſome act of bankruptcy; and then to declare him a bankrupt, if proved ſo; and to give notice thereof in the gazette, and at the ſame time to appoint three meetings. At one of theſe meetings an election muſt be made of aſſignees. And at the third meeting, at fartheſt, which muſt be on the forty-ſecond day after the advertiſement in the gazette (unleſs the time be enlarged by the lord chancellor), the bankrupt, upon notice alſo perſonally ſerved upon him or left at his uſual place of abode, muſt ſurrender himſelf perſonally to the commiſſioners; which ſurrender (if voluntary) protects him from all arreſts till his final examination is paſt: and he muſt thenceforth in all reſpects conform to the directions of the ſtatutes of bankruptcy; or, in default of either ſurrender or conformity, ſhall be guilty of felony without benefit of clergy, and ſhall ſuffer death, and his goods and eſtate ſhall be diſtributed among his creditors. Stat. 5 Geo. II. c. 30.

In caſe the bankrupt abſconds, or is likely to run away, between the time of the commiſſion iſſued, and the laſt day of ſurrender, he may by warrant from any judge or juſtice of the peace be apprehended and committed to the county goal, in order to be forthcoming to the commiſſioners; who are alſo empowered immediately to grant a warrant for ſeiſing his goods and papers. Stat. 5 Geo. II. c. 30.

When the bankrupt appears, the commiſſioners are to examine him touching all matters relating to his trade and effects. They may alſo ſummon before them, and examine the bankrupt's wife, and any other perſon whatſoever, as to all matters relating to the bankrupt's affairs. And in caſe any of them ſhall refuſe to anſwer, or ſhall not anſwer fully to any lawful queſtion, or ſhall refuſe to ſubſcribe ſuch their examination, the commiſſioners may commit them to priſon without bail, till they ſubmit themſelves and make and ſign a full anſwer; the commiſſioners ſpecifying in their warrant of commitment the queſtion ſo refuſed to be anſwered.

ſwered. And any warder, permitting ſuch perſon to eſcape, or to go out of priſon, ſhall forfeit 5 l. to the creditors. Stat. 21 Jac. I. c. 19. 5 Geo. II. c. 30.

The bankrupt, upon this examination, is bound upon pain of death to make a full diſcovery of all his eſtate and effects, as well in expectancy as poſſeſſion, and how he has diſpoſed of the ſame; together with all books and writings relating thereto: and is to deliver up all in his own power to the commiſſioners (except the neceſſary apparel of himſelf, his wife, and children); or, in caſe he conceals or embezzles any effects to the amount of 20 l. or withholds any books or writings, with intent to defraud his creditors, he ſhall be guilty of felony without benefit of clergy; and his goods and eſtate ſhall be divided among his creditors. And unleſs it ſhall appear, that his inability to pay his debts aroſe from loſſes cauſed by fire, he may, upon conviction by indictment of ſuch gross prevarication and negligence, be ſet upon the pillory for two hours, and have one of his ears nailed to the ſame and cut off. Stat. 5 Geo. II. c. 30. 21 Jac. I. c. 19.

After the time allowed to the bankrupt for ſuch diſcovery is expired, any other perſon voluntarily diſcovering any part of his eſtate, before unknown to the aſſignees, ſhall be entitled to 5 per cent. out of the effects ſo diſcovered, and ſuch farther reward as the aſſignees and commiſſioners ſhall think proper. And any truſtee, wilfully concealing the eſtate of any bankrupt, after expiration of the two and forty days, ſhall forfeit 100 l. and double the value of the eſtate concealed to the creditors. Stat. 5 Geo. II. c. 30.

Hitherto every thing is in favour of the creditors; and the law ſeems to be pretty rigid and ſevere againſt the bankrupt; but, in caſe he proves honeſt, it makes him full amends for all this rigour and ſeverity. For if the bankrupt hath made an ingenuous diſcovery (of the truth and ſufficiency of which there remains no doubt), and hath conformed in all points to the directions of the law; and if, in conſequence thereof, the creditors, or four parts in five of them in number and value (but none of them creditors for leſs than 20 l.), will ſign a certificate to that purport; the commiſſioners are then to authenticate ſuch certificate under their hands and ſeals, and to tranſmit it to the lord chancellor: and he, or two of the judges whom he ſhall appoint, on oath made by the bankrupt that ſuch certificate was obtained without fraud, may allow the ſame; or diſallow it, upon cauſe ſhewn by any of the creditors of the bankrupt. Stat. 5 Geo. II. c. 30.

If no cauſe be ſhewn to the contrary, the certificate is allowed of courſe; and then the bankrupt is entitled to a decent and reaſonable allowance out of his effects, for his future ſupport and maintenance, and to put him in a way of honeſt induſtry. This allowance is alſo in proportion to his former good behaviour, in the early diſcovery of the decline of his affairs, and thereby giving his creditors a larger dividend. For, if his effects will not pay one half of his debts, or ten ſhillings in the pound, he is left to the diſcretion of the commiſſioners and aſſignees, to have a competent ſum allowed him, not exceeding 3 per cent.; but if they pay ten ſhillings in the pound, he is to be allowed 5 per cent.; if twelve ſhillings and ſix-pence, then 7½ per cent.; and if fifteen ſhillings in the pound, then the bankrupt ſhall be allowed 10 per cent.: provided, that ſuch allowance do not in the firſt caſe exceed 200 l., in the ſecond 250 l., and in the third 300 l. Stat. 5 Geo. II. c. 30.

Beſides this allowance, he has alſo an indemnity granted him, of being free and diſcharged for ever from all debts owing by him at the time he became a bankrupt; even though judgment ſhall have been obtained againſt him at law, and he lie in priſon upon execution for the ſame; and, for that among other purpoſes, all proceedings on commiſſions of bankrupt are, on petition, to be entered of record, as a perpetual bar againſt actions to be commenced on this account: though, in general, the production of the certificate properly allowed ſhall be ſufficient evidence of all previous proceedings. Stat. 5 Geo. II. c. 30.

The certificate, when allowed, will not diſcharge the ſureties of a bankrupt: but if he obtains it before his bail are fixed, it will diſcharge them: whereas if not till after they are fixed, they will remain liable notwithſtanding the certificate: and if the creditor prove his debt, with intent to obſtruct the certificate, it does not preclude him from purſuing his legal remedies: and even if he had received his debt or part of it, under the commiſſion, ſtill he might proceed to fix the bail who would be entitled to their remedy, ſo far as they are oppreſſed, by "audita querela," or by "motion." (1 Atk. 94. 1 Burr. 294. 2 Burr. 724.) The certificate does not diſcharge a bankrupt from his own expreſs collateral covenant, which does not run with the land (2 Burr. 2443.); nor from a covenant to pay rent. (4 Term Rep. 94.) A bankrupt, after a commiſſion of bankruptcy ſued out, may, in conſideration of a debt due before the bankruptcy, and for which the creditor agrees to accept no dividend or benefit under the commiſſion, make ſuch creditor a ſatisfaction, in part, or for the whole of his debt, by a new undertaking or agreement; and "aſſumpſit" will lie upon ſuch new promiſe or undertaking. (1 Atk. 67.) Although a creditor of a bankrupt under 20 l. is excluded from aſſent or diſſent to the certificate, yet as he is affected by the conſequence of allowing the certificate, he has a right to petition and ſhew any fraud againſt allowing the certificate. 7 Vin. Abr. 134. pl. 18.

No allowance or indemnity ſhall be given to a bankrupt, unleſs his certificate be ſigned and allowed: and alſo, if any creditor produces a fictitious debt, and the bankrupt does not make diſcovery of it, but ſuffers the fair creditors to be impoſed upon, he loſes all title to theſe advantages. Neither can he claim them, if he has given with any of his children above 100 l. for a marriage portion, unleſs he had at that time ſufficient left to pay all his debts; or if he has loſt at any one time 5 l. or in the whole 100 l. within a twelvemonth before he became bankrupt, by any manner of gaming or wagering whatſoever; or, within the ſame time has loſt to the value of 100 l. by ſtock-jobbing. Alſo to prevent the too common practice of frequent and fraudulent or careleſs breaking, a mark is ſet upon ſuch as have been once cleared by a commiſſion of bankrupt, or have compounded with their creditors, or have been delivered by an act of inſolvency. Perſons who have been once cleared by any of theſe methods, and afterwards become bankrupts again, unleſs they pay full fifteen ſhillings in the pound, are only thereby indemnified as to the confinement of their bodies; but any future eſtate they ſhall acquire remains liable to their creditors, excepting their neceſſary apparel, houſehold goods, and the tools and implements of their trades. Stat. 5 Geo. II. c. 30. 24 Geo. II. c. 57.

By the ſtatute 13 Eliz. c. 7. the commiſſioners for that purpoſe, when a man is declared a bankrupt, ſhall have full power to diſpoſe of all his lands and tenements, which he had in his own right at the time when he became a bankrupt, or which ſhall deſcend to him before the ſame be afterwards, before his debts are ſatisfied or agreed for; and all lands and tenements which were purchaſed by him

jointly with his wife or children to his own uſe (or ſuch intereſt therein as he may lawfully part with), or purchaſed with any other perſon upon ſecret truſt for his own uſe; and to cauſe them to be appraiſed to their full value, and to ſell the ſame by deed indented and enrolled, or divide them proportionably among the creditors. This ſtatute expreſsly included not only free, but cuſtomary and copyhold, lands: and the lord of the manor is thereby bound to admit the aſſignee (Cro. Car. 568. 1 Atk. 96.): but did not extend to eſtates-tail, farther than for the bankrupt's life; nor to equities of redemption on a mortgaged eſtate, wherein the bankrupt has no legal intereſt, but only an equitable reverſion. Whereupon the ſtatute 11 Jac. I. c. 19. enacts, that the commiſſioners ſhall be empowered to ſell or convey, by deed indented and enrolled, any lands or tenements of the bankrupt, wherein he ſhall be ſeiſed of an eſtate-tail in poſſeſſion, remainder, or reverſion, unleſs the remainder or reverſion thereof ſhall be in the crown; and that ſuch ſale ſhall be good againſt all ſuch iſſues in tail, remaindermen, and reverſioners, whom the bankrupt himſelf might have barred by a common recovery, or other means: and that all equities of redemption upon mortgaged eſtates, ſhall be at the diſpoſal of the commiſſioners; for they ſhall have power to redeem the ſame, as the bankrupt himſelf might have done, and after redemption to ſell them. And the commiſſioners may ſell a copyhold entailed by cuſtom. (Stone 127. Billing 148.) And alſo, by this and a former act, all fradulent conveyances to defeat the intent of theſe ſtatutes are declared void; but that no purchaſer *bona fide*, for a good or valuable conſideration, ſhall be affected by the bankrupt laws, unleſs the commiſſion be ſued forth within five years after the act of bankruptcy committed. 1 Jac. I. c. 15.

By virtue of theſe ſtatutes a bankrupt may loſe all his real eſtates; which may at once be transferred by his commiſſioners to their aſſignees, without his participation or conſent. See ASSIGNEES.

The property veſted in the aſſignees is the whole that the bankrupt had in himſelf, at the time he committed the firſt act of bankruptcy, or that has been veſted in him ſince, before his debts are ſatisfied or agreed for. And therefore, if a commiſſion is afterwards awarded, the commiſſion and the property of the aſſignees ſhall have a relation, or reference, back to the firſt and original act of bankruptcy. Inſomuch that all tranſactions of the bankrupt are from that time abſolutely null and void, either with regard to the alienation of his property, or the receipt of his debts from ſuch as are privy to his bankruptcy; for they are no longer his property or his debts, but thoſe of the future aſſignees. If a banker pay the draft of a trader keeping caſh with him, after knowledge of an act of bankruptcy, the aſſignees may recover the money. (2 Term Rep. 113. 3 Bro. C. R. 313.) And if an execution be ſued out, but not ſerved and executed on the bankrupt's effects till after the act of bankruptcy, it is void as againſt the aſſignees. But the king is not bound by this fictitious relation, nor is within the ſtatutes of bankrupts; for if, after the act of bankruptcy committed and before the aſſignment of his effects, an extent iſſues for the debt of the crown, the goods are bound thereby. As theſe acts of bankruptcy may ſometimes be ſecret to all but a few, and it would be prejudicial to trade to carry this notion to its utmoſt length, it is provided by ſtatute 19 Geo. II. c. 32. that no money paid by a bankrupt to a *bona fide* or real creditor, in a courſe of trade, even after an act of bankruptcy done, ſhall be liable to be refunded. Nor, by ſtatute 1 Jac. I. c. 15. ſhall any debtor of a bankrupt, that pays him his debt, without knowing of his bankruptcy, be liable to account for it again. The intention of this relative power being only to reach fraudulent tranſactions, and not to diſtreſs the fair trader.

Sale of goods by a bankrupt, after an act of bankruptcy, is not merely void; the contract is good between the parties; but it may be avoided by the commiſſioners or aſſignees at pleaſure; ſo that they may either bring trover for the goods, as ſuppoſing the contract may be void, or may bring debt or aſſumpſit for the value, which affirms the contract. (3 Salk. 59. pl. 2. 2 T. R. 143. 4 T. R. 216. 7.) And ſo if a bankrupt on the eve of bankruptcy fraudulently deliver goods to a creditor. (4 Term. Rep. 211.) The aſſignees after four, and within twelve months after the commiſſion iſſued, muſt give twenty-one days notice to the creditors of a meeting for a dividend; at which time they muſt produce their accounts, and verify them upon oath, if required. And then the commiſſioners ſhall direct a dividend to be made, at ſo much in the pound, to all creditors who have before proved, or ſhall then prove, their debts. This dividend muſt be made equally, and in a rateable proportion, to all the creditors, according to the quantity of their debts; no regard being had to the quality of them. Mortgages indeed, for which the creditor has a real ſecurity in his own hands, are entirely ſafe; for the commiſſion of bankrupt reaches only the equity of redemption. So are alſo perſonal debts, where the creditor has a chattel in his hands, as a pledge or pawn for the payment, or has taken the debtor's lands or goods in execution. And, upon the equity of the ſtatute 8 Ann. c. 14. (which directs, that, upon all executions of goods being on any premiſes demiſed to a tenant, one year's rent and no more ſhall, if due, be paid to the landlord) it hath alſo been held, that under a commiſſion of bankrupt, which is in the nature of a ſtatute-execution, the landlord ſhall be allowed his arrears of rent to the ſame amount, in preference to other creditors, even though he hath neglected to diſtrain, while the goods remained on the premiſes: which he is otherwiſe entitled to do for his entire rent, be the quantum what it may. But, otherwiſe, judgments and recognizances (both which are debts of record, and therefore at other times have a priority), and alſo bonds and obligations by deed or ſpecial inſtrument (which are called debts by ſpecialty, and are uſually the next in order), theſe are all put on a level with debts by mere ſimple contract, and all paid *pari paſſu*. Nay, ſo far is this matter carried, that, by the expreſs proviſion of the ſtatutes, debts not due at the time of the dividend made, as bonds or notes of hand payable at a future day certain, ſhall be proved and paid equally with the reſt, allowing a diſcount or drawback in proportion. And inſurances, and obligations upon bottomry or *reſpondentia*, *bona fide* made by the bankrupt, though forfeited after the commiſſion is awarded, ſhall be looked upon in the ſame light as debts contracted before any act of bankruptcy Stat. 21 Jac. c. 19. 7 Geo. I. c. 31. 19 Geo. II. c. 32.

Within eighteen months after the commiſſion iſſued, a ſecond and final dividend ſhall be made, unleſs all the effects were exhauſted by the firſt. And if any ſurplus remains, after ſelling his eſtates and paying every creditor his full debt, it ſhall be reſtored to the bankrupt. This is a caſe which ſometimes happens to men in trade, who involuntarily, or at leaſt unwarily, commit acts of bankruptcy, by abſconding and the like, while their effects are more than ſufficient to pay their creditors. And, if any ſuſpicious or malevolent creditor will take the advantage of ſuch acts, and ſue out a commiſſion, the bankrupt has no remedy, but muſt quietly ſubmit to the effects of his own imprudence;

dence; except that, upon ſatisfaction made to all the creditors, the commiſſion may be ſuperſeded. This caſe may alſo happen, when a knave is deſirous of defrauding his creditors, and is compelled by a commiſſion to do them that juſtice, which otherwiſe he wanted to evade. And therefore, though the uſual rule is, that all intereſt on debts carrying intereſt ſhall ceaſe from the time of iſſuing the commiſſion, yet, in caſe of ſurplus left after payment of every debt, ſuch intereſt ſhall again revive, and be chargeable on the bankrupt, or his repreſentatives. Stat. 5 Geo. II. c. 30. 13 Eliz. c. 7.

The firſt ſtep to be taken towards procuring a commiſſion of bankruptcy is for the petitioning creditor to make an affidavit of his debt before a maſter in chancery; or if he reſides altogether in the country, before a maſter extraordinary there, to be filed in the ſecretary of bankrupt's office in London, and exhibited to the commiſſioners at their firſt meeting. When the affidavit is ſworn, it is carried to the ſecretary of bankrupt's office, where the party ſuing for the commiſſion enters into the bond to the chancellor. The clerk of the bankrupts fills up a blank petition in the name of the perſon that makes the affidavit, and annexes the affidavit and bond to the petition, when he prefers the ſame to the lord chancellor. This petition is anſwered in a few days, and the petitioning creditor has a commiſſion without any further trouble. Having got the commiſſion, he muſt employ one of the meſſengers to ſummon a meeting of the major part of the commiſſioners to open the ſame, when the petitioning creditor muſt come prepared to prove his debt, and the party a bankrupt, within the ſtatutes. Upon the commiſſioners declaring the party a bankrupt, they iſſue their warrant for ſeizure of his effects, and the meſſenger by virtue of it ſeizes the effects, and continues to keep poſſeſſion till the commiſſioners have executed the aſſignment. The application to enlarge the time for the bankrupt's ſurrender muſt be by petition to the great ſeal, fix days at leaſt before the laſt ſitting appointed in the gazette; which petition may be either in the name of the bankrupt or of his aſſignees. It is uſual for the commiſſioners to recommend, and the creditors to agree, to return the bankrupts their rings, monies, &c. particularly the jewels, &c. of their wives. If the bankrupt does not ſurrender himſelf to the commiſſioners by twelve o'clock at night of the laſt day given, the meſſenger warns him ſo to do by a proclamation made by him in the middle of Guildhall; the commiſſioners continuing to ſit till that time. The certificate when duly ſigned, together with the atteſtations of ſignature, muſt be lodged with the ſecretary of bankrupts, and he will give the meſſenger an authority to the printer of the gazette, to inſert an advertiſement ſignifying that the acting commiſſioners have certified to the great ſeal, that the bankrupt hath conformed, and that the certificate will be allowed and confirmed, unleſs cauſe be ſhewn to the contrary within twenty-one days from the date of the ſaid advertiſement. If no cauſe be ſhewn within twenty-one days againſt the allowance of the certificate, the lord chancellor will allow the ſame by a ſubſcription upon it. Jacob's Law Dict. by Tomlins, art. *Bankrupt*.

BANKRUPTCY, the act of becoming a bankrupt. (See Bankrupt.) The French make this difference between a *banqueroute* and a *faillure*, that the firſt is ſuppoſed voluntary and fraudulent, and the latter conſtrained and neceſſary, by means of accidents, &c.

BANKS'S Island, in *Geography*, an iſland in the North Pacific ocean, near the weſt coaſt of North America, about 60 miles long and 5 broad. It is ſeparated from Pitt's archipelago by the canal del Principe; and its north point is ſituated in N. lat. 53° 39′. W. long. 130° 18′.

Banks's *Island* is alſo an iſland of the Southern Pacific ocean, about five leagues weſt of the coaſt of the northern branch of New Zealand iſlands. It is about twenty-four leagues in compaſs; its ſurface is irregular and elevated; and it may be ſeen at ſea at the diſtance of twelve or fifteen leagues. Its ſouth point is in S. lat. 43° 32′. W. long. 186° 30′.

Banks, *Port*, a harbour on the north-weſt coaſt of America, ſouth-eaſterly from cape Edgecombe, and north-weſterly from Sea Otter ſound.

Banksal Point, a point of the river of Balaſore, on the coaſt of Coromandel, known by the Engliſh warehouſes that are built on it, and by the tomb of a Dutchman who was there interred.

BANKSEA Speciosa, Retz. in *Botany*. See Costus *Speciosus*.

BANKSIA, ſo named by Linnæus in honour of ſir Joſeph Banks, preſident of the Royal Society, who firſt diſcovered it in his voyage with captain Cook. Lin. gen. Schreb. n. 191. Suppl. 15. Gærtn. t. 47. Juſſ. 79. Claſs, *tetrandria monogynia*. Nat. Ord. *aggregatæ*. *Proteæ* Juſſ. Gen. Char. *Cal.* perianth one-leafed, four-cleft, inferior. *Cor.* one-petalled; tube cylindric, very ſhort; border very long, four-parted; parts linear, lanceolate at the tip, internally hollowed by a little cavity, acute. *Stam.* filaments none; anthers four, lanceolate, ſeſſile in the cavity of the parts of the corolla. *Piſt.* germ ſuperior, minute; ſtyle filiform, ſtiff, longer than the corolla; ſtigma pyramidate, acute. *Per.* capſule ovate, or globoſe, woody, one-celled, two-valved. *Seeds*, two, obovate, convex on one ſide, flat on the other, terminated by a very large membranaceous veinleſs wing. Qu. Is this an Arillus?

Eſſ. Char. *Cal.* four-cleft, inferior. *Cor.* four-parted; tube very ſhort; border very long, linear-lanceolate; anthers ſeſſile in the cavity of the parts of the corolla. *Capſ.* two-feeded, one or two-celled, two-valved.

Species, 1. B. *ferrata*, ſerrate-leaved bankſia. White Voy. 223. fig. 1, 2, 3. B. *conchifera*. Gærtn. fruct. 221. t. 48. f. 1. "Leaves linear, attenuated into the petiole, equally ſerrate, truncate at the end with a point." This is the handſomeſt ſpecies of the genus; trunk thick and rugged; leaves alternate, thick at the ends of the branches, on ſhort petioles, obtuſe, ſerrate, bright green above, beneath opake and whitiſh, with a ſtrong rib running through their middle; each branch terminated by a large cylindrical ſpike of flowers; the capſules covered with thick down; the flowers and fruits collected into a large globular ament; the ſeed in each cell of the capſule ſingle, rather large, winged and dark brown. 2. B. *integrifolia*, entire-leaved B. B. *ſpicata*. Gærtn. fruct. 221. t. 48. f. 2. "Leaves wedge-form, quite entire, white-tomentoſe underneath." The flowers and fruits are collected into a cylindric ament; and before they are ripe, are pubeſcent with a nap of ſnowy whiteneſs; capſule coriaceous, orbiculate at top, turgidly lens-ſhaped, and continued at bottom into a conical, compreſſed beak; within black, two-celled, and gaping at the tip. 3. B. *ericæfolia*, heath-leaved B. "Leaves approximating, aceroſe, truncate-emarginate, ſmooth." The leaves are very ſmall, but more abundant than thoſe of the preceding ſpecies. 4. B. *dentata*, tooth-leaved B. "Leaves oblong, attenuated into the petiole, curved, flexuoſe, toothed, teeth ending in a ſpinule, white underneath." The flowers of this ſpecies are ſmaller than in the others. 5. B. *pyriformis*, pear-fruitted B. "Flowers ſolitary; capſules ovate, pubeſcent;

leaves lanceolate, very entire, ſmooth." The capſules are [illegible] other known ſpecies, one-celled, not [illegible] ſolitarily on the lower ſide; there are two [illegible] colour, convex on one ſide and [illegible] the other, with a large, oval, [illegible] white. 6. B. [illegible], [illegible] B. B. *dactylifolia*, Gmel. Syſt. Nat. p. 2. "Flowers ſolitary; capſules ovate, [illegible]; leaves [illegible]." Leaves about two inches long, [illegible] in character, ſole grass, and ſmooth. Dr. Smith ſuſpects that the B. *dactylifolia* of Gaertner and this are diſtinct ſpecies. 7. B. *[illegible]*, middle-fruited B. "Flowers ſolitary; capſules ovate-conical, muſcle-ſhaped, pointed, with tubercles on the outſide; leaves obovate, emarginate." Leaves alternate, from ſix to eight inches long, and three broad; flowers in a ſhort ſimple raceme, in which only one or two fruits ripen; the capſule from one inch to two inches or more in length, woody, with roundiſh tubercles, variegated brown and ruſt colour, one-celled; the ſeeds are two and dark bay. 8. B. *ſpinuloſa*, prickly-leaved B. "Leaves linear-revolute, with a little ſharp point, and with ſpinous denticulations towards the top." Stem woody and branched; leaves irregularly ſcattered, cloſely covering the branches, on very ſhort foot-ſtalks, green and ſmooth above, white and downy beneath, ending abruptly, tipped with three ſmall ſpines, and having ſeveral hooked upwards in the margin; flowers thick ſet in a cylindrical erect ſpike, coming out in pairs. It differs from B. *ericæfolia*, in having leaves at leaſt four times as long, obtuſe, but with a ſmall central ſharp point from the midrib between two other terminal points, as well as in having a greater or leſs number of ſmall ſharp-hooked lateral teeth towards the end of each leaf. The inhabitants of New South Wales call it "Wattangre." All theſe plants are natives of that country, except the 7th, which Rumphius obſerved in Amboina, in 1693. This genus is nearly allied to *Persoonia* and *Embothrium* in appearance and character, but ſufficiently diſtinguiſhed from both in the fruit. It boaſts ſome of the moſt ſpecious plants that have been diſcovered in the South ſeas, and even in the known world. Thoſe with ſolitary flowers and one-celled capſules (5, 6, 7.) form a ſeparate genus, which Dr. Smith names *Saliſburia*; which ſee.

Propagation and Culture. Some of the ſpecies have flowered and ſeeded here; they have been increaſed merely by ſeeds. Theſe, and the plants in general from the South ſeas, are hardy, conſidering their climate, and may be treated much in the ſame manner with the Cape plants; they covet much air, and flouriſh beſt near the front of the dry ſtove. Martyn's Miller.

BANKSIA, *Prize*. See PIMELEA.

BANKSIA *Abyſſinica*, or CUSSO, ſo called by Mr. Bruce after ſir Joſeph Banks, an inhabitant of the high country of Abyſſinia, and indigenous there. Mr. Bruce, who has deſcribed and given a drawing of it, and who repreſents it as one of the moſt beautiful and uſeful trees, ſays, that he never ſaw it in the Koilla nor in Arabia, nor in any other part of Aſia or Africa. It ſeldom grows above 20 feet high, and generally inclined; its leaf is about two inches and a quarter long, divided into two by a ſtrong rib; its colour is a deep unvarniſhed green, very pleaſant to the eye, and the fore-part is covered with ſoft hair or down; it is much indented, and reſembles a nettle leaf, only that it is narrower and longer. The leaves grow alternately by pairs upon a branch, terminating with a ſingle leaf at the point; the end of the ſtalk is broad and ſtrong, like that of a palm-branch; and it opens in the part that is without leaves, about an inch and an half from the bottom, and from this aperture [illegible] flower [illegible] has very much the [illegible] of grapes, and the ſtalk that ſupports it reſembles the ſtalk of the grape; the flower [illegible] when fully blown, it is altogether of a deep red or purple; the corolla conſiſts of five petals, with a ſhort piſtil in the middle, having a round head, and ſurrounded by eight ſtamina of the ſame form, loaded with yellow farina. The calyx conſiſts of five petals, which much reſemble another [illegible] equal breadth every way. The bark of the tree is ſmooth, of a yellowiſh white, interſperſed with brown ſtreaks which paſs through the whole body of the tree. On the upper part, before the firſt branch of leaves ſet out, are rings round the trunk of ſmall filaments, of the conſiſtence of horſe-hair; [illegible] remarkable characteriſtic belonging to this tree. The tree is always planted near churches for the uſe of the town or village; and it is very [illegible] a medicine to a diſorder to which the Abyſſinians of both ſexes and at all ages are ſubject. Every individual once a month evacuates a large quantity of worms of the kind called aſcarides; and the method of promoting theſe evacuations is by infuſing a handful of dry Cuſſo flowers in about two Engliſh quarts of bouza, or the beer that is made from teff; after it has been ſteeped all night, it is next morning fit for uſe. The ſeed of this tree is very ſmall, ſmaller than the ſemen Santonicum; it is eaſily ſhed; and on this account no great quantity of the ſeed is gathered, and therefore the flower is ſubſtituted for it. It is bitter, but much leſs ſo than the ſemen Santonicum. Mr. Bruce conceives that this plant may be found in latitudes 11° or 12° north in the Weſt Indies or America; and having been found a gentle, ſafe, and efficacious medicine in Abyſſinia, it is not doubted but the ſuperior ſkill of phyſicians would turn it to the advantage of mankind in general, when uſed here in Europe. Bruce's Travels, vol. v. Appendix, p. 73—76.

BANKSIA, in *Entomology*, a ſpecies of PAPILIO (*Nymph.*) with angulated wings; above brown, with a yellowiſh diſk, and a black ocellar ſpot with a double pupil. Fabricius. This is a native of New Holland, and is the PAPILIO *Iphimene* of Cramer.

BANKSII, a ſpecies of SCARABÆUS (*Melolontha*) deſcribed by Fabricius from a ſpecimen in the muſeum of ſir Joſeph Banks. The head and thorax are black; wing-caſes villoſe, and with the legs teſtaceous; abdomen ſhort and [illegible].

BANKSII, a ſpecies of CIMEX (*Reduvius*) that inhabits India. It is rufous above, with black wings; abdomen deep black; border rufous. Fabricius.

BANKSII, a ſpecies of CHRYSOMELA that inhabits Calabria. It is braſſy above, beneath teſtaceous. Fabricius.

BANKSII, a ſpecies of CERAMBYX (*Lamia*), that is found at the cape of Good Hope. It is of a greyiſh colour; thorax ſlightly ſpined; wing-caſes ſpeckled with ferruginous, and marked with two cinereous bands. Fabricius.

BANLIEUGA, or BANNILEUGA, or BANLIEU, in *Middle Age Writers*, the territory within which the juriſdiction of municipal magiſtrates, or ordinary judges of a city, town, or the like, is confined.

It is thus called, becauſe within this tract they may make their proclamations, prohibitions, and other acts of juſtice and policy, compriſed under the name of BAN, or BANNUM.

BANN, in *Geography*, a river in Ireland, which riſes in the

the northern part of the Mourne mountains, in the county of Down, and ſwelled by various little brooks, ſoon becomes a large ſtream. It takes a ſerpentine courſe to the north-weſt, having many bridges over it, till it comes to Portadown, where it is joined by the Newry canal, and a few miles farther it falls into Lough Neagh at Banſhoot Bay, after running about thirty miles. The waters of this river, which is diſtinguiſhed by the name of the South or Upper Bann, are eſteemed ſuperior to any other for the purpoſe of bleaching. After paſſing through Lough Neagh, out of which it breaks at Toome caſtle, where is a bridge over it, it again expands into a ſmall lake called Lough Beg, the views in which are very pleaſing. From this, ſtill keeping a north-weſt direction, it paſſes through a country formerly overgrown with immenſe woods, then forces its way over a ridge of rocks called the Salmon-leap, and having again collected its ſcattered waters, ruſhes with an impetuous force into the ſea at Bannhaven, a few miles below Coleraine. It is certainly one of the fineſt rivers in Ireland; and if we include its paſſage through the lake, runs in the whole near ninety miles, with ſo pure and limpid a ſtream, that it has acquired the name of "*the ſilver Bann.*" The lower or northern part of it, being the only outlet for ſeven rivers and innumerable ſtreams that pour their tributary waters into Lough Neagh, is broad and rapid; but notwithſtanding this, and the ridge of rocks already mentioned, it is thought that it might be rendered navigable, a meaſure from which great advantages are expected. The ſalmon caught in this river is very highly eſteemed, and the fiſhery is the greateſt in the kingdom. (See COLERAINE.) Campbell's Political Survey. Beaufort's Memoir. Young's Tour, &c.

BANN, the name of a river in the north-eaſtern part of the county of Wexford, Ireland, which falls into the Slaney near Ferna.

BANN, a townſhip in the county of York, in Pennſylvania.

BANN, or *Ban*, *Bannum*, or *Bannus*, in the *Feudal Law*, a ſolemn proclamation, or publication of any thing.

The origin of the word is uncertain: ſome deduce it from the Britiſh *ban*, *clamour*, *noiſe*; others from the Saxon *pan*, a thing ſpread; whence *ban* and *band*, uſed for a flag. Bracton mentions *bannus regis* for a proclamation of ſilence anciently made by the court, before the encounter of the champions in a combat.

BANN is alſo uſed for a ſolemn convocation of the nobility of a province, to attend the king in his army, conformably to their reſpective tenures.

Bann, in this ſenſe, differs from *rear-bann*; as the former reſpects thoſe who hold mediately of him. But the words are now confounded; and bann and rear-bann denote a ſummons to all the feudal tenants, mediate and immediate, to go to war in the king's ſervice.

BANN alſo denotes the aſſembly, or body of nobility and gentry thus convoked.

In this ſenſe, they ſay, the bann and rear-bann are long in getting into the field; the bann and rear-bann were aſſembled, &c.

The French nobility appear to have ſerved the king, in the way of bann and rear-bann, from the beginning of the monarchy; though the uſage was not regularly ſettled till the time of the inveſtiture of feuds.

BANN is more particularly uſed to denote a proſcription or baniſhment, for a crime proved; becauſe anciently publiſhed by found of trumpet: or, as Voſſius thinks, becauſe thoſe who did not appear at the above mentioned ſummons were puniſhed by proſcription.

Hence, *to put a prince under the ban of the empire*, is to declare him diveſted of all his dignities.

The ſentence only denotes an interdict of all intercourſe and offices of humanity with the offender, the form of which ſeems taken from that of the Romans, who baniſhed perſons, by forbidding them the uſe of fire and water.

Sometimes alſo cities are put under the imperial bann; that is, ſtripped of their rights and privileges.

BANN alſo denotes a pecuniary mulct or penalty laid on a delinquent for offending againſt a bann.

BANNS *of Marriage* are certain ſolemn notices of matrimonial contracts made, in the pariſh-church, before the marriage; that if there be any objections to either party as to prior engagements, &c. there may be an opportunity of making them. The publication of banns (popularly called *cried in the church*) was intended to prevent clandeſtine marriages; but a licence or diſpenſation is now eaſily procured, ſo that their uſe is defeated. By the laws of the church, banns are to be publiſhed thrice, on three diſtant days, in the places where the parties live, on pain of nullity of marriage; and excommunications are threatened againſt thoſe, who, knowing impediments, conceal them. (But ſee 26 Geo. II. cap. 33. and MARRIAGE.) The uſe of matrimonial banns is ſaid to have been firſt introduced in the Gallican church, though ſomething like it obtained even in the primitive times; and it is this Tertullian is ſuppoſed to mean by *trinundina promulgatio*.

BANN is alſo uſed for a ſolemn anathema, or excommunication, attended with curſes, &c.

In this ſenſe, we read of *pope Urban's bann*, &c.

BANN *of God*, *Judgment of God*, or the judgment of God. Spelman takes it for excommunication.

BANN is alſo uſed for a prohibition.

In which ſenſe, the bann of harveſt or vintage, &c. in the French cuſtoms, imports a prohibition to reap, or gather the grapes, without the leave of the lord.

The former is now taken away, and the peaſant may reap his corn when he pleaſes; but the latter ſtill remains, perſons not being allowed to open the vintage till publication is made by the officer of the place for that purpoſe.

BANN-*Vin*, in the *French Cuſtoms*, a privilege enjoyed by lords, of ſelling the wine of their own growth, during a certain time, excluſive of all other perſons within the compaſs of their fees or lordſhips.

The ſame right, in ſome places, extends alſo to other liquors; and even to hogs, cows, and other animals.

BANNALEC, in *Geography*, a town of France, in the department of Finiſterre, and chief place of a canton in the diſtrict of Quimperle; 24 leagues north-eaſt of Quimperle.

BANNALIS MOLA, or *Bannal-mill*, a kind of feudal ſervice, whereby the tenants of a certain diſtrict are obliged to carry their corn to be ground at a certain mill, and to be baked at a certain oven, for the benefit of the lord.

The oldeſt account of ſuch bannal-mills occurs in the eleventh century. Fulbert, biſhop of Chartres, and chancellor of France, in a letter to Richard, duke of Normandy, complains, that attempts began to be made to compel the inhabitants of a part of that province to grind their corn at a mill ſituated at the diſtance of five leagues. Vid. "Maxima Bibliotheca Veterum Patrum." Lugdun. 1677, tom. xviii. p. 9. Other examples of this ſpecies of ſervitude, in the tenth and thirteenth centuries, may be ſeen in Du Freſne, under "Molendinum Bannale." De la Mare (Traité de la Police, ii. p. 151.) gives an inſtance, where a lord in affranchiſing

obliging his subjects, A. D. 1248, required of them, in remembrance of their former subjection, and that he might draw as much from them in future as possible, that they should agree to pay a certain duty, and to send their corn to be ground at his mill, their bread to be baked in his oven, and their grapes to be pressed at his wine-press. The origin of these servitudes may possibly be accounted for thus: the building of mills was at all times expensive, and undertaken only by the rich; who, to indemnify themselves for the money expended in order to benefit the public, stipulated that the people in the neighbourhood should grind their corn at no other mills than those erected by them.

BANNAR, in *Geography*, a town of Hindostan, in the district of Coorg-wynaad, seated on the upper branch of the Copany river. N. lat. 11° 48′. E. long. 76° 26′.

BANNAT *of Temeswar*, a district of Upper Hungary, in the circle on the farther side of the Theis, bounded by the rivers Maros, Theis, and Danube, and watered by the Temes, which is joined by the Beg or Beyhe. In 1552, the Turks became masters of it, and retained it at the peace of Karlowitz, in 1699; but lost it, after a possession of 164 years, in 1716; and in 1718, it was formally ceded to the emperor, at the peace of Passarowitz; which cession, one district excepted, which was granted to the Turks, was ratified in 1739, at the treaty of Belgrade. Its government is divided into the civil and military jurisdiction. Its capital is Temeswar. This bannat presents many ridges of considerable height.

BANN-BRIDGE, a market and post-town of the county of Down, province of Ulster, Ireland, which takes its name from a bridge over the river Bann. It is a pleasant town on the road from Dublin to Belfast, and is remarkable for its great linen fairs. Distance north from Dublin 60½ Irish miles.

BANNER, in *Heraldry*, is a small square flag with fringe, fastened to a lance or spear, similar to the standards now borne by the regiments of cavalry, and was always borne in the field before a prince, duke, marquess, earl, viscount, baron, knight of the garter, and knight-banneret.

Menage derives the word from the Latin *bandum*, a *band*, or *flag*; and supposes *banniere* to have been first written for *bandiere*; which is confirmed by this, that we meet with the word *banderia*, used, in the same sense, by Latin writers of the barbarous age.

In the reign of Henry VIII. the size of the royal banner was an ell long, and a yard broad; in queen Elizabeth's reign, the length was two yards and a half, and the breadth two yards, besides the fringe; the complement of men to each banner in the field was always one hundred.

BANNER, in *Military Language*. See COLOURS.

BANNERS *of the Romans*. See SIGNA.

BANNERETS, an ancient order of knights, or feudal lords, who, possessing several large fees, led their vassals to battle, under their own flag, or banner, when summoned thereto by the king.

The word seems formed from *banner*, a square flag, or from *band*, which anciently also denoted a flag.—*Bannerets* are also called in ancient writers, *milites vexilliferi*, and *vexillarii*, *bannerarii*, *bannarii*, *banderisii*, &c.

Anciently there were two kinds of knights, *great* and *little*, the first whereof were called BANNERETS, the second BACHELORS; the first composed the upper, the second the middle, nobility.

The banneret was a dignitary allowed to march under his own flag, whereas the *bachelarius eques* followed that of another. Knights bannerets were originally entitled to display their banners in the field. A knight Banneret must be a gentleman of family, and have land sufficient to enable him to bring into the field fifty men at arms, with the archers and cross-bowmen appertaining thereto, making in the whole one hundred.

Banneret, according to Spelman, was a middle order between a baron and a simple knight; called sometimes also *vexillarius minor*, to distinguish him from the greater, that is, from the baron, to whom alone properly belonged the *jus vexilli*, or privilege of the square flag.

Hence the banneret was also called *Imperatus*, *quasi baro minor*, a word frequently used by English writers in the same sense as banneret was by the French; though neither of them occur before the time of Edward II.

Some will have bannerets to have originally been persons who had some portion of a barony annexed them; and enjoyed it under the title of *baro proximus*, and that with the same prerogatives as the baron himself.

Some again find the origin of bannerets in France; others in Britanny; others in England. These last attribute the institution of bannerets to Conan, lieutenant of Maximus, who commanded the Roman legions in England under the empire of Gratian, in 383. This general, say they, revolting, divided England into forty cantons, and in these cantons distributed forty knights, to whom he gave a power of assembling, on occasion, under their several banners, as many of the effective men as were found in their respective districts; whence they are called bannerets.

However this be, it appears from Froissart, &c. that anciently such of the military men as were rich enough to raise and subsist a company of armed men, and had a right to do so, were called bannerets. Not, however, that these qualifications rendered them knights, but only bannerets; the appellation of knight being only added thereto, because they were simple knights before.

At the ceremony of creation, the king, at the head of his army, after a victory, is surrounded by all the field officers and nobles at court, under the royal standard displayed to receive the intended knight banneret, who is led to the sovereign by two renowned knights or valiant men at arms, having his pennon or guidon of arms in his hand, preceded by the heralds, who proclaim his valiant atchievements. The king then says to him, "Advance thy banneret," and commands the ends of his pennon or guidon to be torn off, which then becomes a banner, being square (on which he has his arms and supporters embroidered). The new knight banneret then returns to his tent, accompanied by martial music, and attended by many nobles and field officers, where they are highly entertained. A knight banneret has a right to display his banner in the field. Neither the title nor supporters are hereditary. In the 28th of Edward I. the daily pay of a knight banneret was four shillings and their diet at court; they take precedence of the younger sons of viscounts and barons. The last knight banneret was sir John Smith, by Charles I. after the battle of Edge-hill, where he rescued the royal standard from the rebels.

BANNERET is also the name of an officer, or magistrate of Rome, towards the close of the fourteenth century.

The people of that city, and throughout the territory of the church, during the disputes of the antipopes, had formed a kind of republican government; where the whole power was lodged in the hands of a magistrate, called senator, and twelve heads of quarters, called bannerets, by reason of the banners which each raised in his district.

BANNER-ROLLS, in *Heraldry*, are small flags used at funerals.

BANNIMUS, q. d. *we baniſh*, from the obſolete *bannio*, the form of expulſion of any member from the univerſity of Oxford, by affixing the ſentence up in ſome public place, as a denunciation or promulgation of it.

BANNOCK, in *Cookery*, is an oat-cake, kneaded only with water, and baked in the embers. Theſe are common in Lancaſhire and ſome other counties.

BANNOCKBURN, in *Geography*, a village of Scotland, in the county of Stirling, where was fought a battle between the Engliſh and Scots on the 25th. of June 1314, in which the Engliſh were defeated with great loſs, and by which the independence of Scotland was ſecured, and Bruce fixed on the throne of the kingdom; and where James III. king of Scotland, was in 1487 overpowered by his ſubjects, wounded, and ſoon after murdered by a prieſt taking his confeſſion: two miles ſouth of Stirling.

BANNOW, the name of a town which formerly exiſted in the county of Wexford, province of Leinſter, Ireland, ſituated at the ſouth-eaſtern extremity of a ſmall haven of the ſame name, formerly called Bagganbun. This is noted as the place at which Robert Fitzſtephens, Harvey of Mountmorres, and Maurice of Pendergaſt (not earl Strongbow, as ſome accounts erroneouſly ſtate), the firſt of the Engliſh adventurers, landed in A.D. 1170. It is ſaid by Giraldus Cambrenſis, to be a little creek lying in the county of Wexford, near to Feathard a fiſhing town, the open ſea being on the eaſt, and not far from the haven mouth of Waterford on the ſouth. The ſame writer ſpeaks of it as very unfit for a harbour, and ſays that it derived its name from that of one of the ſhips in which the Engliſhmen arrived. The name Bagganbun is retained in an ancient rhyme:

"At the creek of Bagganbun,
Ireland was loſt and won."

And the place was ſo noted, that ſome old writers have even ſpoken of the whole iſland by the name of Bannow. Though the town ſeems never to have arrived at the ſame conſequence that its neighbour Feathard did, it was made a borough and continued to ſend members until the union. "So late as the year 1626," ſays the writer of a letter to Dr. W. Hamilton, "Bannow is regiſtered in the cuſtom-houſe books of Wexford, as having four ſtreets which paid quit-rent to the crown, and ſome buildings ſurrounding the church." The name of one of theſe ſtreets, Weavers' ſtreet, indicates ſome manufacture to have been carried on. "The only remains of it," continues the latter writer, "which ſtand viſible at this day (1786) are the walls of its church. There is not in or near the ſite of the former town even one ſolitary hut. The election for the repreſentatives of the town is held on the walls of an old chimney, adjoining to the church, which tumbled down piecemeal, and forms the council table of that ancient and loyal corporation. Towns die as well as men; the veſtiges of Bannow are traced with difficulty amidſt heaps of barren ſand, and now the privilege which intereſted ſome in its continuance having ceaſed, in a few years it may be entirely forgotten. Its diſtance ſouth from Dublin is 76¾ Iriſh miles, long. 6° 50′. W. lat. 52° 12′. N. Hollingſhead. Tranſactions of Royal Irish Academy.

BANNUM *Capitis*, was a mulct paid in cattle.

BANNUS, or BANUS, a title anciently given to the governor or viceroy of Croatia, Dalmatia, and Sclavonia.

BANNUS *Epiſcopalis*, was a mulct paid to the biſhop by thoſe guilty of ſacrilege, or other crimes.

BANONCOURT, in *Geography*, a town of France, in the department of the Meuſe, and chief place of a canton in the diſtrict of St. Mihiel, 1½ league north of St. Mihiel.

BANOY, in *Ornithology*, the name given, by the people of the Philippine iſlands, to a kind of hawk, ſomewhat larger than our ſparrow-hawk, and of a yellowiſh colour on the back and wings, and white under the belly. It is the moſt common of all the kinds of hawk in that part of the world, and is a very voracious animal.

BANQUET, in the *Manege*, denotes that ſmall part of the branch of a bridle under the eye, which, being rounded like a ſmall rod, gathers and joins the extremities of the bit to the branch, in ſuch a manner, that the banquet is not ſeen, but covered by the cap, or that part of the bit next the branch.

BANQUET-*Line*, is an imaginary line drawn by the bit-makers along the banquet, in forging a bit, and prolonged upwards and downwards, to adjuſt the deſigned force or weakneſs of the branch, in order to make it ſtiff or eaſy; for the branch will be hard and ſtrong if the ſevil-hole be on the outſide of the banquet, with reſpect to the neck; and it will be weak and eaſy, if the ſevil-hole be on the inſide of the line, taking the centre from the neck.

BANQUETING-*Room*, or *houſe*. (See XENIA, SALOON, &c.) The ancient Romans ſupped in the atrium of their houſes: but, in after-times, magnificent ſalloons or banqueting-rooms were built for the more commodious and ſplendid entertainment of their gueſts. Lucullus had ſeveral of theſe, each diſtinguiſhed by the name of ſome god; and there was a particular rate of expence appropriated to each. Plutarch relates (in Lucullum, apud Oper. t. i. p. 519.) with what magnificence he entertained Cicero and Pompey, who went with deſign to ſurpriſe him, by only telling a ſlave who waited that the cloth ſhould be laid in the Apollo. The emperor Claudius, among others, had a ſplendid banqueting-room, named Mercury. But every thing of this kind was outdone by the luſtre of that celebrated banqueting-houſe of Nero, called *domus aurea;* which, by the circular motion of its partitions and cielings, imitated the revolution of the heavens, and repreſented the different ſeaſons of the year, which changed at every ſervice, and ſhowered down flowers, eſſences, and perfumes on the gueſts. Heliogabalus, nevertheleſs, is ſaid to have improved as much upon Nero, as the latter had done on Lucullus. Senec. Ep. 90.

BANQUETTE, in *Fortification*, is a little foot bank, or an elevation of earth forming a path which runs along the inſide of a parapet; by which the muſqueteers get up to diſcover the counter-ſcarp, or to fire on the enemies in the moat or in the covert-way.

The banquette is generally between two and three feet high, and three feet broad, and four feet and a half lower than the parapet, having two or three ſteps to mount it by. Where the parapet is very high, they make a double banquette one over the other.

BANSTEAD, in *Geography*, a village of Surry in England, is celebrated for its paſture downs, and the delicate mutton they produce. The ſheep bred here are of a ſmall ſpecies, and being fed moſtly on the ſhort ſweet herbage which abounds with wild thyme, juniper, &c. their fleſh is peculiarly rich, and is often ſold in the London markets for lamb. (See SHEEP.) The ſoil of theſe downs conſiſts of chalk, flints, and a thin ſtratum of blackiſh mould. Here is an annual horſe-race, much frequented by the ſporting people of London.

BANSTICKLE, in *Ichthyology*, a name ſynonymous with prickle-bag, prickle-back, and ſtickle-back. See GASTEROSTEUS.

BANSWALEH, in *Geography*, a diſtrict of Hindoſtan, ſituated on the weſt part of Malwa.

BANSWARA, a town of Hindoſtan, in the country of Tellingana or Golconda, twenty miles from Indelovoy.

BANSWARAH, a town of Hindoſtan, in the country of Malwa, 75 miles weſt of Ougein, and 105 E.N.E. of Amedabad. N. lat. 23° 25′. E. long. 74° 25′.

BANTAM, a ſea-port town in the north-weſt part of the iſland of Java, and capital of a kingdom. It is ſituated at the bottom of the bay of the ſame name, about a quarter of an hour's walk from the ſea-ſide; and lies between two branches of a river that deſcends from the mountains, in an extenſive plain, behind which there is a range of high and maſſy hills extending far to the ſouthward. Its diſtance from Batavia is about 13 Dutch miles, each of which is about 3½ Engliſh miles. The communication between theſe places by land is very difficult, and almoſt impracticable, on account of the thick forests and deep moraſſes which lie between them; whereas the paſſage by water, with the advantage of the land and ſea-winds, in the light Indian veſſels or proas, called flyers, is performed in four hours. The town of Bantam is large, but has no walls or fortifications towards the ſea, nor any on the land ſide, except fort Diamond, in which the king's palace ſtands. Bantam reſembles a grove of cocoa-nut trees rather than a city. The houſes are mere huts, walled up with reeds or canes, plaiſtered with clay, and covered with attap or leaves of palm-trees, and are confuſedly diſperſed, without any arrangement of ſtreets; and round each of them is a plantation of cocoa-nut trees, the whole being ſurrounded by a paling of ſplit bamboo, by which every family is wholly ſeparated from its neighbours. The river of Bantam, at its mouth, is about 170 or 180 feet wide, and is very ſhallow. However, at high water and in ſpring tides, it is from five to ſeven feet deep. Above the town it divides into three channels, of which that juſt mentioned is the middle one; the other two branches run into the ſea, about the diſtance of 1½ league on each ſide.

The gulph or bay of Bantam, bounded by a point of the ſame name and that of Pentang, forms a commodious retreat for ſhips, where a great number may anchor in ſafety. Within this bay are ſeveral ſmall iſlands, which are all uninhabited, except Pulo-Panjang, or the Long iſland, which is the largeſt and in which ſome fiſhermen reſide. Fiſh are plentiful; and the inhabitants prefer one called the kaalkop or bald-head, which has ſome reſemblance to our cod. This bay was formerly famous for being the principal rendezvous of the ſhipping from Europe in the eaſt. Bantam was the great mart for pepper and other ſpices, from whence they were diſtributed to other parts of the world. The chief factory of the Engliſh as well as Dutch Eaſt India company was ſettled there. The merchants of Arabia and Hindoſtan reſorted to it. Its ſovereigns were ſo deſirous of encouraging trade, by giving ſecurity to foreign merchants againſt the violent and revengeful diſpoſition of the natives, that the crime of murder was never pardoned when committed againſt a ſtranger, but might be committed by a foreigner for a fine to the relations of the deceaſed. This place flouriſhed for a conſiderable time; but the Dutch having conquered the neighbouring province of Jacatra, where they have ſince built Batavia, and transferred their principal buſineſs to it; and the Engliſh having removed to Hindoſtan and China, Bantam was reduced to a poor remnant of its former opulence and importance. Other circumſtances have alſo accelerated its decline. The bay is ſo choked up with daily acceſſions of new earth waſhed down from the mountains, as well as by coral ſhoals extending a conſiderable way to the eaſt, that it is inacceſſible at preſent to veſſels of burden. A fire alſo deſtroyed moſt of the houſes; and few have been ſince rebuilt. With the trade of Bantam the power of its ſovereign declined. In his wars with other princes of Java, he called in the aſſiſtance of the Dutch; and from that period he became, in fact, their captive. He reſides in a palace, built in the European ſtyle, within a fort called the Diamond, ſituated in a large open field, denominated the Paſcebaan, where three roads, leading from different quarters of the town, unite to the weſtward of the river, and garriſoned by a detachment from Batavia; the commander of which takes his orders, not from the king of Bantam, but from a Dutch governor, who lives in another fort, called Speelwyk, adjoining to the town, on the eaſt ſide of the river, and nearer to the ſea ſide. The royal palace is an oblong ſquare, 840 feet long, and nearly half as broad; it has regular baſtions at the four corners, and ſeveral ſemicircular places of arms on the ſides. Stavorinus counted 66 pieces of cannon, moſt of them being braſs, and heavy artillery, but old, and few of them fit for ſervice. The Dutch garriſon conſiſts of a captain, three ſubalterns, and 130 privates, who guard the king's perſon, and keep him always in the company's power. None of his ſubjects, nor even his ſons, are allowed to approach him without the knowledge of the captain of the Dutch military, who keeps up a regular intercourſe with the commandant at fort Speelwyk. No Javaneſe or Bantammer is ever allowed to paſs the night within the walls of the fort. The approach to it is by a drawbridge, thrown over the moat; and at the gate of the fort an officer and 24 men mount guard night and day. The walls of the king's ſeraglio are raiſed higher than thoſe of the fort, to guard it againſt the inſpection of the curious. When the king's ſons arrive at the age of puberty, they are removed from their father, but have each their ſeparate ſeraglio or harem. All the ſervants of the palace are women, and even the king's attendant guards are females. However, when he appears in public, he is accompanied by his Bantam life-guards, though they are never admitted within the gates of the fortreſs, who, beſides their ſide arms, which are criſſes or long daggers, are provided with pikes, having very long and broad iron heads; and when the king goes abroad he is likewiſe attended by a guard of Europeans from the garriſon. Beſides maintaining a body of native troops, his Bantameſe majeſty is allowed to keep ſeveral ſmall armed veſſels, by means of which he maintains authority over ſome part of the ſouth of Sumatra. His ſubjects are obliged to ſell him all the pepper they raiſe in either iſland at a low price, which he has contracted to deliver to the Dutch at a ſmall advance, and much under the marketable value of that commodity. The religion of the kingdom of Bantam is the ſame with that which prevails in the iſland of Java, or Mahometan; and the preſent king joins the ſpiritual to the temporal power, and is high-prieſt of this religion; with which, indeed, he blends ſome of the rites and ſuperſtitions of the aboriginal inhabitants of Java; adoring, for inſtance, the great banyan or Indian fig-tree, which is likewiſe held ſacred in Hindoſtan, and under which religious rites may be conveniently performed; in the ſame manner as all affairs of ſtate are actually tranſacted by the Bantameſe, under ſome ſhadowy tree, by moonlight.

In the middle of the plain, or Paſcebaan already mentioned, is a large weringa tree, or caſuarina equiſetifolia, which by its ſpreading branches, affords an agreeable ſhade; and at the foot of it a grave, covered with a large blue ſtone, in which was buried one of the former kings of Bantam. This is regarded by the inhabitants as a very holy place, and held in great veneration. Near this is a building which is uſed as a place of circumciſion for the children

children of the king; and on ſuch occaſions, it is hung round and richly decorated with coſtly tapeſtry and pieces of cloth. The Paſcebaan is likewiſe the ſcene of horſe-races and ſimilar exerciſes, in which the courtiers appear on horſeback, magnificently apparelled, to contend with the king or his ſons; but they always take care to yield the palm of victory to their royal competitors. The moſque or temple ſtands at the end of a pleaſant lawn, is of a ſquare form, with five roofs above one another, decreaſing in ſize and at laſt terminating in a point, and ſurrounded by a wall. The ſpire ſerves, like the minarets in Turkey, to announce the hours of prayer. Neither Chriſtian nor Pagan may enter this temple upon pain of death.

The chief authority at Bantam, on behalf of the company, is veſted in a ſenior merchant, with the title of commandant, who manages the trade, conſiſting chiefly in pepper and ſome cotton yarn. To the commandery of Bantam belong the two reſidences or factories which the Dutch company poſſeſs in the ſouthern part of the iſland of Sumatra; whence they derive annually a conſiderable quantity of pepper. At Bantam all heavy goods are weighed by *bhars*, each containing three *piculs*, and theſe laſt are eſtimated at 125lb. Stavorinus and ſome of his companions were admitted to an audience by the Bantam king. His dreſs conſiſted of a long Mooriſh coat, made of ſtuff interwoven with gold, and manufactured at Surat, called ſoesjes, which hung down almoſt to his feet, and the ſleeves of which were faſtened by a row of ſmall gold buttons. Under this coat, he wore a white ſhirt, and a pair of drawers reaching down to his heels, of the ſame ſtuff as the coat. His head was covered with a round and ſomewhat ſharp-pointed cap, of a violet colour, laced with ſilver. Behind his chair ſtood one of his female life-guards, armed with a large gold kris, in a ſheath of maſſy gold, which ſhe held in an elevated poſition: two female ſlaves were ſeated on each ſide of him on the ground; one held his tobacco-box and his betel-box, both of which were of gold, and when he wanted either, it was handed to him, wrapped in a ſilk-handkerchief: the other preſented a golden-ſpitting pot to his majeſty, whenever he had occaſion for it. Pipes and tobacco were preſented to the gueſts, as ſoon as they were ſeated, and the table was furniſhed with all kinds of Indian food, variouſly dreſſed. One ſingular practice is mentioned, which was that of the king's frequently belching during his meal, and it was followed by all the company. This cuſtom, which is an etiquette of the court of Bantam, was deſigned to ſhew that each perſon's appetite was good and the food agreeable, which was pleaſing to the king. Bantam is ſituated in S. lat. 6° 20′. E. long. 105° 24′. Stavorinus's Voyages, vol. i. p. 57—89. Staunton's Embaſſy to China, vol. i. p. 296—298.

Bantam-*Cock*, in *Ornithology*, a variety of the Phasianus *Gallus*, or the *gallus puſillus*, tibiis pennatis, pennis poſticis elongatis, in the Linnæan ſyſtem. It much reſembles, ſays Buffon, the rough-footed cock of France. Its feet are covered with feathers, but only on the outſide; the plumage of the legs is very long, and forms a ſort of boots which reach a conſiderable way beyond the claws. It is courageous, and reſolutely fights with one ſtronger than itſelf. Its iris is red; and it is ſaid, that moſt of this breed have no tuft.

Bantam-*Work*, a kind of Indian painting and carving on wood, reſembling Japan work, only more gay, and decorated with a great variety of gaudy colours.

Bantam-work is of leſs value among connoiſſeurs, though ſometimes preferred by the unſkilful, to the true Japan work. Formerly it was in greater uſe and eſteem than at preſent; and the imitation of it much practiſed by our japanners.

There are two ſorts of Bantam as well as of Japan work; as, in the latter, ſome are flat, lying even with the black, and others high, or emboſſed; ſo in Bantam-work, ſome are flat, and others in-cut, or carved into the wood, as we find in many large ſcreens; with this difference, that the Japan artiſts work chiefly in gold and other metals, and the Bantam generally in colours, with a ſmall ſprinkling of gold here and there.

As to the flat Bantam-work, it is done in colours, mixed with gum-water, proper for the thing deſigned to be imitated. The method of performing the carved or in-cut kind is thus deſcribed by an ingenious artiſt. The wood is firſt to be primed with whiting and ſize, ſo often till the primer lie near a quarter of an inch thick; then it is to be water-plained, i. e rubbed with a fine wet cloth, and, ſome time after, bruſhed very ſmooth, the blacks laid on, varniſhed up with a good body, and poliſhed well, though with a gentle hand. This done, the deſign is to be traced out with vermillion and gum-water, exactly in the manner wherein it is intended to be cut; the figures, trees, buildings, &c. in their due proportions. Then the graver is applied, with other tools of proper ſhapes, differing according to the workman's fancy. With theſe he cuts deep or ſhallow, as is found convenient, but never deeper than the whiting lies; the wood being never to feel the edge of the inſtrument. Lines or parts of the black are ſtill to be left, for the draperies and other out-lines, and for the diſtinction of one thing from another; the rule being to cut where the white is, and leave the black untouched. The carving being finiſhed, they then uſe the pencil, with which the colours are laid into the cut-work. After this, the gold is to be laid in thoſe places which the deſign requires; for which purpoſe, a ſtrong thick gum-arabic water is taken, and laid with a pencil on the work; and, while this remains wet, leaf-gold is cut with a ſharp ſmooth-edged knife, in little pieces, ſhaped to the bigneſs and figure of the places where they are to be laid. Theſe being taken up with a little cotton, they dab them with the ſame cloſe to the gum-water, which affords a rich luſtre. The work thus finiſhed, they clear up the black with oil, taking care not to touch the colours. The European workmen, in lieu of leaf-gold, ordinarily uſe braſs-duſt, which is leſs bright and beautiful. Park. Treat. of Japan.

BANTAYAN, in *Geography*, a ſmall iſland of the Eaſt Indies, belonging to the group of Philippines, ſituate north-eaſt of Zebu, near cape Burulaque. It is encompaſſed by four or five of a ſmaller ſize; and the inhabitants employ themſelves in fiſhing and making cotton hoſe.

BANTEIA, or Bantia, in *Ancient Geography*, a town of Italy, in Apulia. Plutarch, in his life of Marcellus, ſpeaks of this place in his account of the march of this general againſt Hannibal: and Horace (Od. iv. lib. 3.) calls the defiles in its vicinity "ſaltus Bantinos."

BANTELN, in *Geography*, a town of Germany, in the circle of Lower Saxony, and principality of Calenberg; in which is a carpet manufacture.

BANTI, Brigida Georgi, in *Biography*, an opera ſinger of the firſt claſs. In 1777, ſhe was engaged by the proprietors of the pantheon, to ſupply the place of the Agujari; a meaſure adopted merely on ſpeculation, upon hearing from Paris of the effects of her fine voice in that capital.

She was the daughter of a *gondoliere* at Venice, and for ſome time a piazza performer in that city. After this exerciſe of her natural vocal powers, ſhe ſung her way to Lyons, where ſhe performed in coffee-houſes for ſuch ſmall

donations as are uſually beſtowed on itinerant talents in ſuch places. Hence, by the power of ſong, ſhe was conveyed to Paris, where her voice was ſo much admired, that, after very little teaching by ſome of her countrymen whom ſhe met with there, ſhe was permitted to ſing at the concert ſpirituel. Here the applauſe was ſo loud, that it ſoon reached England, and inclined the proprietors of the pantheon to engage her for three ſeaſons, at 800l. a year, upon condition that 100l. ſhould be deducted each ſeaſon out of her ſalary, for the payment of an able maſter to cultivate her voice. Sacchini was the firſt appointed to this office; but ſoon found her ſo idle and obſtinate, that he quitted her as an incurable patient. She was next aſſigned to ſignor Piozzi, whoſe patience was likewiſe exhauſted before ſhe became a perfect ſinger. In 1779, ſhe returned to Italy as ignorant of muſic as when ſhe left that country; but from the accuracy of her ear, and power of imitation, ſhe ſoon improved, more by example than precept or ſtudy; and in 1783, we find in muſical records that ſhe was engaged at Florence, as firſt woman, to ſing with Marcheſi, then at the zenith of his powers and favour. The next year ſhe ſung at Turin; then at Milan; and in 1786, ſhe went to Vienna; thence to Warſaw in 1787; and in 1788, firſt performed at Naples, where the theatre is the largeſt in Europe, and reckoned the poſt of honour among ſingers. And here her favour was ſo great, that after ſinging at Milan with Creſcentini, and at Venice with Pacchierotti, ſhe was recalled to Naples three ſeveral times before the year 1793, when ſhe went to Spain; and at Madrid ſhe ſeems ſtill to have increaſed in fame and favour. His Catholic majeſty finding that ſhe had a large family of children, which was increaſed during her reſidence in Spain, took two off her hands, and promiſed to have them educated, and to provide for them. It is hardly credible, with a perſon and voice ſo entire and well preſerved, but ſhe uſed to declare, that ſhe had had children and miſcarriages to the amount of eighteen!

In 1794, on quitting Spain, ſhe returned to England, where ſhe preſerved her voice, increaſed its powers, and her favour with the public, every ſeaſon, till 1802, when ſhe again returned to her own country; and in November performed at Bologna, in *Antigona*, an opera compoſed by Bianchi. From Bologna ſhe was invited to Naples for the fourth time; and from Naples was invited to ſing at Milan, during the carnival of 1803.

We cannot take our leave of this admirable performer, without declaring, that we never heard a voice of more grateful tone, or more conſtant in tune; or an execution (as far as ſhe attempted *bravura*) more neat, brilliant, and articulate. The low notes of her voice were mellifluous, rich, and full to an uncommon degree; and in pathetic airs, the tones through her whole compaſs were truly touching.

Her knowledge of muſic was inconſiderable, and this ſhe always confeſſed; that is, ſhe could not ſing at ſight: but who is ever required in public to ſing airs at ſight? and whether ſhe was an hour or a week in ſtudying a part, it was the ſame thing to the audience, as ſhe was always perfect on the ſtage; ſo that the inconvenience was all her own.

It has been ſaid that ſhe wanted variety in her embelliſhments; but few female ſingers are ſufficiently ſkilled in the laws of counterpoint to invent graces themſelves, that ſhall not break the time or injure the harmony; and we believe that compoſers muſt rejoice in ſuch ignorance, as modeſtly delivers their melodies unſophiſticated, diſguiſed, and changed by what are vulgarly termed graces, but which perſons of true taſte and judgment, with more propriety, denominate ignorance and impertinence.

We long wiſhed the Banti's ſhake a little more open, but even that wish was gratified before her departure.

And now, quitting the ſinger, we ſhall pay our reſpects to her as an actreſs; in which faculty ſhe ſurpaſſed in grace, dignity, and propriety, all the ſtage ſingers whom we remember ever to have ſeen; and whoever recollects her performance in the opera of Semiramide, will not diſpute her tranſcendent merit in that particular: ever attentive to the perſons who addreſſed her in each ſcene, whether good or bad ſingers, friends or foes to herſelf, ſhe never ſeemed to think them leſs worthy of her notice than the ladies of her acquaintance in the pit or the boxes.

Her perſon and figure were good, and her countenance, though not handſome, was expreſſive, and her features ſtrong and flexible. Upon the whole, we know not whether ſhe gratified us moſt as a ſinger or an actreſs.

BANTON, or BATAN, in *Geography*, one of the ſmaller Philippine iſlands.

BANTRY, a market and poſt town of the county of Cork, Ireland, ſituated at the bottom of the extenſive bay called from it, on the eaſt ſide. It was formerly called the Old town, to diſtinguiſh it from a ſettlement more to the north, where general Ireton cauſed a fortification to be erected, but when the fort went to decay, it was entirely forſaken. Several years ago, Bantry was a thriving town, on account of the pilchard fiſhery, ſeveral thouſand pounds worth of them having been ſent to Italy, Spain, and Portugal, and much oil made from them. In 1748 and 1749, there was a great herring fiſhery, as appears from returns made to the Dublin ſociety, but the town has ſince fallen into decay. It was however brought into notice by the French fleet going there, and fortifications were erected there to prevent a future ſurpriſe. Whiddy iſland, oppoſite the town, is remarkable for its fertility and beauty; and Glangariff, between Bantry and Bear iſland, is a charming place, the rocks of which are covered with Arbutus trees, and plants of different kinds. Bantry is 164 Iriſh miles S.W. from Dublin. N. lat. 51° 39′. W. long. 9° 20′.

BANTRY *Bay*, a large harbour in the weſtern part of the county of Cork, Ireland, which is one of the fineſt in the world, being twenty-ſix miles long, and from three to five broad. There is in ſome parts from 30 to 40 fathom water, and the tides move very gently right in and out through the whole bay. There are few ſtrands round it, the coaſt being all high and ſtupendous rocks. In this bay, near the entrance, there was an engagement in A. D. 1689, between the French fleet which brought James II. to Ireland, and the Britiſh fleet, of very inferior force, under admiral Herbert, when, after engaging ſome hours, the former got into the bay, and the latter returned to England with very ſmall loſs. In 1796, it was fixed as the place of rendezvous for the French force deſtined to invade Ireland, and ſome ſhips arrived there the 22d of December, which cauſed a great alarm throughout the country, but general Hoche, the commander in chief, with the reſt of the fleet, not arriving, they ſailed the 27th of the ſame month, without having attempted to land.

BANUB, a town of Egypt, 52 miles W.N.W. of Manſora.

BANVILLE, a town of France, in the department of the Calvados, three leagues N.N.W. of Caen, and 2¾ E. o Bayeux.

BANY, the name of a river that lies on the ſouth-weſt coaſt of Africa. The Dead iſland is in this river; and the coaſt runs here eaſt and weſt from cape Fermoſa.

BANYAN TREE, in *Botany*. See FICUS.

BANZA,

BANZA, in *Geography*, a town of Africa, in the kingdom of Congo, now called St. Salvador.

BANZKOW, a town of Germany, in the circle of Lower Saxony, and county of Schwerin.

BAOBAB, in *Natural Hiſtory*, the name of an African fruit, deſcribed by Proſper Alpinus. It is of the ſize of a lemon, but it reſembles a gourd, and contains ſeveral black ſeeds, whoſe extremities are a little crooked. Its ſubſtance alſo much reſembles that of the gourd; and, when firſt pulled off, is moiſt, red, and of a grateful acid taſte. The people of Ethiopia, where it is plentiful, are very fond of it, in the ſcorching heats of ſummer; and the richer ſort add ſugar to it, to correct its acidity. It is a great cooler, and very agreeably quenches thirſt; and has alſo ſome medicinal uſe, as it is good in contagious and peſtilential fevers. The people of Cairo, where the freſh fruit is not to be had, uſe its pulp dried and powdered; and it is ſo uſed at Senegal in peſtilential fevers, the dyſentery, and bloody flux. The doſe is a drachm, taken either in common water, or in an infuſion of the plantain.

The baobab tree, the *Adanſonia digitata* (ſee ADANSONIA), has been very minutely and accurately deſcribed by Mr. Adanſon, in the Memoirs of the Academy of Sciences at Paris. It is found at Senegal in Africa; and its bulk is ſo enormous, that it has more the appearance of a foreſt than of a ſingle tree. Its trunk, which ſeldom exceeds twelve feet in height, meaſures between ſeventy and eighty feet in circumference, and is crowned with a number of branches, remarkable for their thickneſs and their length, which is from fifty to ſixty feet. They moſtly ſhoot out in an horizontal direction, and give to the trunk the appearance of an hemiſphere from ſixty to ſeventy feet high, and about a hundred and forty feet in diameter. The bark is an inch thick, of an aſh-coloured grey, greaſy to the touch, bright, and very ſmooth; the outſide is covered with a varniſh, and the inſide is green ſpeckled with red; the wood is white and ſoft; the leaves are oval, pointed at the end, and about five inches long, and two and a half broad; ſeven of theſe are generally attached to one pedicle. The tree produces flowers much larger than any hitherto known; the calyx of the flower conſiſts only of one piece, the lower part of which forms a ſhort tube, which ſpreads into the ſhape of a ſaucer, having its edge divided into five equal parts of a triangular figure. The petals are five in number, of the ſame length with the calyx. From the ſame centre, and within the petal, riſes a cone, which ſpreads into about ſeven hundred filaments, each having a ſmall ſubſtance in form of a kidney at the end of it, the convex part of which opens into two cells, which ſhed a duſt, conſiſting of ſmall white tranſparent particles. The piſtil riſes from the centre of the calyx, and conſiſts of an ovary, a ſtylus, and ſeveral ſtigmata, in number from ten to fourteen. The ovary becomes a very conſiderable fruit. The tree flowers in July, and the fruit ripens in October and November. The bark and leaves are dried, and powdered by the negroes of Senegal, and uſed like pepper and ſalt. Mr. Adanſon uſed it as a preſervative from the epidemic fever of the country, and found it of great benefit in promoting perſpiration, and attempering the exceſſive heat of the blood. The woody bark of the fruit, and the fruit itſelf, ſupply the negroes with an excellent ſoap, which they prepare by drawing a ley from the aſhes, and boiling it with palm-oil that begins to be rancid. The decaying trunks are hollowed out into burying places for perſons moſt eſteemed by the negroes; ſuch as poets, muſicians, and buffoons; and their bodies ſhut up in theſe trunks become perfectly dry, without rotting, and form a kind of mummies, without the help of embalment. This is the largeſt tree in Abyſſinia. The wild bees perforate the trunk, which is ſoft and ſpongy, and lodge their honey in the holes made in it; and that honey is preferred to any other in Abyſſinia. It may be propagated by ſeeds, procured from the country where it naturally grows. The ſeeds muſt be ſown in pots and plunged in a hot-bed; and when in about ſix weeks the plants come up, they ſhould be tranſplanted into ſeparate pots, filled with a proper earth, and plunged into a freſh hot-bed, ſhading them till they have taken new root; after which they muſt have free air in warm weather, and be frequently watered. As the plants advance in growth, they muſt be ſhifted into larger pots, and kept conſtantly plunged in the bark-bed, and remain in the ſtove with other tender exotic plants. In three years, many of them riſe to the height of ſix feet, and put out ſeveral lateral branches, and their ſtems are proportionable; but after four or five years' growth, they are almoſt at a ſtand, their annual ſhoots rarely exceeding two or three inches. Some ſeeds obtained from Mr. Adanſon have ſucceeded here, and many of the plants grow upwards of twelve or fifteen feet high. Martyn's Miller. The African baobab has been ſometimes confounded with the American calabath.

BAOL, or BAUL, in *Geography*, a kingdom of Africa, in the country of Senegal, about eighty leagues long and twenty-four wide.

BAOOM, or APOOM, one of the newly diſcovered iſlands in the Southern Pacific ocean. S. lat. 16° 26'. W. long. 186° 17'.

BAONS, LES, a town of France, in the department of the Lower Seine, 2½ leagues north of Caudebec.

BAPAUME, a town of France, and principal place of a diſtrict in the department of the ſtraits of Calais, containing about 4500 inhabitants; three poſts ſouth of Arras, and 19¼ north of Paris.

BAPHE, in the *Writings of the Ancients*, a word uſed to expreſs that fine red colour, with which they uſed to illuminate the capital letters in manuſcripts, at the beginning of chapters. It is alſo called, by ſome, *encauſtum ſacra;* and, by others, *coccus* and *cinnabaris*. It was a very elegant colour,, and is ſaid to have been prepared of the purple colour taken from the *murex*, and ſome other ingredients. It was called *encauſtum* from its reſembling very much the fine bright red uſed in enamels.

BAPTACA, in *Geography*, a town of North America in the country of New Navarre, forty-five miles E.S.E. of Caſa Grand.

BAPTÆ, in *Antiquity*, an effeminate voluptuous kind of prieſts at Athens, belonging to Cotys or Cotytto, the goddeſs of wantonneſs; thus called, from their ſtated dippings and waſhings, by way of purification. It ſeems, they were to be made very clean and pure, that they might wallow and defile themſelves with the leſs reſerve; for their rites were performed in the night, and conſiſted chiefly of laſcivious dances.

Eupolis having compoſed a comedy to expoſe them, intitled βαπται, they threw him into the ſea, to be revenged; and the ſame fate is alſo ſaid to have befallen Cratinus, another Athenian poet, who had written a comedy againſt the baptæ, under the ſame title.

Others deduce the denomination baptæ, from the practice of dying and painting their bodies, eſpecially their eyebrows, and officiating at the ſervice of their deity with the parade and demureneſs of women. Juvenal deſcribes them in this light. Sat. ii. ver. 91.

"Talia ſecretâ colluerunt orgia tunicâ
Cecropiam ſolliti baptæ lallare Cotyttò."

BAPTES, in *Natural Hiſtory*, a name given by the ancients to a foſſile ſubſtance uſed in medicine; they have left us but very ſhort deſcriptions of it. Pliny only tells us that it was ſoft and of an agreeable ſmell. Hence Agricola judges, that it was probably one of the bitumens.

BAPTISM, in *Theology*; formed from the Greek βαπτίζω, of βάπτω, *I dip* or *plunge*, a rite or ceremony by which perſons are initiated into the profeſſion of the Chriſtian religion; or, it is the appointed mode by which a perſon aſſumes the profeſſion of Chriſtianity, or is admitted to a participation of the privileges belonging to the diſciples of Chriſt. It was by this mode that thoſe who believed the goſpel were to be ſeparated from unbelievers, and joined to the viſible Chriſtian church; and the rite accompanying it, or waſhing with water, was probably intended to repreſent the waſhing away, or renouncing the impurities of ſome former ſtate, viz. the ſins that had been committed, and the vicious habits that had been contracted: and to this purpoſe it may be obſerved, that the profeſſion of repentance always accompanied, or was underſtood to accompany, the profeſſion of faith in Chriſt. That our Lord inſtituted ſuch an ordinance as baptiſm, is plain from the commiſſion given to the apoſtles after his reſurrection, and recorded in Matth. xxviii. 19, 20. To this rite, there is alſo an alluſion in Mark, xvi. 16. John, iii. 5. Acts, ii. 41. viii. 12, 36—38. xxii. 16. The deſign of this inſtitution, which was to expreſs faith in Chriſt on the part of thoſe who are baptized, and to declare their reſolution of openly profeſſing his religion, and cultivating real and univerſal holineſs, appears from Rom. vi. 3, 4. 1 Peter, iii. 21. Epheſ. v. 26. and Tit. iii. 5. Some have inferred from Acts, ii. 38. xxii. 16. Tit. iii. 4—7. that God did thereby give to believers a token of the forgiveneſs of their ſins, according to the terms of the goſpel covenant; and they have alleged, that there is a ſenſe in which baptiſm may be called a ſeal of the covenant of grace.

We find no account of baptiſm as a diſtinct religious rite, before the miſſion of John, the forerunner of Chriſt, who was called the "Baptiſt," on account of his being commanded by God to baptize with water all who ſhould hearken to his invitation to repent. Waſhing, however, accompanied many of the Jewiſh rites, and, indeed, was required after contracting any kind of uncleanneſs. Alſo, ſoon after the time of our Saviour, we find it to have been the cuſtom of the Jews ſolemnly to baptize, as well as to circumciſe, all their proſelytes. As their writers treat largely of the reaſons for this rite, and give no hint of its being a novel inſtitution, it is probable, that this had always been the cuſtom antecedent to the time of Moſes, whoſe account of the right of circumciſion, and of the manner of performing it, is by no means circumſtantial. Or, baptiſm, after circumciſing, might have come into uſe gradually from the natural propriety of the thing, and its eaſy conformity to other Jewiſh cuſtoms. For if no Jew could approach the tabernacle, or temple, after the moſt trifling uncleanneſs, without bathing, much leſs would it be thought proper to admit a proſelyte from a ſtate ſo impure and unclean as heatheniſm was conceived to be, without the ſame mode of purification. On the other hand, it has been alleged, that none of the waſhings which were practiſed among the Jews, bear the leaſt reſemblance to Chriſtian baptiſm, except in the ſingle circumſtance of dipping; and this circumſtance is a mere accident, and may as well be taken from Pagan rituals, as from the ceremonies of the Jews; or, in other words, it is ſo vague and far-fetched, that it deſerves, in this point of view, no conſideration at all. Accordingly, it is maintained, there was no baptiſm in the world among any people till John, and that the purification of a proſelyte by dipping himſelf, which is called baptiſm, was a late tradition, long after the time of John. The antiquity of this practice of proſelyte-baptiſm among the Jews, has been a ſubject of conſiderable debate. It has been ſtrenuouſly maintained by Lightfoot (Works, vol. ii. p. 120, &c.), Emlyn (Previous Queſtion in Tracts, vol. i. p. 394.), Wall (Hiſtory of Infant Baptiſm, Introd.); and conteſted by Dr. Benſon (On St. Paul's Epiſt. vol. i. Diſc. viii. p. ii.), Gale (Reflections on Wall), Robinſon (Hiſt. of Baptiſm, p. 37.) &c. Dr. Benſon was at firſt an advocate for the Jewiſh cuſtom of initiating heathen proſelytes by baptiſm; but upon further inquiry he relinquiſhed this opinion: alleging that he had not found any inſtance of one perſon's waſhing another by way of conſecration, purification, or ſanctification; except that of Moſes's waſhing Aaron and his ſons, when he ſet them apart to the office of prieſts, Lev. viii. 6.; and that he cannot find that the Jews do at preſent practiſe any ſuch thing as that of baptizing the proſelytes that go over to them, though they are ſaid to make them waſh themſelves. He then aſks, where is any intimation of ſuch a practice among the Jews, before the coming of our Lord? If any one, he ſays, could produce any clear teſtimony of that kind from the Old Teſtament, the Apocrypha, Joſephus, or Philo, that would be of great moment. He adds, in former times, proſelytes coming over from heatheniſm to the Jewiſh religion, uſed to waſh themſelves, which is a very different thing from baptiſm, or one perſon's being waſhed by another. The genuine Targums, ſay Gill and Gale, written about the cloſe of the firſt century, and the Miſchna, written about the middle of the ſecond century, ſay nothing on this ſubject. The Chriſtian writers, called Fathers, ſpeak of Jewiſh proſelytes, and waſhings, and purifications from ceremonial uncleanneſſes; but nothing of admitting proſelytes into the community by baptiſm. The baptiſm of proſelytes, it is ſaid, came to light through the later Rabbies, and is chiefly to be ſought in the writings of Maimonides, who flouriſhed in the eleventh or twelfth century. In the Old Teſtament there are many precedents of admitting proſelytes into the Jewiſh church, as Rahab, Ruth, and others; but not one word is ſaid of their being baptized. Among the laws of admiſſion given by Moſes, Exod. xii. 48, 49, this is not mentioned. Dr. John Owen (Theologoumena) conſiders the opinion, that Chriſtian baptiſm came from the Jews, as deſtitute of all probability. On the other hand, Mr. Wall has made it highly probable, to ſay the leaſt, from many teſtimonies of the Jewiſh writers, who without one diſſenting voice allow the fact, that the practice of Jewiſh baptiſm obtained before and at, as well as after, our Saviour's time. There is alſo a ſtrong intimation, even in the goſpel itſelf, of ſuch a known practice among the Jews in the time of John the Baptiſt. John. i. 25. The teſtimonies of the Jewiſh writers are of the greater weight, becauſe the practice, reported by them to have been of ſo ancient a date, did ſtill remain among them; for if it had not been of that antiquity to which it pretends, viz. before the time of Chriſt, it is not likely that it would ever have become a cuſtom among the Jews afterwards. Would they begin to proſelyte perſons to their religion by baptiſm in imitation of the diſciples of Jeſus of Nazareth, whom they held accurſed? And yet if this proſelyte baptiſm were adopted by the Jews ſince the time of Chriſt, it muſt have been a mere innovation in imitation of Chriſtians, which is not very likely. See on this ſubject Maimon. in Miſchn. tom. ii. Iſure bia. c. 1. and c. 13. Selden de Jure Naturali, &c. l. ii. c. 2. Altingius de Proſelytis, diſſ. 7. § 46. Vi-

tring. Archiſynagog. c. 18. Curcellæi Inſtit. l. v. c. 2. § 7. Ainſworth on Gen. xxii. 12. Lightfoot ad Matt. iii. 6. The queſtion of the Phariſees to John the Baptiſt, "Why baptizeſt thou?" evidently favours the ſuppoſition, that ſuch a cuſtom exiſted; and our Saviour's queſtion to Nicodemus, "Art thou a maſter, or teacher, in Iſrael, and knoweſt not theſe things?" is a manifeſt alluſion to the cuſtom of initiating proſelytes by water-waſhing or baptizing, who after being ſo waſhed or baptized, were eſteemed regenerated or born again; and therefore to a ruler in Iſrael, who could not be unacquainted with theſe things, our Saviour's diſcourſe ought not to have appeared ſo unintelligible. Origen, in his Com. on Epiſt. to the Romans, c. 6. ſays, that Chriſt was baptized by John, not with that baptiſm which is in Chriſt, but with that which is in the law; implying, that under the law there was ſuch a cuſtom of baptizing. See alſo Arrian in Epictet. l. ii. c. 9.

In the primitive times, this ceremony was performed by immerſion, as it is to this day in the oriental churches, according to the original ſignification of the word. However, it is not improbable, that when great numbers were baptized at the ſame time, the water was applied by ſprinkling, which was a practice ſufficiently familiar to the Jews. The practice of the weſtern churches is, to ſprinkle the water on the head or face of the perſon to be baptized, except in the church of Milan, in whoſe ritual, it is ordered, that the head of the infant be plunged three times into the water; the miniſter at the ſame time pronouncing the words "*I baptize thee in the name of the Father, the Son, and the Holy Ghoſt;*" importing that by this ceremony the perſon baptized is received among the profeſſors of that religion, which God, the Father of all, revealed to mankind by the miniſtry of his Son, and confirmed by the miracles of his Spirit.

It is obſervable that the baptiſmal form, above cited from St. Matthew, never occurs in the ſame words, either in the book of the Acts, or in any of the Epiſtles. But perſons are required to be baptized in the name of Chriſt, or ſaid to have been baptized into Chriſt; that is, they made a profeſſion of faith in Jeſus, as the Chriſt, and acknowledged their obligations to him, by being baptized. Acts, ii. 38. viii. 16. 35. 38. Rom. vi. 3. Gal. iii. 27. But though the form which is in St. Matthew never appears elſewhere, the thing intended thereby is always implied. Nor could any be brought to make a profeſſion of faith in Jeſus, as the Chriſt, but upon the ſuppoſition that he had taught in the name and with the authority of God the father, and had proved his commiſſion by miraculous atteſtations which could not be denied nor gainſaid. It is obſerved that the baptiſm of Jeſus was, like that of John, a reception to his inſtruction, or information in his doctrine, or concerning him; as appears from his own injunction, Matt. xviii. 19, 20; and alſo from that clauſe which has been conſidered as the form of Chriſtian baptiſm; which ought to have been rendered not *in*, but (εις) *unto*, *into*, or *upon*, the name of God, of Chriſt, and of the Holy Spirit. The verſion which ſome have preferred is, "baptize *upon* the name of the Father, and of the Son, and of the Holy Spirit;" i. e. receive them to inſtruction upon theſe ſubjects; thus expreſſing what were to be the topics of their information, and what the great and diſtinguiſhing character of the inſtitution. On the part of the baptizer, baptiſm was a form of reception to inſtruction; and on the part of the perſons coming to baptiſm, it was an acknowledgment of the truth of the pretenſions of the perſon who baptized, an acknowledgment of his capacity and of his authority to propoſe himſelf as a religious inſtructor, and a deſire of being initiated into his ſchool, for the purpoſe of conforming to his diſcipline. Hence it would follow, that "to be baptized *unto*, or *upon* Chriſt," was a public ſolemn profeſſion of faith in him. However the baptiſm of the Ethiopian miniſter by Philip, in a ſcene ſo private, and before ſo few, if indeed before any witneſſes, ſeems to be inconſiſtent with the notion that baptiſm was a ſolemn public profeſſion of faith in Chriſt; and the requiſition of a previous verbal declaration of ſuch faith totally overturns it. See Cappe's Diſſertation on Baptiſm, in Crit. Rem. vol. ii. p. 102.

Baptiſm is not to be repeated, ſince it is a right of initiation into Chriſt's church. However, thoſe perſons might be baptized in the name of Jeſus, as the Meſſiah already come, who had before been baptized by John and his diſciples into the general expectation of a Meſſiah ſhortly to be revealed. Compare Acts, xix. 5. The Chriſtians in Abyſſinia repeat their baptiſm annually, on the feſtival of Epiphany. The naming of the baptized perſon is by no means any part of this inſtitution; and when it is uſed, is to be conſidered as an addreſs to the perſon, calling him by his name, rather than as the manner of giving a name to him: though it is probable, that the cuſtom of naming a child at baptiſm might ariſe from the practice of the Jews at their circumciſion. Luke, i. 59–63. ii. 21.

A triple immerſion was at an early period uſed, and continued for a long time: this was to ſignify either the three days that our Saviour lay in the grave, or the three perſons in the Trinity. But it was afterwards laid aſide, becauſe the Arians uſed it; it was then thought proper to plunge but once. (See IMMERSION.) Some are of opinion that ſprinkling in baptiſm was begun in cold countries. It was introduced into England about the beginning of the ninth century. At the council of Celchyth, in 816, it was ordered, that the prieſt ſhould not only ſprinkle the holy water upon the head of the infant, but likewiſe plunge it in the baſon. Some have referred the introduction of ſprinkling in the church of Rome to a canon of pope Stephen III., who, during his reſidence in France, in 754, was conſulted by ſome monks of Creſſy in Britanny with regard to ſeveral queſtions; one of which is ſaid to have given occaſion to the firſt authentic law for adminiſtering baptiſm by pouring, which in time was interpreted to ſignify ſprinkling. The queſtion propoſed was, whether in caſe of neceſſity occaſioned by illneſs of an infant, it were lawful to baptize by pouring water out of the hand or a cup on the head of the infant? To which Stephen replied, that if ſuch a baptiſm were performed in ſuch a caſe of neceſſity, in the name of the holy Trinity, it ſhould be held valid. This, ſays the learned James Baſnage (Monum. vol. i. præf. c. v. §. 4. de Canone Steph. III. Papæ), is accounted the firſt law for ſprinkling, but it doth not forbid dipping; allowing it only in caſe of imminent danger. He adds, that the authenticity of it is denied by ſome Catholics; that many laws were made after this time in Germany, France, and England, to compel dipping, and without any proviſion for caſes of neceſſity; and therefore that this law did not alter the mode of dipping in public baptiſms, and that it was not till 557 years after, that the legiſlature, in a council at Ravenna, in the year 1311, declared dipping or ſprinkling indifferent. It has been alleged, that this anſwer of Stephen is the true origin of private baptiſm and of ſprinkling. The introduction of ſprinkling inſtead of dipping, in ordinary caſes, into this iſland, is ſaid to have been effected by ſuch Engliſh, or more ſtrictly ſpeaking Scots exiles, as were diſciples of Calvin at Geneva, during the Marian perſecution; and it is added, that the Scots Calviniſts, who firſt introduced ſprinkling in ordinary baptiſm into the northern parts of the iſland, were the importers of it into the ſouthern. In the

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reign of king Edward, the eſtabliſhed church practiſed in ordinary caſes trine immerſion; and pouring or ſprinkling was allowed, only in caſes of danger, in private. It is further argued by thoſe who maintain that in the primitive church there is no mention of baptizing by pouring, that the adminiſtration of baptiſm by ſprinkling was firſt invented in Africa in the third century, in favour of clinics, or bed-ridden people; but that even African Catholics, the leaſt enlightened and the moſt depraved of all Catholics, derided it, and rejected it no baptiſm. See Jo. Andreæ Boſii de Clinicis exercit. Hiſt. Jenæ, cited by Robinſon in his "Hiſtory of Baptiſm," p. 449. In the liturgy of the Engliſh church at Frankfort, king Edward's ſervice book was uſed, and baptiſm was adminiſtered by trine immerſion. In the Scots church at Geneva, the miniſter was directed to take water in his hand, and lay it upon the child's forehead, which was called pouring. About 100 years after, in the aſſembly of divines, Dr. Lightfoot cauſed dipping to be excluded, and ſprinkling declared ſufficient. In the Eaſtern and Greek churches, dipping is ſaid to have been the invariable mode of adminiſtering baptiſm from the firſt introduction of it to this day. See Dr. King's Rites of the Greek church.

There are many ceremonies delivered by eccleſiaſtical writers, as uſed in baptiſm, which were introduced after the age of Juſtin Martyr, but which are now diſuſed; as the giving milk and honey to the baptized, in the Eaſt; wine and milk in the Weſt, &c. They alſo added unction and the impoſition of hands. Tertullian is the firſt who mentions the ſigning with the ſign of the croſs, but only as uſed in private, and not in public worſhip; and he particularly deſcribes the cuſtom of baptizing without mentioning it. Indeed, it does not appear to have been uſed in baptiſm till the latter end of the fourth or fifth century; at which time great virtue was aſcribed to it. Lactantius, who lived in the beginning of the fourth century, ſays (Inſt. l. iv. c. 27. p. 439.), the devil cannot approach thoſe who have the heavenly mark of the croſs upon them, as an impregnable fortreſs to defend them; but he does not ſay it was uſed in baptiſm. After the council of Nice, Chriſtians added to baptiſm the ceremonies of exorciſm and adjurations, to make evil ſpirits depart from the perſons to be baptized. They made ſeveral ſignings with the croſs, they uſed to light candles, they gave ſalt to the baptized perſon to taſte, and the prieſt touched his mouth and ears with ſpittle, and alſo blew and ſpat upon his face. At that time alſo baptized perſons wore white garments till the Sunday following. They had alſo various other ceremonies; ſome of which are now aboliſhed, though others of them remain in the church of Rome to this day.

The Quakers (ſee QUAKERS) aſſert, that water baptiſm was never intended to continue in the church of Chriſt any longer than while Jewiſh prejudices made ſuch an external ceremony neceſſary; which they argue from that paſſage, in which *one* baptiſm is ſpoken of as neceſſary to Chriſtians; Epheſ. iv. 5. which, as they ſay, muſt be a baptiſm of the ſpirit. But from comparing the texts that relate to this inſtitution, which have been already cited, it will plainly appear that water-baptiſm was inſtituted by Chriſt in more general terms than will agree with this explication. That it was adminiſtered to all the Gentile converts, and not confined to the Jews, appears from Matt. xxviii. 19, 20. compared with Acts, x. 47; and that the baptiſm of the ſpirit did not ſuperſede water baptiſm, appears to have been the judgment of Peter and of thoſe that were with him; ſo that the one baptiſm ſpoken of ſeems to have been that of water; the communication of the Holy Spirit being only called baptiſm in a figurative ſenſe. As for any objection which could be drawn from 1 Cor. i. 17. it is ſufficiently anſwered by the preceding verſes, and all the numerous texts, in which, in epiſtles written long after this, the apoſtle ſpeaks of *all* Chriſtians as baptized; and argues from the obligation of baptiſm, in ſuch a manner as we can never imagine he would have done, if he had apprehended it to have been the will of God that it ſhould be diſcontinued in the church. Compare Rom. vi. 3, &c. Col. ii. 12. Gal. iii. 27.

Baptiſm was alſo wholly rejected by the Valentinians, Manichees, Paulicians, and many other ſects.

Several of the Socinians have maintained, that baptiſm was only to be uſed by thoſe who are converted to Chriſtianity from a different profeſſion; and that though the children of ſuch proſelytes were to be baptized with their parents, all who deſcended from them were to be conſidered as baptized in them; and they urge the practice of proſelyte baptiſm among the Jews in ſupport of this opinion. (See Emlyn's Previous Queſtion, ubi ſupra). However, it has been alleged in reply, that the antiquity of this practice of proſelyte baptiſm among the Jews has been doubted, and even diſallowed by many; and if it be admitted, all the rules and circumſtances relating to it might not be known even to the apoſtles themſelves; and it is alſo probable, that ſome of the rules of proſelyte baptiſm did not prevail among them ſo early, particularly that which ſuppoſed that all natural relations were annulled by it. Beſides, although it be acknowledged that no inſtance occurs in the earlieſt primitive antiquity, in which the baptiſm of any child of Chriſtian parents, whether infant or adult, is expreſsly mentioned; yet it is certain that Chriſtians in general have always been ſpoken of by the moſt ancient fathers as baptized perſons; and the apoſtles, when writing to Chriſtian churches planted many years before the date of their reſpective epiſtles, argue with the members of them from the obligation which their baptiſm brought upon them, in ſuch a manner as would lead us to conclude, that they were baptized in their own perſons; and it is alſo certain, that as far as our knowledge of primitive antiquity reaches, no unbaptized perſon received the Lord's ſupper, which, nevertheleſs, was an ordinance none will deny that the deſcendants of Chriſtians participated. It is added, that on this ſuppoſition, genealogies would be of great importance in religion, contrary to what St. Paul intimates; nor can it be reaſonably thought that our right to Chriſtian communion ſhould reſt on a fact, the evidence of which might ſometimes be ſo obſcure, as the baptiſm of ſome remote anceſtor. See Gale's Serm. vol. ii. N° 9. Benſon on 2 Tim. p. 134—136. Whiſt. Life, vol. i. p. 367, 368.

Theological authors diſtinguiſh three kinds of baptiſm: 1. Water baptiſm, which is that above-mentioned. 2. Baptiſm of fire, which is the perfect love of God, joined with an earneſt deſire to be baptized; called alſo the *baptiſm of the Holy Ghoſt:* on occaſion this may ſupply the place of water baptiſm. 3. Baptiſm of blood, which is the martyrdom of a catechumen.

Baptiſm, in the primitive times, was only adminiſtered at Eaſter and Whitſuntide, except in caſes of neceſſity. Adult perſons were prepared for baptiſm by abſtinence, prayer, and other pious exerciſes. It was to anſwer for them, ſays Moſheim (Eccl. Hiſt. vol. i. p. 211.), that ſponſors, or godfathers, were firſt inſtituted in the ſecond century, though they were afterwards admitted alſo in the baptiſm of infants. This, according to M. Daillé, was not done till the fourth century. Wall (Hiſt. Inf. Bapt. vol. i. p. 49.) refers the origin of ſponſors, or godfathers, on the authority

authority of Tertullian, to the commencement of the ſecond century; who were uſed in the baptiſm of infants that could not anſwer for themſelves. (See GODFATHERS.) The catechumens were not forward in coming to baptiſm: St. Ambroſe was not baptized before he was elected biſhop of Milan; and ſome of the fathers not till the time of their death. Some deferred it out of a tender conſcience; and others out of too much attachment to the world; it being the prevailing opinion of the primitive times, that baptiſm, whenever conferred, waſhed away all antecedent ſtains and ſins. Accordingly they deferred this ſanctifying rite as long as poſſible, even till they apprehended they were at the point of death. Caſes of this kind occur at the beginning of the third century. Conſtantine the Great was not baptized till he was at the laſt gaſp, and in this he was followed by his ſon Conſtantius; and two of his other ſons, Conſtantine and Conſtans, were killed before they were baptized. Divers of the fathers rallied this ſuperſtitious delicacy to ſuch a degree, that they introduced a different extreme; the ridiculous zeal of ſome people carrying them to baptize even the dead, by proxy. Epiphanius, Chryſoſtom, and Theodoret, obſerve, that this cuſtom prevailed in ſome places in their time. See Baſnage Hiſt. des Egliſes Reformées, vol. i. p. 137.

The opinion of the neceſſity of baptiſm in order to ſalvation, is grounded on theſe two ſayings of our Saviour: "He that believeth, and is baptized, ſhall be ſaved;" and, "Except a man be born of water, and of the ſpirit, he cannot enter into the kingdom of God." Mark xvi. 16. John iii. 5. In the age immediately following that of the apoſtles, we find that baptiſm and regeneration were uſed as ſynonymous terms; and whereas, originally, the pardon of ſin was ſuppoſed to be the conſeqnence of that reformation of life which was only promiſed at baptiſm, it was now imagined that there was ſomething in the rite itſelf, to which that grace was annexed; and in general it ſeems to have been imagined that this ſanctifying virtue was in the water, and in no other part of the ordinance as adminiſtered by the prieſt. Tertullian ſays, that the Holy Spirit was always given in baptiſm; and he ſays, that the ſpirit of God deſcends upon the water of baptiſm like a dove. Chryſoſtom aſſerts, that the water ceaſes to be what it was before, and is not fit for drinking, but is proper for ſanctifying; and that the Chriſtian baptiſm is ſuperior to that of John, as his was the baptiſm of repentance, but had not the power of forgiving ſin. Auſtin ſays, that it touches the body, and purifies the heart. Baſnage (ubi ſupra), p. 138. And it appears by a paſſage in Auſtin, that the African Chriſtians uſually called baptiſm *ſalvation*, and the euchariſt *life*, preferring the former to the latter. Wickliff thought baptiſm to be neceſſary to ſalvation. "The prieſt," he ſays, "in baptiſm adminiſters only the token or ſign, but God, who is the prieſt and biſhop of our ſouls, adminiſters the ſpiritual grace." Gilpin's Life of Wickl. p. 64. It is alſo the language of the public forms of the church of England, that baptiſm is neceſſary to ſalvation, and that by baptiſm an infant is regenerated, becomes a child of God by adoption, and is incorporated into God's holy church. Similar to this is the doctrine of the church of Scotland; for, in their confeſſion of faith, baptiſm is ſaid to be a ſign or ſeal of the covenant of grace, of perſons ingrafting into Chriſt, of regeneration, of remiſſion of ſins, &c. As to the neceſſity of baptiſm, we may obſerve, however, that, though ſome ſeem to have laid too great ſtreſs upon it, as if it were indiſpenſably neceſſary in order to ſalvation; it muſt be allowed, that for any perſon to omit baptiſm, when he acknowledges it to be an inſtitution of Chriſt, and that it is the will of Chriſt that he ſhould ſubmit to it, is an act of diſobedience to his authority, which is inconſiſtent with true faith.

Mr. Dodwell maintains that the ordinance of baptiſm, if adminiſtered by perſons duly ordained, conveys an immortaliſing ſpirit; whereas perſons dying unbaptiſed are not immortal. Mr. Hallet alſo (Notes on Script. vol. iii. p. 299—311.), though he does not aſſert it in expreſs terms, ſeems to intimate ſomething very like it, when he ſays, that circumciſion was that which gave the infant a right to immortality; and that baptiſm in this reſpect comes in the room of circumciſion; and yet that no infants are miſerable in a future ſtate.

Some have maintained that the commiſſion to baptize was addreſſed by Jeſus only to the apoſtles; and hence they argue that none but apoſtles and apoſtolical men, their ſucceſſors, have any right to adminiſter baptiſm. But it has been aſked by others, is it a true fact that during the lives of the apoſtles, none but they baptized? Philip the deacon baptized the Samaritans (Acts xviii. 5—14); there was no apoſtle at Damaſcus when Paul was baptized, but he was baptized by a certain diſciple named Ananias. Acts ix. 18. Rom. vi. 4. See alſo Acts xviii. 2, &c. Acts x. 5—23. It is alſo inquired further by perſons of this latter claſs, who are the ſucceſſors of the apoſtles? and whether or not Jeſus inſtituted a prieſthood or any order of men to ſucceed the apoſtles? It is, however, a fact which cannot be conteſted, that in the earlieſt age of the Chriſtian church, the biſhop only, or the prieſts by his permiſſion, adminiſtered baptiſm; as, with his leave, they alſo performed any other of his functions: but it appears from Tertullian, that in his time laymen had in ſome caſes the power of baptizing. This baptiſm, nevertheleſs, ſeemed to have required the confirmation of the biſhop, and would not be allowed but in caſe of neceſſity, as at the approach of death, &c. At a ſynod at Elvira, in 306, it was allowed, that a layman, provided he had not been married a ſecond time, might baptize catechumens in caſe of neceſſity; but it was ordered, that if they ſurvived they ſhould be brought to the biſhop for the impoſition of hands. Afterwards, when the bounds of the church were much enlarged, the buſineſs of baptiſm was left almoſt entirely to the prieſts, or the country biſhops; and the biſhops of great ſees only confirmed afterwards. It ſeems, however, to be decent and proper, that baptiſm ſhould be adminiſtered only by the teachers and miniſters of the church, where their aſſiſtance can be had; not only becauſe it appears that theſe were the perſons by whom it was adminiſtered in the New Teſtament, but becauſe, *cæteris paribus*, they muſt be moſt capable of judging who are the fit ſubjects of it.

Great doubts were raiſed in early times about the validity of baptiſm as adminiſtered by heretics. Tertullian, before he became a Montaniſt, wrote a treatiſe to prove that heretics, not having the ſame God or the ſame Chriſt with the orthodox, their baptiſm was not valid. Cyprian called a ſynod at Carthage, in which it was determined, that no baptiſm was valid out of the Catholic church, and therefore, that thoſe who had been heretics ſhould be re-baptized. But Stephen, the biſhop of Rome, did not approve of this deciſion; and by degrees his opinion, which continued to be that of the church of Rome, became every where prevalent. Indeed, when ſo much ſtreſs was laid upon baptiſm itſelf, it would have introduced endleſs anxiety, if much doubt had remained about the power of adminiſtering it. For a further account of the ſubjects and mode of baptiſm, ſee BAPTISTS, and PÆDOBAPTISTS; ſee alſo ANABAPTISTS.

BAPTISM *of the Dead*, a cuſtom which anciently prevailed

vailed among ſome people in Africa. The third council of Carthage ſpeaks of it as a thing that ignorant Chriſtians were fond of. Gregory Nazianzen alſo takes notice of the ſame ſuperſtitious opinion prevailing among ſome who delayed to be baptized. In his addreſs to this kind of men, he aſks, whether they ſtaid to be baptized after death? Philaſtrius alſo notes it as the general error of the Montaniſts or Cataphrygians, that they baptized men after death.

The practice ſeems to be grounded on a vain opinion, that when men had neglected to receive baptiſm in their life-time, ſome compenſation might be made for this default by receiving it after death.

Baptism *of the Dead* was alſo a ſort of vicarious baptiſm formerly in uſe, where a perſon dying without baptiſm, another was baptized in his ſtead; a practice founded on 1 Cor. xv. 29. concerning the ſenſe of which paſſage critics have been much divided. Several Catholics underſtand it of the baptiſm of tears, penance, and prayers, which the living undergo for the dead, and allege it as a proof of the belief of purgatory in the apoſtles' days. See Heinſius's Exerc. ad Nov. Teſt. lib. vii. cap. 13.

Michaelis underſtands, with Grotius and Simon, by βαπτισμος υπερ νεκρων, or baptiſm for the dead, a vicarious baptiſm for the dead. Whether this vicarious baptiſm was practiſed in the firſt century, and meant by the apoſtle, it is difficult at preſent to determine; and Dr. Teller, one of the moſt ſenſible expoſitors of the New Teſtament, candidly confeſſes, that he is unable to comprehend the meaning of the paſſage. It is, however, certain that the cuſtom was not unknown in the fourth century, as appears from Chryſoſtom's 40th homily to the firſt epiſtle to the Corinthians; and in the ſame century it was not unuſual to defer baptiſm till the approach of death, and if the patient died ſuddenly, to baptize even the deceaſed. Michaelis's Introd. by Marſh, vol. i. p. 359.

Others have ſuppoſed that the ſuperſtitious cuſtom of baptizing a living perſon as the repreſentative of one who had died unbaptized, is more likely to have ariſen from an erroneous interpretation of this paſſage than to have been ſo early prevalent. Some conceive that νεκρων is here put for νεκρε, and refers to thoſe who were baptized into the religion of Jeſus, who on the hypotheſis of the adverſaries againſt whom the apoſtle reaſons, is *ſtill dead*. Sir Richard Ellys, in his "Fortuita Sacra," p. 137. interprets theſe words in the following manner: "*what ſhould they do who are baptized*, in token of their embracing the Chriſtian faith, *in the room of the dead*, who are juſt fallen in the cauſe of Chriſt, but are yet ſupported by a ſucceſſion of new converts, who immediately offer themſelves to fill up their place, as ranks of ſoldiers that advance to the combat in the room of their companions, who have juſt been ſlain in their ſight". Doddr. in loc. Wakefield (Tranſlation, vol. ii. p. 89.) renders the words: "Beſides, what advantage above the *other* dead will they have, who are ſubmitting conſtantly to baptiſm? Why indeed are they *thus* baptized, if the dead will certainly live no more? Why ſhould we too expoſe ourſelves to the danger of it *every* hour?" The apoſtle, ſays this critic, here begins a new argument of the reſurrection, grounded on the practice of the apoſtles themſelves, who had been eye-witneſſes of their maſter's revival. What contributed not a little to obſcure this paſſage, he adds, was the ſecond υπερ των νεκρων, a clauſe not acknowledged by the Coptic and Ethiopic verſions. For this ſenſe of baptiſm, the reader may conſult Matt. xx. 22. Luke xii. 50. Euſeb. Eccl. Hiſt. vi. 4. fin.; and for an illuſtration of the argument, Rev. xx. 4.

Baptism, *Lay*, ſeems to have been allowed in the rubric of the Engliſh liturgy, till the time of king James I. though there were great diſputes among the biſhops at the Hampton-court conference in 1603, whether the words of the liturgy imported ſuch allowance or not. The biſhop of Worceſter allowed them to be doubtful; but that the contrary practice of the church, which cenſured women for conferring baptiſm, ſhewed, that the compilers of the book did not intend them as a permiſſion: they had indeed propounded them ambiguouſly, becauſe otherwiſe, perhaps, the book would not have paſſed the parliament. The archbiſhop of Canterbury inſiſted, that the adminiſtration of private baptiſm by women and laymen was not allowed in the practice of the church, but, on the contrary, cenſured by the biſhops in their viſitations. He even added, that the words of the liturgy do not infer any ſuch meaning. To which king James excepted; urging and preſſing the words of the book, that they could not but intend a permiſſion of women and private perſons to baptize. Till this time it had been cuſtomary for biſhops to licenſe midwives to their office, and to allow their right to baptize in caſes of neceſſity, under an oath which was preſcribed to them.

At preſent, the Engliſh divines condemn it as invalid; and Burnet, biſhop of Sarum, was ſeverely handled by ſome of them, for aſſerting that faith in the Trinity gives every man a right to baptize. Collins's Diſc. on Free-Think. p. 73.

Baptism, *Clinic*. See Clinic.

Baptism is alſo applied abuſively to certain ceremonies uſed in giving names to many inanimate things.

Baptism, in *Sea Language*, is a ceremony in long voyages aboard merchant-ſhips; practiſed both on perſons and veſſels which paſs the tropic, or equinoctial line, for the firſt time.

That of veſſels is ſimple, and conſiſts only in the waſhing them throughout with ſea-water; that of paſſengers is ludicrous: but neither the one nor the other is done without making the crew drunk; the ſeamen, on chriſtening the ſhip, pretending to a right of cutting off the beak-head, unleſs redeemed by the maſter or captain.

Baptism *of Bells*. See Bell.

Baptismal Font. See Baptistery.

Baptismal *Preſents* are in uſe in Germany, made by the ſponſors to the infant, conſiſting of money, plate, or even ſometimes fiefs of lands; which, by the laws of the country, are to be kept for the child till of age, the parents having only the truſt, not the right of diſpoſing of them.

An anonymous author has publiſhed a diſcourſe expreſs on this occaſion, intitled, "De Pecunia Luſtrica."

Baptismal *Vow*, or *Covenant*, a profeſſion of obedience to the laws of Chriſt, which perſons, in the ancient church, made before baptiſm.

It was made by turning to the Eaſt, but for what myſtical reaſons is not well agreed.

BAPTIST, John, Monnoyer, in *Biography*, an eminent painter of flowers and fruit, was born at Liſle in 1635, and educated at Antwerp. The compoſition and colouring of this maſter are in a bolder ſtyle than thoſe of Van Huyſum, but his pictures are not ſo exquiſitely finiſhed. The diſpoſition of his objects is ſo elegant and beautiful as to form a teſt by which his compoſitions may be diſtinguiſhed from thoſe of other maſters. He was invited to England by the duke of Montagu, and employed in conjunction with La Foſſe and Rouſſeau, to embelliſh Montague houſe, which is now the Britiſh Muſeum, and in which are preſerved ſome of the fineſt performances of Baptiſt. A very celebrated work of this artiſt is a looking-glaſs preſerved in the royal palace at Kenſington, decorated with a garland

garland of flowers, for queen Mary II. who ſat by him during the greateſt part of the time whilſt he was employed in painting it. He died in 1699. His ſon Anthony Baptiſt was alſo a painter of flowers in the ſtyle and manner of his father. Pilkington.

Baptist, John, Gaspars, a painter of hiſtory and portrait. was born at Antwerp, and was a diſciple of Thomas Willeborts Boſchaert. During the civil wars he came over to England; and after the reſtoration was employed by ſir Peter Lely, to paint the poſtures and draperies of his portraits, and diſtinguiſhed by the name of Lely's Baptiſt. He made deſigns for tapeſtry, which were accounted good, and his drawing was generally correct. In the hall of St. Bartholomew's hoſpital there is a portrait of king Charles II. painted by this maſter. He died in 1691. Pilkington.

BAPTISTERY, in *Eccleſiaſtical Writers*, a place or edifice where water is preſerved for perſons to be baptized in. Anciently, in the churches which baptized by immerſion, the baptiſtery was a kind of pond where the catechumens were plunged; though in many places the next river ſerved for a baptiſtery, which was the caſe in the time of Juſtin Martyr and of Tertullian.

About the middle of the third century, they began to build baptiſteries; but there were none that adjoined to churches till the year 496, and then they ſtood without the church, and of this kind the firſt was prepared for the baptiſm of Clovis king of France, who, with his ſiſter Audofledis, was dipped three times by immerſion. But there were none within the churches till the ſixth century; and it is remarkable, that though there were many churches in one city, yet, with few exceptions, there was but one baptiſtery. This ſimple circumſtance became in time a title to dominion; and the congregation neareſt the baptiſtery, and to whom in ſome places it belonged, and by whom it was lent to the other churches, pretended that all the others ought to conſider themſelves as dependent upon them. When the faſhion of dedication was introduced, the church that owned the baptiſtery was generally dedicated to St. John the Baptiſt, and aſſumed the title of St. John *in fonte*, or St. John *ad fontes*, that is, the church near or at the baptiſtery. The noble and ſplendid cities of Florence, Piſa, Bologna, Parma, Milan, and many others in Italy, had but one baptiſtery in each; and theſe baptiſmal churches were uſually built near rivers and waters, as was the caſe with reſpect to thoſe of Milan, Naples, Ravenna, Verona, and many more. In later times, the biſhop of the baptiſmal church, having obtained ſecular power, granted licences for other churches to erect baptiſteries; taking care at the ſame time to maintain his own dominion over the people.

By a baptiſtery, which muſt not be confounded with a modern font, is to be underſtood an octagon building, with a cupola roof, reſembling the dome of a cathedral, adjacent to a church, bnt forming no part of it. The whole middle part of this edifice was one large hall capable of containing a great number of people; the ſides were parted off, and divided into rooms; and in ſome, rooms were added on the outſide in the faſhion of cloiſters. In the middle of the great hall was an octagon bath, which, ſtrictly ſpeaking, was the baptiſtery, and from which the whole building derived its appellation. Some of theſe were erected over natural rivulets; others were ſupplied by pipes, and the water was conveyed into one or more of the ſide-rooms. Some of the ſurrounding rooms were veſtries, others ſchool-rooms, both for tranſacting the affairs of the church, and for the inſtruction of youth. They were large and capacious; for as baptiſm was adminiſtered only twice a year, the candidates were numerous, and the ſpectators more numerous than they. In proceſs of time there were baptiſteries at moſt of the principal churches of Rome, as at thoſe of St. Peter, St. Laurence, St. Agnes, St. Pancras, and others. The moſt ancient is that at St. John Lateran. Baptiſteries were alſo erected ſeparate from the churches in all the principal cities of Italy, as Florence, Ravenna, Milan, Piſa, Parma, and the reſt. The baptiſtery annexed to the ſpacious and ſplendid church of St. Sophia at Conſtantinople, reſembled the convocation room of a cathedral; it was very large; councils have been held in it; and it was called μεγα φωτιστηριον, the great illuminatory. In the middle was the bath, in which baptiſm was adminiſtered; and there were outer rooms for all concerned in the baptiſm of immerſion, the only baptiſm of the place. The Lateran baptiſtery at Rome, belonging to the church of St. John Lateran, is an octagon edifice, the roof of which is ſupported by eight large polygonal pillars of porphyry; and under the cupola, in the centre of the floor, is the baptiſtery properly ſo called, lined with marble, with three ſteps for deſcent into it, and about five Roman palms, or 37½ inches, deep. Ciampini apprehends, after much inveſtigation of the opinion of antiquarians, that this baptiſtery was originally a bath in the precincts of the imperial palace; that it was begun to be converted into a baptiſtery by the emperor Conſtantine; that the buildings were carried on by pope Xyſtus III.; and that they were completed and ornamented by pope Hilary. Baptiſteries were in faſhion in Italy from the reign of Conſtantine to that of Charlemagne, during a period of about 500 years; and within this interval they were amply adorned and endowed. The firſt gifts of the faithful were milk, honey, and wine, for the refreſhment of the catechumens and their attendants; the next were oils, unguents, and ſalts; along with theſe came cups, vaſes, plates, and utenſils, marked with the initial letters of the name of John Baptiſt, I. B. or John the fore-runner, ΙΩΑΝ ΠΡΟΔ. which perhaps is the true origin of baptiſmal inſcriptions; then came money for the poor, and for the ſupport of thoſe who ſpent their time in teaching and officiating; after theſe came habits, ornaments, pictures of John holding out his right hand, with a lamb lying in it, being a reference to his words, "Behold the lamb of God;" and theſe were followed by others more complex; the whole forming a large body of ſuperſtitious theology, glaring in practice, but cumberſome to virtue.

In the baptiſm of infants, it was unneceſſary for the adminiſtrators to go into the water, and therefore they contrived ciſterns, which they called *fonts*, in which the children were dipped. Theſe were at firſt ſmall baths, erected on a platform, into which thoſe who performed the ceremony plunged children, without going into the water themſelves. In modern practice, the font remains, bnt a baſon of water ſet in the font ſerves the purpoſe, becauſe it is not thought neceſſary either that the adminiſtrator ſhould go into the water, or that the candidate ſhould be immerſed. This in England was cuſtom, but not law; for in the time of queen Elizabeth, the governors of the epiſcopal church did in effect expreſsly prohibit ſprinkling, by forbidding the uſe of baſons in public baptiſm. See "A booke of certaine canons, concerning ſome parte of the diſcipline of the churche of England," in 1571, by John Daye, p. 19. Fonts in pariſh-churches for the purpoſe of baptiſing infants were introduced ſoon after the arrival of Auſtin the monk; and each pariſh was enjoined to provide fonts of wood and ſtone for this purpoſe. In the old church of St. Peter at Oxford, built by Grymbald, who was brought over from Flanders into England by Alfred, in the year 885, there was till lately a very ancient baptiſmal font, of a circular form, and elegant ſculpture,

eleven feet in circumference, and of proportionable depth, with the twelve apoſtles repreſented in ſeparate niches. After having kept its place about 500 years, it was ordered to be removed, and another much inferior put in its place. In the church of Bridekirk, near Cockermouth in Cumberland, there is a large open veſſel of greeniſh ſtone, which antiquaries pronounce to be a Daniſh font. The chief characters on this baptiſmal font (ſee Gibſon's Camden's Brit. vol. ii. p. 1007.) are Runic, but ſome are purely Saxon. This is ſuppoſed to be the oldeſt font yet remaining in this kingdom, being of the ninth century, when the Danes firſt received the Catholic religion. Whether the font be Daniſh or Saxon, the baptiſm which it exhibits is that of the Catholics oppoſed to that of the old Pelagian Britons.

There were ſeveral fonts and altars in each baptiſtery, becauſe then they baptized at once, all of whom received the euchariſt immediately after.

The right of having fonts was confined to pariſhes alone; and if any monaſteries were found with baptiſmal fonts, it was becauſe they had baptiſmal churches in another place: though the biſhops ſometimes granted them to monks, upon condition that they would have a ſecular prieſt along with them to take care of the people; but they afterwards found means to throw off the prieſt, and make themſelves maſters of the church, and attach it, with its baptiſmal fonts, to their own monaſtery. For a copious account of baptiſteries and fonts, illuſtrated by figures, ſee Robertſon's Hiſtory of Baptiſm, p. 56—131.

BAPTISTERY is alſo uſed for a baptiſmal or parochial church.

BAPTISTERY is alſo uſed, by the *Armenians*, for the feaſt of Epiphany, when the anniverſary of Chriſt's baptiſm is celebrated.

BAPTISTERY is alſo uſed for a church-book, wherein the prayers and ceremonies of baptiſm were particularly deſcribed. Some take the *baptiſterium* to have contained the order of all the ſacraments, except the euchariſt.

BAPTISTS, in *Eccleſiaſtical Hiſtory*, from βαπτιζω, *I baptize*, a denomination of Chriſtians, diſtinguiſhed from other Chriſtians by their particular opinions reſpecting the mode and the ſubjects of baptiſm.

Inſtead of adminiſtering the ordinance by ſprinkling or pouring water, they maintain that it ought to be adminiſtered only by immerſion. Such, they inſiſt, is the meaning of the word βαπτιζω; ſo that a command to baptize is a command to immerſe. Thus it was underſtood by thoſe who firſt adminiſtered it. John the Baptiſt, and the apoſtles of Chriſt, adminiſtered it in Jordan and other rivers and places where there was much water. Both the adminiſtrators and the ſubjects are deſcribed as going down into, and coming up again out of the water. And the baptized are ſaid to be buried in baptiſm, and to be raiſed again; which language could not, they ſay, be properly adopted on ſuppoſition of the ordinance's being adminiſtered in any other manner than by immerſion. Thus alſo, they affirm, it was in general adminiſtered in the primitive church. Thus it is now adminiſtered in the Ruſſian and Greek church; and thus it is, at this day, directed to be adminiſtered in the church of England, to all who are thought capable of ſubmitting to it in this manner. With regard to the ſubjects of baptiſm, the baptiſts ſay, that this ordinance ought not to be adminiſtered to children or infants at all, nor to grown up perſons in general, but to adults only of a certain character and deſcription. Our Saviour's commiſſion to his apoſtles, by which Chriſtian baptiſm was inſtituted, is to go and teach all nations, baptizing them: that is, ſay they, not to baptize all they meet with; but firſt to inſtruct them—to teach all nations, or to preach the goſpel to every creature—and whoever receives it, him to baptize in the name of the Father, and of the Son, and of the Holy Ghoſt. To ſuch perſons, and to ſuch only, baptiſm appears to have been adminiſtered by the apoſtles, and the immediate diſciples of Chriſt. They are deſcribed as repenting of their ſins, as believing in Chriſt, and as having gladly received the word. Without theſe qualifications, Peter acquaints thoſe who were converted by his ſermon, that he could not have admitted them to baptiſm. Philip holds the ſame language in his diſcourſe with the eunuch. And Paul treats Lydia, the jailor, and others, in the ſame manner. Without theſe qualifications, Chriſtians in general think it wrong to admit perſons to the Lord's ſupper, and, for the ſame reaſons, without theſe qualifications, at leaſt a profeſſion of them, the Baptiſts think it wrong to admit any to baptiſm. Wherefore they withhold it, not only from the impenitently vicious and profane, and from infidels who have no faith, but alſo from infants and children, who have no knowledge, and who are incapable of every action civil and religious. They farther inſiſt, that all poſitive inſtitutions depend entirely upon the will and declaration of the inſtitutor; and that therefore reaſoning by analogy from previous abrogated rites is to be rejected, and the expreſs commands of Chriſt reſpecting the mode and ſubjects of baptiſm ought to be our only rule.

The Baptiſts in England form one of the three denominations of Proteſtant diſſenters. They ſeparate from the eſtabliſhment for the ſame reaſons as their brethren of the other denominations do, with whom they are united; and from additional motives derived from their particular tenets reſpecting baptiſm. The conſtitution of their churches, and their modes of worſhip, are congregational or independent: in the exerciſes of which they are protected, in common with other diſſenters, by the act of toleration. Before this act, they were liable to pains and penalties as non-conformiſts, and often for their peculiar ſentiments as baptiſts. A proclamation was iſſued out againſt them, and ſome of them were burnt in Smithfield in 1538. They bore a conſiderable ſhare in the perſecutions of the 17th and of the preceding centuries; and, as it ſhould ſeem, in thoſe of ſome centuries before; for there were ſeveral among the Lollards and the followers of Wickliff, who diſapproved of infant baptiſm. There were many of this perſuaſion among the Proteſtants and reformers abroad. In Holland, Germany, and the North, they went by the names of ANABAPTISTS and MENNONITES; and in Piedmont and the South, they were found among the ALBIGENSES and WALDENSES. See the Hiſtories of the Reformation, and the above articles in this Dictionary.

The Baptiſts ſubſiſt under two denominations, viz. the *Particular* or Calviniſtical, and the *General* or Arminian. The former is by far the moſt numerous. Some of both denominations allow of mixed communion, others diſallow it; and ſome of them obſerve the ſeventh day of the week as the ſabbath, apprehending the law that enjoined it not to have been repealed by Chriſt or his apoſtles. But a difference of opinion reſpecting theſe and other matters is not peculiar to the Baptiſts; it is common to all Chriſtians, and to all bodies of men who think and judge for themſelves. See PÆDOBAPTISTS, under which article an account will be given of the principal arguments in favour of infant baptiſm.

BAR, in *Architecture*, a long ſlender piece of wood or iron, uſed to keep things cloſe and faſt together.

In this ſenſe, we ſpeak of bars of windows, of doors, and the like.

Bars *of iron* are made of the metal of the ſows and pigs as they come from the furnaces.

Theſe paſs through two forges, called the finery and the chaufery; where, undergoing five ſeveral heats, they are formed into bars. Phil. Tranſ. N° 138. p. 954. See Iron, and Forge.

Bar *Shot*, in *Artillery*. See Shot.

To Bar or *ſtrike a Vein*, among *Farriers*, an operation performed on the veins of a horſe's legs, or other parts of his body, in order to ſtop the courſe, and leſſen the quantity of malignant humours prevailing there.

It is thus performed: the farrier opens the ſkin, after diſengaging the vein, ties it above and below, and then ſtrikes between the two ligatures.

Bar *of a Port*, in *Marine Fortification*. See Boom.

Bar, in *Geography*, is uſed for a heap of ſand or mud, or a chain of rocks, which block up the mouth of a river or port, ſo that there is no entrance except at high water. The bar of Siam is a remarkable bank of mud, gathered in the mouth of the river, which allows not above thirteen feet of water, when the tide is higheſt.

Bar, a town of Arabia, fifty-ſix miles ſouth-eaſt of El Catif, near the Perſian gulph.

Bar, a town of Hindoſtan, in the country of Bahar, fifteen miles north of Bahar, and thirty E. S. E. of Patna.

Bar, *Le*, a town of France, in the department of the Var, and chief place of a canton in the diſtrict of Graſſe, four miles north-eaſt of Graſſe.

Bar *ſur Aube*, a town of France, and principal place of a diſtrict in the department of the Aube. N. lat. 48° 14'. E. long. 4° 36'.

Bar *ſur Seine*, a town of France, and principal place of a diſtrict in the department of the Aube, ſituate at the foot of a mountain, on the Seine; it has three gates, a college, and an hoſpital; 5½ leagues S. E. of Troyes. N. lat. 48° 7'. E. long. 4° 16'.

Bar *le Duc*, a town of France, and principal town of a diſtrict in the department of the Meuſe; and, before the revolution, the capital of the duchy of Bar. It is divided into the Upper and Lower town by a caſtle called the Bar, and was a kind of barrier between France and Lorraine. The walls and towers of this caſtle were demoliſhed by Louis XIV. The river Ornain runs through the lower part of the town. It is ſeven leagues S. S. E. of St. Menehould, and 9½ weſt of Toul. N. lat. 48° 47'. E. long. 4° 4'.

Bar, *Duchy of*, was, before the revolution, the name of a country of France, ſituate to the weſt of Lorraine, thirty-two leagues long and ſixteen wide; the face of the country is irregular, preſenting hills and plains; and it abounds with wood, wine, corn, game, and fiſh. Its name was derived from the caſtle of Bar, and it was erected into a county by the emperor Otho, but the time when it was raiſed to a duchy is not aſcertained.

Bar, a diſtrict of Switzerland, in the canton of Zug. See Zug.

Bar, is alſo the name of a fortreſs of Poland, in Podolia.

Bar, in *Heraldry*, denotes an ordinary nearly reſembling the *Feſs*: it conſiſts of two lines drawn horizontally acroſs the field, and contains a fifth part thereof. The bar hath two diminutives; viz. a cloſet, which is in breadth one-half; and a barrulet, which is in breadth one fourth of that of the bar. When the field is divided into four, ſix, eight, ten, twelve, or more equal parts, it is then blazoned, *barry*; and the number of pieces are to be ſpecified, e. gr. *barry of ſo many pieces*; but if it contains an odd number, the field muſt be firſt named, and the number of bars expreſſed; they are then called bars. See Plate of *Heraldry*.

Bars-*Gemel*, or *Bars-Gemelles*, are diminutives of the bar, and are placed in pairs, or two and two on a ſhield. They derive their name from the Latin *gemelli*, twins. See Plate of *Heraldry*.

Bar, in a *Court of Juſtice*, denotes an incloſure made with a ſtrong partition of timber, three or four feet high, where the counſel are placed to plead cauſes; and where priſoners are brought to anſwer their indictments, &c.

This the French call *barre d'audience*, and in ſome places *auditoire*. It anſwers to what, among the Romans, was denominated *cancelli*.

It is called bar, becauſe incloſed with a barrier, called alſo in Latin writers *cancelli* and *caulæ*, by a metaphor taken from ſheep-folds.

The denomination bar is alſo given to the benches where the lawyers or advocates are ſeated.—The appellation aroſe hence, that anciently there was a bar, or barrier, to ſeparate the counſellors and pleaders from the attorneys and others.

Hence our lawyers who are called to the bar, or licenſed to plead, in other countries called *licentiati*, are termed *barriſters*. 24 Hen. VIII. c. 24.

Bar, or Barr, Barra, in *Common Law*, denotes a peremptory exception againſt a demand or plaint.

The author of the "Terms de Ley" defines bar, a plea brought by the defendant in an action, whereby the action of the plaintiff is deſtroyed for ever. And it is divided into *bar* to common intendment, and *bar* ſpecial; the former is an ordinary or general bar, which is uſually a bar to the declaration of the plaintiff; and the latter is that which occurs upon ſome ſpecial circumſtance of the fact, as to the caſe in hand. Modern writers alſo divide bars into *perpetual* and *temporary*: bar perpetual, is that which overthrows the action for ever, and bar temporary, or bar *pro tempore*, is that which is allowed good for the preſent, but may fail, or be ſet aſide hereafter. Plowd. 26. A plea in bar not giving a full anſwer to all the matter contained in the plaintiff's declaration, is not good. 1 Lill. Abr. 211. If one be barred by plea to the writ, or to the action of the writ, he may have the ſame writ again, or his right action again; but if the plea in bar be to the action itſelf, and the plaintiff be barred by judgment, &c. it is a bar for ever in perſonal actions. 6 Rep. 7. And a recovery in debt is a good bar to action on the caſe, for the ſame thing; alſo a recovery on aſſumpſit in caſe is a good bar in debt, &c. Cro. Jac. 110. 4 Rep. 94. In all actions perſonal, as debt, account, &c. a bar is perpetual, and in ſuch caſe the party hath no remedy but by writ of error or attaint; but if a man is barred in a real action or judgment, yet he may have an action of as high a nature, becauſe it concerns his inheritance; as e. g. if he is barred in a *formedon in deſcender*, yet he may have a *formedon in the remainder*, &c. 6 Rep. 7. It has been reſolved, that a bar in any action, real or perſonal, by judgment upon demurrer, verdict or confeſſion, is a bar to that action, or any action of the like nature for ever; but, according to Pemberton, chief juſtice, this is to be underſtood, when it doth appear that the evidence in one action would maintain the other; for otherwiſe the court ſhall intend that the party hath miſtaken his action. Skin. 57, 58.

Bar to a common intent is good; and if an executor be ſued for his teſtator's debt, and he pleadeth that he had no goods in his hands at the day when the writ was taken out againſt him, this is a good bar to a common intendment, till it is ſhewn there are goods; but if the plaintiff can ſhew, by way of replication, that more goods have fallen into his hands ſince that time, then, except the defendant allege a better bar, he ſhall be condemned in the action. Plowd. 26. Kitch. 215. Bro. tit. *Barre*. See Plea.

Bar *of Dower*. See Dower.

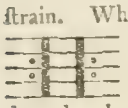
BAR, *Trial at.* See TRIAL.

BAR, in the *Manege*, denotes the ridge or upper part of the gums, between the tushes and grinders of a horse; the under and outward sides retaining the name gums.

The bars should be sharp-ridged and lean; for since all the subjection a horse suffers, proceeds from those parts, if they have not these qualities, they will be very little, or not at all sensible; so that the horse can never have a good mouth; for if the bars be flat, round, and insensible, the bit will not have its effect; and, consequently, such a horse can be no more governed by his bridle, than if one took hold of his tail. These ridges are always more prominent in young horses than in those that are old. See LAMPAS.

BAR, in *Music*, denotes strokes drawn perpendicularly across the lines of a piece of music, including between each two, a certain quantity or measure of time, which is various as the time is triple or common.

The use of bars in music is a modern invention. They cannot be traced higher than the year 1574, and seem not to have been in general use till about the middle of the 17th century. It is not easy to imagine how music in many parts could be composed without bars, or how the maxima, or large, equal to eight semibreves, could be divided into bars of one or two semibreves in each. See BATTUTA, and TIME-TABLE. A double bar implies the end of a strain. When double bars are dotted on both sides, thus,



the dots imply a repetition of each strain; but if dotted only on one side, that strain only which precedes or follows the dots, is to be repeated.

BAR-*Master*, in *Mining*, he who keeps the gage or dish, to measure all miners ore; he, or his servant, being always to be present when it is measured.

BAR, among *Printers*, denotes a piece of iron with a wooden handle, whereby the screw of the press is turned in printing.

BARA, in *Ancient Geography*, an island of Italy, in the vicinity of Brundusium. Festus says, that the inhabitants of this island built the town of Barium.—Also, a port of Asiatic Sarmatia.

BARA, in *Geography*. See BARRA.

BARABA, in *Ancient Geography*, the name of a metropolitan city of Arabia Felix, according to some copies of Ptolemy and Ammianus Marcellinus.

BARABA, in *Geography*, a steppe or moor in the Russian empire, occupies the space between the Irtysh and the Oby, southward of the mountain, northward to the farther side of the Tara, and beyond the river Tuy. This extensive region, in length from north to south exceeding six hundred versts, and full four hundred in breadth from west to east, is one continued flat, scarcely interrupted by a single hill, though containing many fresh water lakes, with some of bitter, and a few of common salt. This plain is for the most part of a good black soil, having the face of it enlivened by a number of pleasant forests of birch. All serving to shew, says Mr. Falk, that the Baraba must have formerly been one general bed of waters, and since more morassy and replete with lakes than it is at present. Even within the memory of man, according to the affirmation of the Barabinzes, the diminution of the lakes, and the exsiccation of the pools, reed-plots, and marshes, have been very observable, as well as the acquisitions thus made by the firm land. See Tooke's View of the Russian empire, vol. i. p. 149.

BARABALEMO, a river on the coast of Africa, six leagues east from the river of St. Barbara, east from cape Fermosa.

BARABENSIS, in *Entomology*, a species of GRYLLUS (*Locusta*) found about the pine-trees in the sandy deserts of Baraba. The wing-cases are pale and sprinkled with brown dots; wings transparent and pale yellow; veins and dots at the margin, and tip brown. Pallas. Size of gryllus tibialis.

BARABIACO, in *Geography*, a town of Italy, in the Milanese, situate on the Colona, 12 miles west of Milan.

BARABIELLO SAND, lies at the bottom of Bengal bay, within the river of Hughly.

BARABINIANS, a nation of the Russian empire. On entering the vast region of Siberia by the west, the first country we come to is that of the Barabinians. The large steppe, inclosed between the Oby and the Irtysh, and reaching as far as the Altay mountains, is called Barama; this appellation the Russians have corrupted into Baraba, and the people who occupy that desert they call Barabintzi, or Barabinians. The Barabinians at the time of the conquest of Siberia, had already suffered too much from the turbulence and ferocity of their neighbours, for being able to raise themselves to a numerous population; and, remembering nothing but their misfortunes, they have forgotten whether they ever were governed by sovereigns of their own. At length, successively oppressed by the Kirghises and the Soongares, they at present enjoy tranquillity under the protection of Russia, who, in consideration of an easy tribute, takes charge of their defence. A mixture of several nations is discernible among them. They have, in general, the Tartarian physiognomy; but a flat face; the long eyes and little opened, and the hanging ears, are testimonies that some of them are of Mongolian race. The Soongares, their conquerors, at different times lived among, and probably are the progenitors of the Barabinians with Kalmuc countenances. The idiom of the Barabinians is a dialect of the Tartar language, and bears witness to their primeval origin. It is corrupted, but less than that of the Bashkirs. They live, however, in equal ignorance, and scarcely any of them know how to read. The humid vapours that arise in their steppe, and give a density to the atmosphere, render the inhabitants sallow and phlegmatic; their indifference and their apathy border on stupidity. In respect to them we might be tempted to adopt the expression of le Cat, and regard them, not so much as men animated by the heat of the blood, and the spirituous fluid of the nerves, but as hydraulic machines. This machinal state corresponds with their misery, and enables them to endure it without pain. Temperate alike in their amours and in their diet, with desires so feeble and so confined as to be easily gratified, they know nothing of robbery or theft; they are even ignorant of lying, having no use for it except for covering a slight fault, in order to gain time for repairing it. They have stationary habitations for the winter; and sow a little barley or oats, sometimes a small matter of hemp; but their culture is always of scanty production; their steppe, poor in game, but ill requites the fatigues of the hunter. They derive a slender profit from their flocks and herds, and a great number of fishermen owe their subsistence to the lakes. It is not uncommon in winter for the snow to envelope their huts in such manner that they could not get out were they to neglect to make a passage through the roof. Their summer dwellings are covered only with mats. Their herds, by no means numerous, though forming their principal wealth, consist of horses and horned cattle; the humidity of the soil hardly allows them to rear a few sheep. A great number of them possess not a single head of cattle; and a man passes for opulent who has from five to twenty horses, with still fewer horned cattle. It is not long since the richest man of the nation possessed seventy horses. It should seem that their droves would increase since they have no longer to dread the

ravages of the Kirghiſes; but a mortality among their cattle filled up the meaſure of their wretchedneſs, when they thought it drawing near to its end. Exempted from other cares than thoſe of the paſtoral life, all have leiſure to follow the fiſhery; they preſerve the fiſh without ſalting, by letting it dry on the ground. Awkward in the uſe of the bow, they are obliged to take the game in ſnares, in nets, or by the aid of their dogs. Theſe animals are excellent courſers, and their maſters would not truck a good dog againſt a horſe.

The women dreſs the ſkins of the birds that frequent the lakes, making them into pelliſſes, which they ſell. Theſe pelliſſes are very warm, laſt a long time, and are impenetrable to moiſture. Every village has a chief, and each diſtrict its yaouta, who is a ſort of prince. The nation grants them no revenue; all they get by their elevation is the pleaſure of being reſpected, and of ſeeming to be obeyed. Conſulted leſs as judges than as arbitrators, it is eaſy for them to ſettle diſputes between pleaders, to whom it is almoſt the ſame thing to gain or to loſe their cauſe, and they are ſcarcely capable of conceiving a deſire.

It has been ſaid, that the Mohammedans never attempt to make proſelytes; this ſeems to be a miſtake. Towards the middle of the late century, the Barabinians were ſtill devoted to Shamaniſm, when they were converted to Mohammedaniſm by the zeal of ſome neighbouring Moulahs, who came and preached in their ſteppes. At preſent they have ſeveral huts which they call moſques, ſome men who cannot read, whom they call prieſts, and by changing their faith they have only acquired a few additional ſuperſtitions.

BARACE, a town of France, in the department of the Mayne and Loire, and chief place of a canton in the diſtrict of Chateauneuf, four leagues N.N.E. of Angers, and two E.S.E. of Chateauneuf.

Barace, or *Becare*, in *Ancient Geography*, a town of India on this ſide of the Ganges, in the gulf of Canthi, according to Ptolemy. It was ſituated at the mouth of the river, which paſſed to Nelconda, according to the author of the Periplus of the Erythræan ſea. It was a more commodious port, and better ſtored with merchandiſe than Muziris, from which it was not far diſtant; and as the pepper of Cottonara was brought to this place in ſmall boats, it may be concluded, that Barace was within, or near to the country of Canara, which produces the beſt pepper in thoſe parts at the preſent day. Major Rennell ſays, that after much inveſtigation, he cannot apply to any particular ſpot theſe ports of Muziris and Barace; for the Malabar coaſt abounds with ports of ſimilar deſcription; however, from the lights furniſhed by Pliny and Ptolemy, he conceives they were ſituated between Goa and Tellicherry, and that the modern Meerzaw or Merjee is the Muziris of the ancients, and Barcelore or Baſſinore, which is one of the principal pepper factories at preſent, their Barace. M. d'Anville ſuppoſes Barace to be Nelcynda, which Rennell takes to be Neliſaram. Rennell's Mem. Introd. p. 38.

BARACK, or Barrack, Baraque, a hut or little lodge for ſoldiers in a camp.

The word comes from the Spaniſh *barracas*, little cabins, which fiſhermen make on the ſea-ſhore.

Thoſe for the horſe were formerly called baracks; and thoſe for the foot, huts: but barack is now uſed indifferently for both.

Baracks are generally made by fixing four forked poles in the ground, and laying four others acroſs them; afterwards they build up the walls with ſods, wattles, or what the place affords; and the top is planked, thatched, or covered with turf, as they have convenience.

When the army is in winter quarters, the ſoldiers uſually build baracks; in the ſummer they are content with their tents.

Baracks is alſo more generally applied to buildings to lodge ſoldiers in fortified towns, or others. Thus we ſay the baracks of the Savoy, of Dublin, &c.

Baracks, when damp, are greatly prejudicial to the health of the ſoldiers lodged in them; occaſioning dyſenteries, intermitting fevers, coughs, rheumatic pains, &c. For which reaſon quarter-maſters ought to be careful in examining every barack offered by the magiſtrates of a place; rejecting all ground-floors in houſes that have either been uninhabited, or have any ſigns of moiſture.

Barack-*Allowance*, a ſpecific allowance of bread, beer, coals, &c. to the regiments ſtationed in baracks.

Barack-*Guard*, the principal guard of a regiment in baracks; the officer of which is reſponſible for the regularity of the men, and for all priſoners duly committed to his charge while on that duty.

Barack-*Maſter-General*, a ſtaff-officer at the head of the barack department, who has a number of barack-maſters and deputies under him, that are ſtationed at the different baracks. He has alſo clerks for the diſpatch of buſineſs; and to this office all reports, &c. reſpecting the barack department are made.

BARACOA, in *Geography*, a ſea-port town at the north-eaſt end of the iſland of Cuba, having a good harbour for ſmall veſſels, but not for large ſhips; diſtant about ſeventeen leagues north-eaſt from St. Jago. N. lat. 21° 4'. W. long. 76° 16'.

BARACUM, in *Ancient Geography*, a town of the interior part of Africa, which Pliny mentions among the conqueſts of Cornelius Balbus.

BARACURA, a commercial town of India, on the other ſide of the Ganges. Ptolemy.

BARACUS, a river of India, in the ſouthern part of the iſland of Taprobana. Ptolemy.

BARAD, a town of Paleſtine, in the ſouthern part of the tribe of Judah, according to the book of Numbers.

BARADÆUS, or Zanzalus, Jacobus, in *Biography*, an obſcure monk of the ſixth century, who revived the ſect of the Monophyſites, when it was juſt expiring, to its former proſperity and luſtre. For this purpoſe, after having been ordained to the epiſcopal office by a few captive biſhops, he travelled on foot through the whole eaſt, eſtabliſhed biſhops and preſbyters every where, revived the drooping ſpirits of the Monophyſites, and produced ſuch an aſtoniſhing change in their affairs by the power of his eloquence, and by his incredible diligence and activity, that when he died biſhop of Edeſſa, A.D. 588, he left his ſect in a moſt flouriſhing ſtate in Syria, Meſopotamia, Armenia, Egypt, Nubia, Abyſſinia, and other countries. This poor monk had the wiſdom to concert the means of ſucceſs, as well as activity to put them in execution; for he almoſt totally extinguiſhed all the animoſities, and reconciled all the factions, that had divided the Monophyſites; and when their churches became ſo numerous in the eaſt, that they could not all be comprehended under the ſole juriſdiction of the patriarch of Antioch, he appointed, as his aſſiſtant, the primate of the eaſt, whoſe reſidence was at Tagritis, on the borders of Armenia. The laborious efforts of Jacob were ſeconded in Egypt and the adjacent countries by Theodoſius, biſhop of Alexandria; and he became ſo famous, that all the Monophyſites of the eaſt conſidered him as their ſecond parent and founder; and they are to this day called Jacobites, in honour of their new chief, Moſheim Eccl. Hiſt. vol. ii. p. 145. See Monophysites. and Jacobites.

BARA-

BARADERES, in *Geography*, a ſmall bay on the north coaſt of the peninſula at the weſt end of the iſland of St. Domingo, or Hiſpaniola. It is almoſt land-locked, having a ſmall iſland near the bottom in the ſouth-eaſt corner. N. lat. 18° 42′. W. long. 73° 37′.

BARADY, Barrady, or *Barrada*, a river of Syria, called by the ancients Chryſorrhoas, or the golden river; and by the Syrians, Parphar; which, ruſhing from Antilibanus, deſcends to Damaſcus, and is there divided into endleſs ſtreams, for the ſupply and decoration of that city; but uniting again at ſome diſtance from it, they loſe themſelves in a moraſs. The rivers Abana and Pharpar, the names of which are loſt among the Arabian geographers, Maundrell ſuppoſes muſt have been branches of this river Barady, which iſſues out of the rock.

BARÆ, in *Ancient Geography*, a people of India, placed by Ptolemy near the Ganges.

BARAFAT, in *Geography*, a town of Africa, in the kingdom of Fonia, ſeated on a peninſula formed by the river Gambia and two other rivers.

BARAGAZA, a town of Ethiopia, on the Red Sea, mentioned by Pliny.

BARALIPTON, a term in *Logic*, denoting the firſt indirect Mode of the firſt Figure of ſyllogiſms.

A ſyllogiſm in baralipton is when the two firſt propoſitions thereof are univerſal affirmatives, and the third a particular affirmative: the middle term being the ſubject of the firſt, and the attribute of the ſecond.—For example:

" BA Every evil ought to be feared:
RA Every violent paſſion is an evil:
LIP Therefore ſomething that ought to be feared is a violent paſſion."

See letters A and I, and Syllogism.

BARALLOTS, Baralotti, the name of a ſect at Bologna in Italy, who had all things in common, even their wives and children. Thay gave, it is ſaid, into all manner of debauchery, and were alſo termed *compliers*.

BARAMATIS, in *Ancient Geography*, a town of India, on this ſide of the Ganges. Ptolemy.

BARA-MAREKA, in *Botany*. See Dolichos.

BARAN, in *Geography*, a river of Hindoſtan, in the province of Cabul, which is joined by the rivers Chuganſerai, Aliſhung, and Alikar, in the diſtrict of Kameh, and then runs eaſtward or ſouth-eaſtward. But it is not abſolutely certain whether theſe confluent rivers join the river of Cabul above Paiſhawur, or whether they form a ſeparate river, and paſs by Bijore and Sewad.

Major Rennell thinks the former to be the moſt probable, and that the confluent river receives the name of Kameh, from the diſtrict in which the junction takes place, and then communicates it to the Cabul river, during the remainder of its courſe. Rennell's Mem. p. 156.

BARANCA, or St. Jago, in *Geography*, a river belonging to Mexico, in North America, which directs its courſe to the weſt coaſt, and falls into the Pacific ocean about ten leagues weſt by north from Xatiſco bay.

Baranca *del Malambo*, a ſea-port town of South America, in the country of New Caſtile or Terra Firma, on the eaſt ſide of the Rio Grande, at the mouth of the river Magdelana, with a good harbour. This is a place of conſiderable commerce; as the merchandiſe of New Granada is brought down hither by boats, and conveyed to the bay about 40 miles below the town, or elſe directly to Santa Martha, by a branch of the great river; the chief article is ſalt, which is produced in the neighbourhood of the town. It is diſtant 25 miles north-eaſt from Carthagena. N. lat. 11° 40′. W. long. 75° 30′.

BARANCAS, Las, a town of North America, in the province of New Mexico, 45 miles S. S. E. of Santa Fé.

BARANEI-Stanitz, a town or ſettlement in Siberia, on the Lena, 52 miles north-eaſt of Vitimſkoi. N. lat. 54° 50′. E. long. 113° 14′.

BARANGE, in *Ancient Geography*, a town of Aſia, in Hyrcania. Ptolemy.

BARANGI, officers among the Greeks of the lower empire, whoſe buſineſs it was to keep the keys of the city-gates where the emperor reſided.

Codinus ſays, that the barangi were thoſe who ſtood guard at the door of the emperor's bed-chamber and dining-room.

Codinus and Curopalata obſerve, that the name is Engliſh, formed from *bar*, *to ſhut*; and that the barangi were Engliſhmen by country; Anglo-Danes, who, being driven out of England, were received into the ſervice of the emperor of Conſtantinople, and made guards or protectors of his perſon. Whence they are called in Latin, by Cujaccius, *protectores*; by others, *ſecurigeri*, as being armed with a battle-ax, *ſecuris*. Codinus adds, that they ſtill ſpoke the Engliſh tongue. Anna Comnena ſays, the barangi came from the iſland Thule, by which is doubtleſs meant our iſland. Yet Nicetas makes them Germans; a miſtake eaſy to be made at that diſtance, conſidering the relation the Anglo-Saxons bore to Germany. There were barangi as early as the emperor Michael Paphlagonius, in the year 1035, as appears from Cedrenus; but they were then only common-ſoldiers, not a life-guard.

Their commander was called αχολαθος, as importing a perſon who always followed the emperor.

BARANI, &c. Steller Kamtſs. *Stepnie Baranni*, J. G. Gmel. it. Sibir. &c. in *Zoology*, names given to the *Ovis Ammon*, Gmel.; and *Capra Ammon*, Linn.

BARANILLO, in *Geography*, a town of Italy, in the kingdom of Naples, and comtat of Moliſe, nine miles S.S.E. of Moliſe.

BARANOW, a town of Poland, in the palatinate of Sandomir, ſixteen miles ſouth of Sandomir.

BARANOWKA, a town of Poland, in the palatinate of Volhynia; 40 miles N. N. E. of Conſtantinow.

BARANZANO, Redemptus, in *Biography*, a Barnabite friar, was born in 1590, at Saraville, a town of Verceil, in Piedmont, and obtained eminence at the commencement of the ſeventeenth century, by daring to abandon the Ariſtotelian method of philoſophy. That he coincided in his ideas with thoſe of the illuſtrious lord Bacon, appears from a letter written to him on this ſubject, by this reſtorer of philoſophy, in June 1622, and preſerved in the third volume of " Niceron's Memoirs." Having taught mathematics and philoſophy at Anneci, he went to Paris, and formed an intimate friendſhip with La Mothe le Vayer, who ſpeaks of him (Oeuvr. 12mo. tom. iv. p. 172.) as one of the firſt wits of the age. He adds, that this honeſt Barnabite had ſeveral times aſſured him, but always with ſubmiſſion to the good pleaſure of God, that he would appear to him, if he ſhould depart firſt out of this world. However his promiſe was not fulfilled, and he verified the ſentence of a Latin poet, Catullus, Epigr. iii.

" Qui nunc it per iter tenebricoſum
Illuc, unde negant redire quanquam."
" He paſſed the dark and dreary way
From whence there's no return to the bright genial day."

He died at Montargis in 1622. His works are " Uranoſcopia," or the univerſal doctrine of the heavens, printed in folio, in 1617; " Campus Philoſophicus," the firſt part of his

his Summary of Philoſophy, as taught at Anneci, printed at Lyons, in 8vo. in 1619; and "De Novis Opinionibus Phyſicis," printed at Lyons, in the ſame year. Gen. Dict.

BARAO, in *Geography*, a town of Spain, in Arragon, two leagues from Jaca.

BARA-Pickled, bread made of fine flour kneaded with barm, which makes it very light and ſpongy: *bara* being the Welch for bread.

BARAQUICIMITO, in *Geography*, a town in Terra Firma, South America, in the province of Caracas, and in the head waters of Oronoko river, about 80 miles ſouth from Valencia, and 175 north-weſt from Calabeza. N. lat. 8° 55'. W. long. 66° 55'.

BARASA, in *Ancient Geography*, a town of Paleſtine, according to Joſephus.

BARASZE, in *Geography*, a town of Poland, in the palatinate of Volhynia, 36 miles N.N.W. of Zytomiers.

BARATHIER, Barthlemy, in *Biography*, an Italian lawyer of the 15th century, was born in Placentia, and taught the Roman feudal law at Pavia and Ferrara, which he ranged anew, and then formed a text book for the ſchool. The work was printed at Paris in 1611, under the title "De Feudis Liber Singularis;" and in 1695, by Schilter, under its true title "Libellus Feudorum reformatus." Moreri.

BARATHRUM, from *βαραθρον*, ſignifying the ſame, among the *Ancient Athenians*, a deep pit belonging to the tribe Hippothoontis, into which condemned criminals were caſt headlong.

The barathrum was a dark noiſome hole, having ſharp ſpikes at the top, to prevent any eſcape, and others at the bottom to pierce and lacerate the offender.

From its depth and capaciouſneſs, the name came to be uſed proverbially for a miſer, or a glutton, always craving. In which ſenſe, the word *barathrun* is uſed among the Latin poets. Thus Horace, Epiſt. l. i. ep. 15. v. 631.

"Pernicies, et tempeſtas, barathrumque Macelli,
Quicquid quæſierat, ventri donaret avaro."

It is alſo uſed for a common proſtitute, by Plautus (Bacchid. i. 2. 44.), thus:

"O barathrum, ubi nunc es? ut ego te uſurpem libens!"

Barathrum is alſo uſed, in *Phyſiology*, to denote certain baleful caverns, inacceſſible on account of their fetid or poiſonous fumes.

Theſe amount to the ſame with what others call *foſſæ charonie*.

BARATIER, John Philip, in *Biography*, a learned German, was born in 1721, at Schwobach near Nuremberg. Under the inſtruction of his father he is ſaid to have underſtood the Greek, Latin, German, and French languages, when he was five years old; and he acquired alſo the knowledge of the Hebrew in one year, ſo as to be able to read the hiſtorical books of the bible: and at the age of nine years, he could not only tranſlate the Hebrew text into Latin or French, but alſo re-tranſlate theſe verſions into Hebrew. At this age he could alſo repeat memoriter the Hebrew pſalter, in conſequence of merely reading it with his father. Before he had completed his tenth year, he compoſed a Hebrew lexicon of rare and difficult words, with curious critical remarks. In 1731, he was matriculated in the univerſity of Altdorf; and in this year he wrote a French "letter to M. le Maitre, miniſter of the French church at Schwobach, on a new edition of the bible, Hebrew, Chaldaic, and Rabbinical," which letter is preſerved in the twenty-ſixth volume of the "Bibliotheque Germanique." In 1734, the margrave of Anſpach granted him a penſion of fifty florins a year, and allowed him the free uſe of books from the library at Anſpach. As the fruits of his application to ſtudy, his tranſlation from the Hebrew, with hiſtorical and critical notes and diſſertations, of "The Rabbi Benjamin's Travels in Europe, Aſia, and Africa, containing an account of the ſtate of the Jews in the twelfth century," was publiſhed, in two volumes 8vo. at Amſterdam, in 1734; the author being at this time in his thirteenth year: and the whole work is ſaid to have been finiſhed in four months. Notwithſtanding the extent of his philoſophical purſuits, this aſtoniſhing youth applied to the ſtudy of mathematics and philoſophy with ſuch ſucceſs, that he deviſed a method of finding the longitude at ſea, which was laid before the Royal Academy of Sciences at Berlin, in a long letter, dated Jan. 21, 1735, the day in which he completed his fourteenth year. His letter being well received, he determined to viſit Berlin, with a view of enforcing his project: but in his way thither he paſſed through Hall, where Ludewig, the chancellor of the univerſity, offered to confer upon him the honorary degree of maſter of arts. Flattered by this propoſal, Baratier immediately, in the preſence of many profeſſors, drew up fourteen theſes in philology, eccleſiaſtical hiſtory, and philoſophy, which were printed the ſame night, and which he ſupported for three hours the next day with great applauſe; upon which he was admitted maſter of arts in philoſophy. He then purſued his journey to Berlin; and, in the preſence of the mathematical claſs, replied in French to ſome objections that were urged by M. de Vignoles, the rector, againſt his ſcheme; and he then propoſed, in Latin, the plan of an aſtronomical inſtrument, which he offered to execute. M. Jablonſki, the preſident, reported, that he had examined Baratier, in the king's preſence, and that he had found him well acquainted with rabbinical learning, the oriental languages, and eccleſiaſtical hiſtory; and he was then, with the uſual form, admitted a member of the ſociety. Upon his return to Hall with his father, he directed his attention to theology, and wrote an anſwer in Latin to Crellius, who, under the aſſumed name of Artemonius, had publiſhed a Socinian interpretation of the introduction to the goſpel of St. John. This was intitled "Anti-Artemonius, and publiſhed at Nuremberg, in 8vo. in 1735. It was accompanied with a "Diſſertation on the three dialogues, commonly attributed to Theodoret," intended to invalidate their authenticity. In 1737, he defended this piece againſt the ſtrictures of the journaliſts of Trevoux, in another diſſertation, which was printed in the forty-eighth volume of the "Bibliotheque Germanique." In the fortieth volume of the ſame journal, there is another diſſertation of Baratier "On two works attributed to Athanaſius." Baratier being obliged to confeſs his ignorance of the public law, in reply to the inquiry propoſed to him by the king of Pruſſia, was commanded by the king to go and ſtudy it, before he called himſelf a learned man. Such was his literary ambition, that he applied immediately to the ſtudy of it, and after fifteen months he ſupported a theſis on the ſubject with great credit. The uninterrupted exertion of his faculties ſoon impaired his conſtitution, which was naturally delicate and feeble; and after languiſhing in a decline for ſeveral months, Baratier died at the age of nineteen years eight months and ſeven days. His attainments were ſurpriſing; and yet it is ſaid that, before he was ten years of age, he was accuſtomed to lie in bed twelve hours, and ten hours from that time to his death. The facts above adduced may ſeem truly aſtoniſhing; but they are founded upon unqueſtionable teſtimony. Some few examples of a ſimilar kind have occurred; however they ſhould by no means be contemplated as patterns of imitation

or as models of perfection. "The poplar, which ſoon becomes a lofty tree, will ſoon decay: the ſtrong and ſturdy oak, whoſe majeſtic trunk ſtands unimpaired through centuries, requires a century to bring it to maturity." Formey's Life of Baratier. Nouv. Dict. Hiſtor.

BARATO, Cape, in *Geography*, lies on the coaſt of Italy, on the north ſide of the peninſula of Piombin, and about S.S.E. from Leghorn. It has a ſmall bay on the S.W. before which is anchorage.

BARATRUM, in *Antiquity*, denotes, according to Heſychius, ſacred games, celebrated at Theſprotia, in which the moſt robuſt of the combatants was crowned.

BARATRY, Baretry, or Barretry, in *Law*, ſignifies the moving and maintaining ſuits in diſturbance of the peace; and the taking and detaining houſes, lands, &c. by falſe inventions. 8 Rep. 37. 1 Hawk. P. C. 243. The word *barratterie*, in French, ſignifies *miſdemeanor*, *fraud*, *deceit*: it is derived from the old word *barat*, which ſignifies any impoſition; whence alſo they ſaid *baratter*, *to impoſe on any one*.

The puniſhment for this offence, in a common perſon, is by fine and impriſonment; but if the offender belongs to the profeſſion of the law, a barretor who is thus able as well as willing to do miſchief, ought alſo to be diſabled from practiſing for the future. However it ſeems clear that no general indictment, charging the defendant with being a common oppreſſor and diſturber of the peace, and ſtirrer up of ſtrife among neighbours, is good without adding the words "Common Barretor," which is a term of art appropriated by law to this purpoſe. 1 Mod. 288. 1 Sid. 282. Cro. Jac. 526. 1 Hawk. P.C. c. 81. § 9. No man can be a barretor in reſpect of one act only; and it hath been holden, that a man ſhall not be adjudged a barretor for bringing any number of ſuits in his own right, though they are vexatious, eſpecially if there be any colour for them; for if they prove falſe, he ſhall pay the defendant coſts. 1 Rol. Abr. 355. 3 Mod. 98. A common ſolicitor who ſolicits ſuits, is a common barretor, and may be indicted thereof, becauſe it is no profeſſion in law. 1 Danv. Abr. 725. It is enacted by ſtatute 12 George I. c. 29. that if any one, who has been convicted of forgery, perjury, ſubornation of perjury, or common barretry, ſhall practiſe as an attorney, ſolicitor, or agent, in any ſuit, the court upon complaint, ſhall examine it in a ſummary way; and, if proved, ſhall direct the offender to be tranſported for ſeven years. To this head may alſo be referred another offence of equal malignity and audaciouſneſs; that of ſuing another in the name of a fictitious plaintiff; either one not in being at all, or one who is ignorant of the ſuit. This offence, if committed in any of the king's ſuperior courts, is left,, as a high contempt, to be puniſhed at their diſcretion. But in courts of a lower degree, where the crime is equally pernicious, but the authority of the judges not equally extenſive, it is directed by ſtatute 8 Eliz. c. 2. to be puniſhed by ſix months impriſonment, and treble damages to the party injured. Blackſt. Com. v.iv. p.134.

Baratry, in a *Marine Senſe*, is the maſter of a ſhip, or the mariners, cheating the owners or inſurers, whether it be done by running away with the ſhip, ſinking her, deſerting her, or embezzling the cargo.

Baratry of mariners is ſo epidemical on ſhip-board, that it is rare if the maſter, be his induſtry ever ſo great, can prevent it, by reaſon of the encouragement one knaviſh ſailor gives another; yet the law, in ſuch caſes, imputes the offences of the mariners to the negligence of the maſter, and from him the merchant is to ſeek for remedy for all goods or merchandiſe loſt, embezzled, or otherwiſe damnified.

By the French ordonnances, inſurers are not obliged to make good the loſs or damage accruing to a veſſel, or its lading, by the fault of the maſter or crew, unleſs by the forms of the policy, they may be made accountable for the baratry of the patron. A maſter who, without neceſſity, takes up money on the body, proviſion, or tackling of a ſhip, or ſells the effects on board, or, in his account of average, ſets down fictitious expences, ſhall pay the value, be declared unworthy of being maſter, and baniſhed the port where he ordinarily reſided. In ſome caſes, he is alſo ſubject to corporal puniſhment, and even to death, where it appears he willingly threw away the ſhip.

Baratry is alſo uſed for bribery or corruption in a judge, giving a falſe ſentence for money.

Baratry is alſo uſed in *Middle Age Writers*, for fraud or deceit in making of contracts, ſales, or the like.

BARATTA, or Barattha, in *Ancient Geography*, a town of Lycaonia, mentioned by Ptolemy.

BARAVEL, St., in *Geography*, one of the Ladrone iſlands, lies ſouth of the iſland of Guam, and was one of thoſe diſcovered by Magellan, and deſcribed by Pigafetta. Beſides this, there are alſo between 10° and 13° N. lat. the iſlands of Ban and Bota, and the ſhoals of Santa Roſa. N. lat. 12° 44′. E. long. 142° 28′. See Ladrones.

BARAVOE, a bay and village, on the north-eaſt coaſt of the iſland of Shetland.

BARAWNAY, a town of Hindoſtan, in the country of Candeiſh, forty-miles N.E. of Burhampour, and ſeventy-four S.S.E. of Indore.

BARAZA, in *Ancient Geography*, a town of Armenia Major. Ptolemy.

BARB, St. in *Geography*. See St. Barbara.

Barb, in *Ornithology*, is uſed for the *Barbary pigeon*, the Columba Numidica of Moore.

BARBA, in *Ancient Geography*, a town of Spain, in Betica, placed in the Itin. of Antonin, twenty miles from Oſtippo, and twenty four miles from Antiquaria.

Barba, in *Geography*, a town of North America, in the country of Mexico, and province of Coſta Rica, twenty-two miles S.S.W. of Cartago.

Barba *Aron*, in *Botany*, a name given by ſome authors to the common great houſe-leek.

Barba *Capræ*. See Spiræa.

Barba *Jovis*. See Amorpha, Anthyllis, Cytisus, Ebenus, and Psoralea.

BARBACAN, or Barbican, in the *Hiſtory of our Ancient Fortifications*, was a ſort of advanced work which frequently covered the drawbridge at the entrance of a caſtle.

In which ſenſe, barbacan amounts to the ſame with what is otherwiſe called, *antemurale*, *promurale*, *murus exterior*, or *outer wall*. In towns and large fortreſſes the barbacans were large and ſtrong, frequently having a ditch and drawbridge of their own. (See Groſe's Hiſt. Eng. Army, II. 2.) The term is ſtill preſerved in the ruins of ſeveral of our caſtles; a ſmall ſtone work covering the gate of Bodiham caſtle in Suſſex, is ſtill called the barbacan; and ſome work of a ſimilar kind undoubtedly gave its name to one of the ſtreets at the north-weſt end of ancient London. Barbacans are alſo mentioned in Framlingham and Canterbury caſtles. For the repairing of this work, a tax called barbacanage was levied on certain lands. Groſe Antiq. Pref. i. 5.

Barbacan is alſo uſed for a fort at the entrance of a bridge, or in the outlet of a city, having a double wall with towers. Such is that at one end of the wooden bridge at Rouen, which is ſtill called by ſome *Barbacana*.

Barbacan is alſo uſed for an aperture in the walls of a city,

city, through which to fire with muſkets on the enemy. See EMBRASURE.

BARBACAN, in *Architecture*, denotes a long narrow canal or opening left in the walls for water to come in and go out at, when edifices are raiſed in places liable to be overflowed; or to drain off the water from a terrace, or the like.

BARBACE POINT, in *Geography*, the eaſt point of St. Pedro's channel, at the ſouth-eaſt end of the iſland on which the city of Cadiz is ſituated.

BARBACOS, a river on the coaſt of America, in the Pacific ocean, nearly eaſt of the iſland of Gallo. Barbacos point is ſituated ten leagues from the river Tellembier, in N. lat. 2° 45′. W. long. 78° 55′.

BARBADENSIS, in *Conchology*, a ſpecies of VOLUTA that inhabits the American ocean. The length of this ſhell is an inch and a half; ſhape tapering; colour reddiſh, with very fine tranſverſe ſtriæ; aperture oblong-ovate; ſpire obtuſe. Figured only by Liſter, t. 819. f. 33. Gmelin.

BARBADENSIS, in *Ornithology*, a ſpecies of PSITTACUS, the *aſh-fronted parrot* of Latham. This bird is about the ſize of a pigeon, and inhabits Barbadoes; the general colour is green; orbits and front cinereous; crown, chin, cheeks, throat, and leſſer wing-coverts yellow; greater ones blue; many of the primary quill-feathers violet on the outſide, the reſt red from the baſe, and the reſt blue. Gmelin. The legs are aſh; claws black.

BARBADOES, in *Geography*, one of the moſt important of the Caribbee iſlands in the Weſt Indies, ſtanding ſomewhat detached from the reſt, about thirty-five degrees from the African iſlands of cape Verd. This iſland was probably firſt diſcovered by the Portugueſe in their voyages from Braſil, and from them received its preſent name. It had then neither occupants nor claimants; the Charaibes or Caribbees having deſerted it. The Portugueſe thought it not of ſufficient importance for a ſettlement; and having furniſhed it with a breed of ſwine for the uſe of future navigators, they left it as they found it. The Engliſh, in 1605, finding it without inhabitants, took poſſeſſion of the country by fixing a croſs on the ſpot where James-town was afterwards built, with this inſcription: "James king of England and this iſland;" but they formed no ſettlement. At this time it was overgrown with woods; but yet it furniſhed them with a ſupply of freſh proviſions. They found here pigs, pigeons, and parrots: and the ſea abounded with fiſh. Some years after this, a favourable report having been made of its beauty and fertility by the maſter and ſeamen of a ſhip of ſir William Courteen, lord Ley, afterwards earl of Marlborough, obtained from king James I. a grant of the iſland to himſelf and his heirs in perpetuity. Accordingly Courteen, probably under the patronage of Marlborough, projected the eſtabliſhment of a colony, and ſent about 80 ſettlers to plant and fortify the iſland, who, in 1624, laid the foundation of James-town; and this was the firſt Engliſh ſettlement on the iſland. About this time, James Hay, earl of Carliſle, eſtabliſhed a colony in the iſland of St. Chriſtopher, and obtained from Charles I. a grant of all the Charibæan or Caribbee iſlands, including Barbadoes. This grant was conteſted by earl Marlborough; but at length a compromiſe took place; and on the earl of Carliſle's undertaking to pay the annual ſum of 300l. to the earl of Marlborough and his heirs for ever, the latter waved his claims; and in 1627 the patent of the former paſſed the great ſeal, and he became the ſole proprietor. However, the earl of Pembroke obtained a revocation of Carliſle's patent, and a grant to himſelf in truſt for Courteen, who had projected the firſt ſettlement in the iſland. This grant was afterwards annulled, and the earl of Carliſle was reſtored to the poſſeſſion and privileges of which he had been for a ſhort time deprived. Accordingly he proceeded to diſtribute lands to ſuch perſons as choſe to comply with his laws; and a ſociety of London merchants accepted 10,000 acres, on conditions which promiſed great benefit to the proprietors. Theſe merchants ſent over 64 perſons, each of whom was authorized to take up 100 acres of land; and thus, in 1628, they eſtabliſhed a new colony, which ſoon overpowered the ſettlement, and annihilated the intereſt of Courteen. In 1629, ſir William Tuſton was ſent out by lord Carliſle as chief governor, and he diſtributed land, amounting to 15,372 acres, into 140 grants; and in 1630, paſſed ſeveral laws; among which was one for dividing the iſland into ſix pariſhes. During the civil war, the emigrations from the mother country was ſo great, that in 1650 it was computed there were 20,000 white men in Barbadoes, half of them able to bear arms, and furniſhing a regiment of horſe to the number of 1000. It ſeems that about this time the exiſting governor granted lands to all who applied, on receiving a gratuity for himſelf; and the claim of the proprietor, whether diſputed in the iſland, or diſregarded amidſt the confuſions at home, was at length tacitly relinquiſhed.

The colony, enjoying an unlimited freedom of trade, flouriſhed in a ſingular manner by its own efforts. In 1646, the ſon and heir of the earl of Carliſle, the original patentee, revived his claims as hereditary proprietor, and by treaty with lord Willughby of Parham, conveyed to him all his rights by a leaſe of 21 years, on condition of receiving one-half of the profits. Lord Willughby obtained a commiſſion as chief governor; and was received by the inhabitants, who were warmly attached to the king's intereſt, with reſpect and obedience. But ſoon after his arrival, the regal authority in England was aboliſhed.

Barbadoes, in 1651, was reduced to the obedience of the new republic, who appointed another governor. Upon the reſtoration of Charles II., lord Willughby applied for leave to return to his government of Barbadoes; againſt which the inhabitants, now apprized of his connection and contract with the earl of Carliſle, and apprehending that they were regarded by theſe lords as mere tenants at will of their poſſeſſions, remonſtrated. They pleaded that they were the king's ſubjects, and ſolicited his majeſty's ſupport and protection. They objected to the claims of the earl of Carliſle, and inſiſted that the charter granted to him was void in law. The ſeveral allegations and claims of the parties concerned were referred to a committee of the privy-council; and it was finally ordered, that lord Willaghby ſhould repair to his government, and demand the grant and eſtabliſhment by the aſſembly of a permanent and irrevocable revenue of 4½ per cent. to be paid in ſpecie, on all dead commodities, the growth of the iſland, ſhipped to any part of the world; and the money ariſing from this revenue was to be applied towards making proviſion for the earl of Kinnoul, the legal repreſentative of lord Carliſle with reſpect to his rights in the Weſt Indies, who had on this condition promiſed to ſurrender the Carliſle patent to the crown, towards paying the annuity to the earl of Marlborough, and towards the diſcharge of the creditors of both theſe noblemen. After the extinction of theſe incumbrances, it was ſtipulated, that the revenue, ſubject to the charge of 1200l. per annum to the governor, ſhould be at the diſpoſal of the crown. With theſe inſtructions, lord Willughby returned to his government in 1663. The planters were diſſatisfied, and preferred complaints, which, however, were unavailing. At length, finding reſiſtance vain, the aſſembly paſſed an act for the purpoſes that were required, dated Sept. 12, 1663. Thus the proprietary gover-

government was diſſolved, and the legiſlation of the iſland veſted in the crown.

The iſland of Barbadoes is about 21 miles in length and 14 in breadth, and contains 106,470 acres of land, moſt of which is under cultivation. The ſoil in the low lands is black, ſomewhat reddiſh in the ſhallow parts; on the hills of a chalky marl, and near the ſea generally ſandy. Of this variety of ſoil, the black mould is beſt ſuited for the cultivation of the cane, and, with the aid of manure, has produced as great returns of ſugar, in favourable ſeaſons, as any in the Weſt Indies, the prime lands of St. Kitt's excepted. About the year 1670, we are aſſured that Barbadoes could boaſt of 50,000 whites, and upwards of 100,000 black inhabitants, whoſe labours are ſaid to have given employment to 60,000 tons of ſhipping. This account may probably have been exaggerated; but it is certain that the inhabitants of this iſland have decreaſed with a rapidity ſeldom known in any other country. It appears by authentic returns, that the number of its whites, in 1724, amounted to no more than 18,295, and that of its negroes in 1753 was no more than 69,870. In 1786, the numbers were 16,167 whites, 838 free people of colour, and 62,115 negroes. It appears alſo that the annual produce of this iſland, particularly of ſugar, has decreaſed in much greater proportion than in any other of the Weſt Indian colonies. Poſtlethwayte ſtates the crop of ſugar, in 1736, at 22,769 hogſheads of 13 cwt. which is equal to 19,800 of 15 cwt.; and the author of the "European Settlements," publiſhed in 1761, calculates the average crop at 25,000 hogſheads. If this ſtatement be juſt, the iſland has fallen off nearly one-half in the annual growth of its principal ſtaple. In an average of eight years, from 1740 to 1748, the exports were 13,948 hogſheads of ſugar of 15 cwt.; 12,884 puncheons of rum of 100 gallons; 60 hogſheads of melaſſes; 4,667 bags of ginger; 600 bags of cotton; and 327 gourds of aloes. The exports on an average of 1784, 1785, and 1786, had fallen to 9,554 hogſheads of ſugar; 5,448 puncheons of rum; 6,320 bags of ginger; 8,331 bags of cotton; excluſively of ſome ſmaller articles, as aloes, ſweetmeats, &c. of which the quantities are not aſcertained. The dreadful ſucceſſion of hurricanes, which had occurred within the laſt twelve years, has, without doubt, contributed to this great defalcation. The capital of this iſland was ſcarcely riſen from the aſhes to which it had been reduced by two dreadful fires, when it was torn from its foundations, and the whole country made a ſcene of deſolation by the ſtorm of the 10th of October in 1780; in which 4,326 of the inhabitants, blacks and whites, miſerably periſhed; and the damage to the country eſtimated at 1,320,564l. 15s. ſterling. In the year 1792, the produce of ſugar was 11,073 hogſheads, 125 tierces, 2,698 barrels; of melaſſes 188 hogſheads; of rum 5,064 hogſheads, 512 barrels; of ginger 3,046 bags and barrels; of aloes 515 gourds; and of cotton 974,178 pounds. From the great increaſe in the export of ſugar in this year compared with ſeveral of the preceding years, and decreaſe in that of the minor ſtaples, it ſeems probable that the advanced price of that article in Europe has encouraged the cultivation of it in plantations which had been formerly abandoned or appropriated to a different kind of culture. The average of the number of negro ſlaves in Barbadoes for ſeven years, from 1786 to 1792, was 63,271, of ſlaves imported 4363, and the average amount of taxes, during the ſame period, was 9,530l. 14s. 1d. The taxes conſiſt of a capitation tax on negroes; a tax on ſugar-mills, dwelling-houſes, and carriages, together with an exciſe, &c. on wines imported. Beſides which there is a parochial tax on land, amounting on an average throughout the iſland to about two ſhillings per acre, and an aſſeſſment in labour for the repair of the highways. The whole is altogether excluſive of the heavy duty of 4½ per cent. to the crown.

Barbadoes is divided into 5 diſtricts and 11 pariſhes; and contains 4 towns; viz. Bridgetown, Oſtins or Charles-town, St. James's formerly called the Hole, and Speight's-town; Bridgetown is the capital, and the reſidence of the governor, whoſe annual ſalary is 2000l. per annum, paid out of the exchequer, and charged to the account of the 4½ per cent. duty. The form of the government of this iſland reſembles that of Jamaica, except that the council is compoſed of 12 members, and the aſſembly of 22. The moſt important variation reſpects the court of chancery, which in Barbadoes is conſtituted of the governor and council, whereas in Jamaica the governor is ſole chancellor. On the other hand, in Barbadoes, the governor ſits in council, even when the latter are acting in a legiſlative capacity, which would be conſidered, in Jamaica, as improper and unconſtitutional. It may alſo be obſerved, that the courts of grand ſeſſions, common pleas, and exchequer, in Barbadoes, are diſtinct from each other; and not, as in Jamaica, united and blended in one ſupreme court of judicature. The heat of the climate is moderated by the trade-winds, and the air is pure. Its products, beſides what we have already mentioned, are the palm, tamarinds, figs, bananas, cedar, maſtich, cacao, papas, guavas, and palmettoes. Barbadoes is ſituated in N. lat. 13° 10′. W. long. 59°. See Edwards's Hiſtory of the Weſt Indies, vol. i. p. 321—350.

Barbadoes *Baſtard-Cedar*, in *Botany*. See Cedrela.

Barbadoes *Cherry*. See Malpigia.

Barbadoes *Flower-fence*. See Poinciana.

Barbadoes *Gooſeberry*. See Cactus *Pereſkia*.

Barbadoes *Wild-Olive*. See Bontia.

Barbadoes *Tar*, in the *Materia Medica*. See Petroleum *Barbadenſe*.

BARBADOR, Bababera, or *Cape* Barba, in *Geography*. See *Cape* Baba.

BARBALIS, in *Entomology*, a ſpecies of Phalæna, that feeds on the *trifolium pratenſe*. The antennæ pectinated; feelers ſhorter; anterior thighs with a projecting beard. Fabricius.

BARBALISSUS, in *Ancient Geography*, *Beles*, a conſiderable town of Aſia, in Syria, near the Euphrates, E.S.E. of Hierapolis. This is the *Barbariſſus* of Ptolemy, according to M. D'Anville.

BARBANA, or Barbenna, a river of Illyrium, which ſprang from the Labeatid Marſh, according to Livy.

Barbana, in *Geography*, a town of Iſtria, ſeven miles N.N.E. of Pola.

BARBANO, a ſmall iſland in the northern part of the Adriatic, near the coaſt of Friuli. N. lat. 45° 45′. E. long. 13° 28′.

BARBANOLA, Cape, is the ſouth of Smyrna gulf, on the coaſt of Aſia, at the eaſt extremity of the Mediterranean, and nine leagues S. by W. from Porto Gero.

BARBAR, a province of Abyſſinia, ſeparated from Abara by the river Tacazzé; the capital of which is Gooz, which ſee.

BARBARA, in *Conchology*, a ſpecies of Helix, with an oblong, coarſe, imperforated ſhell, with eight wreaths, and a ſubrotund lunated aperture. This kind inhabits Algira. Somewhat reſembles *helix pupa*, but is not above half the ſize, being uſually about the bigneſs of a barley-corn. Gmel. &c.

Barbara, in *Entomology*, a ſpecies of Formica that inhabits Africa, and is as large as F. *herculanea*. It is black, with the head, antennæ, and extremity of the legs ferruginous;

ginous; petiole with two tubercles. Fabricius, &c. The head is large; firſt joint of the antennæ large and black,

Barbara, *Bay of St.* in *Geography*, lies on the ſouth-weſt coaſt of Terra del Fuego in South America, where at two leagues S. by E. from cape Noir, are two rocky iſlets; but no land is ſeen at E.N.E. from the cape, where is probably the channel of St. Barbara; which opens into the ſtraits of Magellan. Cape Deſolation lies to the S.E.; the entrance is open, and it will admit a large fleet of ſhips.

Barbara, *St. Channel of*, lies on the ſouth ſhore of the ſtraits of Magellan, between bay de Choiſeul and Caſcade bay. It is ſuppoſed to communicate with the bay of St. Barbara; its entrance on that ſide being oppoſite to James's iſland. It has been thought of importance to explore this ſuppoſed channel from the ſtrait; becauſe it would afford, if found good, a quick and ſafe paſſage into the Southern Pacific ocean.

Barbara, *St. Iſland*, the ſouthernmoſt of two iſlands bearing north and ſouth on the eaſt ſide of the canal grande, or principal channel, from cape Frio, on the coaſt of Braſil, to the bay of All Saints. It has two good roads; one on the ſouth-weſt, and another on the north-eaſt.

Barbara, *St.* the chief town of New Biſcay, in the audience of Galicia, in New Spain, in North America.

Barbara, *St. River*, lies on the coaſt of Africa, to the eaſt from cape Fermoſa, and ſix leagues weſt from Barabalemo.

Barbara, *St. Canal of*, lies on the north-weſt of America, near the coaſt of New Albion; the north-weſt point of entrance into which is called point Conception; in N. lat. 34° 32′. E. long. 239° 54′. The weſternmoſt, or firſt iſland, forming this canal, is called in one Spaniſh chart St. Miguel, in another St. Barnardo; the next is called in one chart Santa Roſa, in the other St. Miguel; and nearer the canal is a third iſland, upon which is a high hill called in the Spaniſh charts Santa Cruz. The coaſt continues in an eaſterly direction about 23 miles from point Conception to a point where it takes a ſoutherly turn, from whence the country gradually riſes to mountains of different heights. In the vicinity of the ſhores, which are compoſed of low cliffs or ſandy beaches, are produced ſome ſtunted trees and groveling ſhrubs; and, notwithſtanding the dreary appearance of the coaſt, it ſeems to be well inhabited, as ſeveral villages may be perceived at no great diſtance from one another, in the ſmall bays or coves that form the coaſt. The inhabitants uſe canoes of wood, decorated with ſhells; and traffic with their fiſh and ornaments for ſpoons, beads, and ſciſſars. They ſeemed, ſays Vancouver, to poſſeſs great ſenſibility and vivacity, and yet conducted themſelves with the moſt perfect decorum. Their native dialect was unknown. The Spaniſh miſſion of Santa Barbara, and alſo that of Bueno Ventura, are ſituated at a ſmall diſtance from the canal of Santa Barbara. The ſhores of the bay or roadſtead of Santa Barbara are for the moſt part low, and terminate in ſandy beaches, with the exception of the weſtern point, which is a ſteep cliff of moderate elevation, and which was denominated by Vancouver *Point Felipe*. At Santa Barbara the latitude was 32° 24′, the variation 10° 15′ E. and the longitude 240° 43′. The tide regularly ebbed and flowed every ſix hours, its riſe and fall being about three or four feet; and it is high water about eight hours after the moon paſſes the meridian. Vancouver's Voyage, vol. ii. p. 456.

Barbara, in *Logic*, the firſt mode of the firſt figure of ſyllogiſms.

A ſyllogiſm in barbara is that whereof all the propoſitions are univerſal and affirmative; the middle term being the ſubject in the firſt propoſition, and attribute or predicate in the ſecond.—For example:

" BAR Whoever ſuffers a man to ſtarve, whom he ought to ſuſtain, is a murderer:
BA Whoever is rich, and refuſes to give alms, ſuffers thoſe to ſtarve whom he ought to ſuſtain.
RA Therefore, whoever is rich, and refuſes to give alms, is a murderer."

BARBARATA *Iſlands*, in *Geography*, are ſituated three leagues weſt from the river Turiano; the bay of Triſto lies W. S. W. from them, on the Spaniſh main; and theſe iſlands are between the main and Venezuela, nearly weſt from the latter.

BARBARESQUE, in *Zoology*, the name given by Buffon to the Barbary ſquirrel; *ſciurus getulus* of Schreber and Gmelin.

BARBARIA, in *Ancient Geography*, the name given in the Periplus of the Erythrean ſea to the kingdom of Abyſſinia, now called Adel, the coaſt of which extends from the ſtraits of Babelmandel to cape Gardefan, about 450 geographical miles, and contains, according to the Periplus, four principal marts or anchorages, called by the general name of Tapera, the preciſe ſituation of which is not aſcertained. Abalites was ſituated near the ſtraits, Malao may be fixed at Delaqua, and Mundus at Zeyla; but the principal port was Moſullon, ſeated on a promontory, a whole degree north of Mundus; and this ſuits no other point on the coaſt but Barbara, a town on an iſland cloſe to the ſhore, adjoining to a narrow cape of conſiderable extent.

BARBARIAN, in *Antiquity*, a name given by the ancient Greeks to all thoſe who were not of their own country, or who did not ſpeak the Greek language, or who did not ſpeak it ſo well as themſelves. In which ſenſe the word ſignified with them no more than *foreigner*, and did not carry that odium with it which it does now. Strabo derives the word βαρβαρος from βαρβαριζω, *balbutire*, becauſe foreigners coming to Athens uſed to ſtammer, or ſpeak coarſely; others derive it from βαρβαρ, a word that foreigners frequently ſtumbled on, which yet had no meaning.

The Greeks had ſuch an high opinion of the pre-eminence to which they were raiſed by civilization and ſcience, that they ſeem hardly to have acknowledged the reſt of mankind to be of the ſame ſpecies with themſelves. To every other people they gave the degrading appellation of Barbarians; and, in conſequence of their own boaſted ſuperiority, they aſſerted a right of dominion over them, in the ſame manner, to uſe their own expreſſion, as the ſoul has over the body, and men have over irrational animals. Extravagant as this pretenſion may now appear, it found admiſſion, to the diſgrace of ancient philoſophy, into all the ſchools. Ariſtotle, full of this opinion, in ſupport of which he employs arguments more ſubtle than ſolid (Polit. i. c. 3—7.) adviſed Alexander to govern the Greeks like ſubjects, and the Barbarians as ſlaves; to conſider the former as companions, and the latter as creatures of an inferior nature. But the ſentiments of the pupil were more enlarged than thoſe of his maſter; and his experience in governing men taught the monarch what the ſpeculative ſcience of the philoſopher did not diſcover. See Plut. de Fortun. Alex. Orat. i. Strabo, lib. i. p. 116. A.

The Greeks gave the denomination of Barbarians in a peculiar manner, and with a contempt blended with animoſity, to the Phrygians, on account of the enmity that had ſubſiſted between them ſince the wars of Troy. This appears in the " Oreſtes" of Euripides, and in the ſcholia upon the " Ajax Maſtigophorus" of Sophocles. The Romans

mans alſo, in imitation of the Greeks, called all other people, the Greeks excepted, barbarian; and the compliment was returned to them by the inhabitants of other nations. Thus Ovid, who was conſidered at Rome as a poliſhed courtier, was treated in his exile as a barbarian by the Getæ, who did not underſtand his language, which was the idiom of Rome. Triſt. l. v. el. 10. v. 37.

"Barbarus hic ego ſum; quia non intelligor ulli:
Et rident ſtolidi verba Latina Getæ."

Under the lower empire, the appellation of barbarian became almoſt ſynonymous with that of ſtranger or foreigner. The Burgundians and Franks, who were eſtabliſhed in Gaul, were there called barbarians; and in Italy this name was given to the Goths. The term was alſo applied by the 52d canon of the African church to the inhabitants of thoſe provinces which had not ſubmitted to the Roman empire; and the denomination is frequently extended by Gregory of Tours, and alſo by other writers, to Pagans as contradiſtinguiſhed from Chriſtians.

BARBARIANA, in *Ancient Geography*, a town of Spain, placed in the Anton. Itin. between Atiliana and Graccuris.

BARBARIC PHILOSOPHY, comprehends that of all ancient nations among whom the Greek language was not ſpoken. It has long been a ſubject of diſpute, whether philoſophy firſt appeared among the Barbarians or among the Greeks. The inhabitants of Greece, who were at an early period remarkable for literary and philoſophical vanity, and who ſoon acquired the uſe of an artificial method of philoſophiſing, were unwilling to allow that philoſophy had any exiſtence in other countries, except where it had been borrowed from them. They could not perſuade themſelves, that the mere communication of precepts of wiſdom in the ſimple form of tradition, and in languages harſh and diſſonant compared with their own, could deſerve to be called philoſophiſing. On the other hand, the barbaric nations in their turn treated the Greeks as barbarians, and looked upon them as children in philoſophy. Plato, in his Timæus, introduces a barbarian as inſtructing the wiſe Solon, and ſaying, "You Greeks are always children; there is not an old man amongſt you; you have no ſuch thing as grey-headed wiſdom." In this perſuaſion they were the more confirmed, when they underſtood that the moſt learned men, and the moſt ancient philoſophers among the Greeks, had either been Barbarians by birth, or inſtructed by Barbarians (ſee Clemen. Alex. Stromata, l. i. p. 302, 303.); that Pythagoras, for example, was a Tuſcan, Antiſthenes a Phrygian, Orpheus a Thracian, Thales a Phenician; and that Thales, Pythagoras, Plato, and others, had derived their knowledge from Chaldæan and Egyptian prieſts. Many of the Chriſtian fathers eſpouſed, in this diſpute, the cauſe of the Barbarians, and maintained, with great vehemence, and with all the learning they could command, that the Barbaric philoſophy was the fountain of all the wiſdom which had appeared among the Greeks, except ſo far as they had been indebted, in the way of tradition, to divine revelation. This diſpute, however, was owing to the want of diſtinct ideas, and an accurate uſe of terms; and can in reality be conſidered as nothing more than a logomachy. For no one can aſſert that the barbaric nations were wholly inattentive to wiſdom, or ſtrangers to every kind of knowledge, human or divine: and, on the other ſide, it cannot be queſtioned, that they acquired their knowledge rather by ſimple reflection than by ſcientific inveſtigation, and that they tranſmitted it to poſterity rather by tradition than by demonſtration. Whereas the Greeks, as ſoon as they began to be civilized, diſcovered a general propenſity to inquiry, and adopted ſcientific rules and methods of reaſoning. Hence it is eaſy to perceive, that though the improvement of philoſophy is to be aſcribed to the Greeks, its origin is to be ſought for among the Barbaric nations. Tatian, in Proem. Clem. Alex. Strom. l. i. p. 302. Origen adv. Celſum, l. i. Beauſobre Hiſt. du Manich. p. 2. l. i. c. 2. Scaliger Exerc. ii. contra Cardan. p. 188. Bos Animadv. ad Script. c. ii. p. 12. Heuman. Act. Phil. v. ii. p. 204. Heurnii Ant. Phil. Barb. ed. Lugd. Bat. 1600.

The Barbaric philoſophy, in the moſt extenſive ſenſe of the term, and in its reference to the ſtate of philoſophy, from the earlieſt times to the decline of the Roman republic, comprehends that of the eaſtern nations, including the HEBREWS, CHALDEANS, PERSIANS, INDIANS, ARABIANS, and PHENICIANS; that of the ſouthern nations, or EGYPTIANS and ETHIOPIANS; that of the weſtern nations, to which we may refer the CELTS, the ETRURIANS, and the ROMANS; and that of the northern nations, including the northern SCYTHIANS, THRACIANS, GETÆ, &c. among whom Abaris, Anacharſis, Toxaris, and Zamolxis, obtained the praiſe of wiſdom. See Brucker's Hiſt. of Philoſophy by Enfield, vol. i. Introduction.

BARBARICA, in *Entomology*, a ſpecies of BUPRESTIS, found in Barbary. It is a ſmall inſect; colour above braſſy, beneath coppery; wing-caſes very entire and ſlightly ſtriated. Fabricius.

BARBARICA, a ſpecies of CHRYSOMELA, of a braſſy-green, with five red lines on the wing-caſes; wings ſanguineous. Inhabits Barbary. Sulzer. Gmelin.

BARBARICARII, in *Antiquity*, a kind of artiſts, who, with threads of divers colours, expreſſed the figures of men, animals, and other things; or, as others deſcribe them, thoſe whoſe buſineſs was to gild and decorate ſhields and helmets with gold and ſilver.

The barbicarii were ſo called, becauſe they learned this kind of painting from the Phrygians, who were particularly denominated *barbarians*, in regard of their oppoſition to the Greeks; though the name is ſometimes alſo written *branbaricarii*.

BARBARICARII ſeem alſo to have been uſed for ſoldiers or officers, who wore maſks and vizards thus adorned with gold and ſilver.

BARBARICUM, in *Ancient Writers*, is uſed for a military ſhout, raiſed by the ſoldiers on point of engagement. This is called barbaricum from the barbarians, in whoſe armies this method of ſhouting much obtained. The ſame appellation was given to a war or expedition undertaken againſt the barbarians.—"*Quouſque ad ipſum tempus quo barbaricum extortum eſt inter nos & vos.*"

BARBARICUM was alſo uſed for an armoury, or magazine, wherein the Greek emperors kept the ſpoils and donaries taken from the barbarians in the time of war or peace.

BARBARICUM, in the *Materia Medica*, is alſo an appellation given by the modern Greeks to rhubarb. It is thus called from the *Sinus Barbaricus*, by the way of which this root was firſt brought to them.

BARBARICUS, in *Entomology*, a ſpecies of CIMEX (*Reduvius*), of a black colour; thorax and wing-caſes obſcure ferruginous, and a little white line on the middle of the ſcutellum. A native of Barbary. Gmelin.

BARBARICUS, in *Ornithology*, a ſpecies of RALLUS that inhabits Barbary. It is ferruginous, with a black bill; wings ſpotted with white; rump white, ſtreaked with black; white below; legs obſcure brown. Gmelin. This is the *Barbary rail* of Latham.

BARBARICUS, a ſpecies of TURDUS, of a green colour, with the breaſt ſpotted with white; rump and tip of the tail

tail yellow. Gmelin. This is the *Barbary thruſh* of Latham, and *grive baſſette de Barbarie* of Buffon. Inhabits Barbary; and is about the ſize of the miſſel thruſh.

BARBARISM, in *Grammar*, denotes an offence againſt the purity of ſtyle or language.

A barbariſm differs, according to Iſidore, from a *barbarous term*, as the former, for inſtance, is Latin, though corrupt or miſuſed; whereas the latter, which this writer calls *barborologia*, is a word merely foreign intruded into Latin ſpeech.

In general, under barbariſms are comprehended things written, ſpoken, declined, or conjugated wrong; or uſed in a wrong quantity, or in an unuſual ſenſe; as when a word is uſed which is foreign to the language, and not received by the better and purer ſort of writers therein. Such are *liper* for *liber*, *ſyllăba* for *ſyllăba*, *patri* for *patris*, *lexi* for *legi*, *bannus* for *proſcriptio*, &c.

Barbariſm is often charged, with great juſtice, on modern writers in the learned languages. The Latin books of late ages are full of Angliciſms, Galliciſms, Germaniciſms, &c. according to the country of the author. But what ſhall we ſay to Caſp. Scioppius, who accuſes Cicero himſelf of barbariſms in his own language?

There are great diſputes among critics concerning barbariſms in the New Teſtament.

Divers pious perſons are ſtartled at the apprehenſion of any thing like a barbariſm in the inſpired books, as ſuppoſing it an objection to the inſpiration of them; yet this does not hinder but many of the Jews, after Abarbanel and others, ſtill maintain barbariſms in the Old Teſtament; in which they are ſeconded by M. Simon, Le Clerc, and others. The latter of theſe writings abound with Chaldaiſms; and the books of Moſes are not free from Egyptian words.

If we conſider that among native Greeks a barbarous idiom could only mean ſuch as was not conformable to the rules of their grammarians and rhetoricians, and to the practice of their writers of reputation, it may be conceded that the ſtyle of the New Teſtament is of this kind, without derogating from the character of the apoſtles and evangeliſts, without impeaching their inſpiration, and without injuring the authenticity of their writings. This conceſſion, the moſt learned and oratorical of the Greek fathers, as for inſtance Origen and Chryſoſtom, did not ſcruple to make: and, in ſuch caſes, it muſt be acknowledged that a native of common ſenſe is a much better judge than any learned foreigner. Nevertheleſs many have contended that the Greek of the New Teſtament is as purely claſſical as that of the Attic writers, and they have even condemned as impious heretics thoſe who have dared to diſſent. It has been aſſerted, that the contrary implies an imperfection inconſiſtent with divine inſpiration, and that men capable of ſuch a doctrine were not only impious, but were guilty of the ſin againſt the Holy Ghoſt. And yet this doctrine was maintained by Eraſmus, Luther, Melanchthon, Camerarius, Beza, Druſius, Caſaubon, Glaſſius, Gataker, Solanus, Olearius, and Vorſtius; though it has been denied by Pfochenius, Stolberg, Schmid, Georgi, and Blackwall. See Erneſti Inſtitutio Interpretis N. T. p. 41. ed. 3tia. Lipſiæ, 1775. But the advocates for this divine purity have not only betrayed their ignorance of the Greek language, but a high degree of pedantry in eſtimating the accuracy of language beyond its proper value. This laſt miſtake has happened not only to the warm and partial friends, but likewiſe to the enemies of Chriſtianity, who, from the time of Celſus to the 18th century, have maintained, that a book written in ſuch language is neither divinely inſpired, nor deſerving attention and reſpect. Both parties have carried their zeal and their ſentiments to too great a length; and they would hardly conſider an abſolute purity of ſtyle, and a total abſence of foreign words, of ſuch importance as to make the contrary a crime, if they would condeſcend to quit the language of the ſchools for that of common life, or turn their attention from the language of the claſſics to thoſe that are in common uſe. All foreign idioms, ſuch as Hebraiſms in Greek, Greciſms in Hebrew, or Latiniſms in either, may be comprehended within the definition of barbariſm, and ſometimes even of ſoleciſm; but theſe words, it ſhould be recollected, have always ſomething relative in their ſignification; that turn of expreſſion being a barbariſm or ſoleciſm in one language, which is ſtrictly proper in another, and to one claſs of hearers which is not ſo to another. The apoſtle Paul does not heſitate, by implication, to call every tongue barbarous to thoſe who do not underſtand it. 1 Cor. xiv. 11. Nor does it make any difference, as appears from the whole of the apoſtle's argument, even if what is ſpoken be ſpoken by the ſpirit. With equal reaſon we may ſay of thoſe foreign idioms in any tongue, which render what is ſaid unintelligible or even obſcure to the natives, that in reſpect of them they are barbariſms. Nor will any judicious perſon deny, that there are ſome idiomatical expreſſions in the New Teſtament, which muſt have puzzled thoſe who were abſolute ſtrangers to the language of holy writ. Such idioms the writers of the New Teſtament would naturally adopt. They occurred in the Septuagint, which they were in the habit of uſing; and theſe would co-operate towards infecting their ſtyle with the tendency, which, as natives of Paleſtine, they would derive from converſation, to intermix Hebraiſms and Chaldaiſms in their writings. If we would enter thoroughly into the idiom of the New Teſtament, we muſt familiarize ourſelves with that of the LXX; and if we would enter thoroughly into the idiom of the LXX, we muſt accuſtom ourſelves to the ſtudy, not only of the original of the Old Teſtament, but of the dialect ſpoken in Paleſtine between the return of the Jews from the Babyloniſh captivity and the deſtruction of Jeruſalem by the Romans; for this laſt, as well as the Hebrew, has affected the language both of the old Greek tranſlation and of the New Teſtament.

Beſides, it is proper to conſider in relation to this ſubject, that vulgariſms and foreign idioms, which may obtain among ſtrangers, and thoſe of the lower ranks, have no more natural unfitneſs to convey the ſenſe which they that uſe them intend to convey by them, than the terms and phraſes which, in conſequence of the preference given by their ſuperiors, may be regarded as elegancies. It may be as reaſonably objected againſt our religion, that the perſons by whom it was propagated were choſen from a claſs which men in high life account the dregs of the people, as that the Holy Spirit ſhould accomodate himſelf to the language of thoſe who were actually choſen. Nay, language as well as dreſs being in fact no more than a ſpecies of mode, it may with as good reaſon be maintained that the ambaſſadors whom Chriſt deputed to promulgate his doctrine, ſhould have been habited like gentlemen and men of faſhion, as that they ſhould have ſpoken the dialect of ſuch. Should it be aſked, why did the Holy Spirit chuſe to deliver ſuch important truths in the barbarous idiom of a few obſcure Galileans, and not in the polite and more harmonious ſtrains of Grecian eloquence? The anſwer is obvious:—That it might appear beyond contradiction, that the excellency of the power was of God, and not of man. Moreover, the writings of the New Teſtament carry, in the very expreſſion and idiom, an intrinſic and irreſiſtible evidence of their authenticity. They are ſuch as, in reſpect of ſtyle, could not have been written but by

by Jews, and hardly even by Jews ſuperior in rank and education to thoſe whoſe names they bear; and the argument is ſtrengthened by conſidering that under their homely garb we find the moſt exalted ſentiments, the cloſeſt reaſoning, the pureſt morality, and the ſoundeſt doctrine. In the diſcuſſion of this ſubject, we ſhould likewiſe conſider the ſituation and character of the perſons for whoſe uſe the New Teſtament was more immediately written. They were partly either native Jews, or pious perſons who were proſelytes to the doctrine of Moſes, and who, by continual intercourſe with native Jews, and the conſtant reading of the LXX, were accuſtomed to Jewiſh Greek. It is highly probable, therefore, that if the New Teſtament had been written with Attic purity, it would have been unintelligible to many of its earlieſt readers, who had never read the doctrines of religion in any other dialect than Jewiſh Greek. We ſhall only obſerve further in this place, that a claſſical or unclaſſical ſtyle has no more influence on the divinity of the New Teſtament, than the elegance or inelegance of the hand in which it is written, and the accuracy or inaccuracy of the pronunciation with which it is uttered. Whoever is accuſtomed to write a bad hand would certainly not improve it by inſpiration; but admitting the fact, it would have this unfortunate conſequence, that no one accuſtomed to the hand would in its improved ſtate believe it to be genuine. There is no reaſon to believe, that inſpiration would amend a faulty pronunciation; and the writers of the different parts of the Bible have undoubtedly ſpoken in the ſame manner, both before and after the effuſions of the Holy Ghoſt. If theſe failings then are conſiſtent with ſupernatural endowments, "I can ſee no reaſon," ſays Michaelis, "for drawing an argument againſt the divinity of the New Teſtament from its vulgariſms, or even from its grammatical errors." A particular account of the writings of thoſe authors, who have engaged in the controverſy relating to the purity of the language of the New Teſtament, may be ſeen in Walchii Bibliotheca Theologica, t. iv. p. 276—289. See alſo Fabr. Bib. Græc. t. iv. p. 224—227. Michaelis's Introd. to the New Teſtament by Marſh, vol. i. ch. 4. § 4. p. 116, &c. Campbell on the Four Goſpels. Prelimin. Diſſ. vol. i. p. 13, &c. See more on this ſubject under the articles INSPIRATION, and *Language of the* NEW TESTAMENT.

BARBARISM, *Barbaries*, is alſo uſed for that rudeneſs of mind, wherein the underſtanding is neither furniſhed with uſeful principles, nor the will with good inclinations.

BARBARISSOS, in *Ancient Geography*, a town of Aſia, in Syria, in the Chalybonitide country. Ptolemy.

BARBARIUM *Promontorium*, a promontory of Luſitania, placed by Ptolemy ſouth of the city of Olios-Hippon, or Olioſcipon, Oleſipo, or Liſbon, in 39° 45′ N. latitude.

BARBARO, FRANCIS, in *Biography*, a noble and learned Venetian, was born in 1398, and diſtinguiſhed by his love of literature, and his talents for public buſineſs. Under the learned Grecian Chryſoloras, he acquired that profound knowledge both of the Greek and Latin languages, of which he gave ſpecimens in his tranſlations of Plutarch's lives, of Ariſtides, and Cato, and in his elegant moral work, written in Latin, intitled "De Re Uxoria," and firſt publiſhed without his name, in 4to. at Paris, in 1515. This work furniſhes uſeful inſtructions with regard to the choice of a wife, and the duties of wives and mothers. He was alſo the author of ſome orations and letters, which manifeſt good taſte and an amiable temper. In all the public offices which Barbaro ſuſtained, he diſplayed eminent virtues. Whilſt he was governor of Breſcia, he had occaſion for the exerciſe both of courage and diſcretion. The city was divided into two violent factions, which he prevailed upon to unite, and to act in concert for the public good; and though at the ſame time it was beſieged by the Milaneſe forces under the great commander Piccinino, and ſuffered much by famine and diſeaſe, he at length, after a protracted ſiege of three years, obliged the enemy to retire. He died much regretted by his countrymen, in 1454, at the age of fifty-ſix years. His letters were collected and printed at Breſcia in 1743. Gen. Dict.

BARBARO, *Ermolao*, the elder, was the nephew of the preceding, and diſtinguiſhed by his early acquaintance with the Greek language, inſomuch that at twelve years of age he tranſlated many of Æſop's fables into Latin. He was advanced, at the age of thirty years, by pope Eugenius, to the epiſcopal ſee of Trevigi; and ten years afterwards he was tranſlated to that of Verona, where he died in 1470, aged ſixty years. He left tranſlations of Greek authors.

BARBARO, *Ermolao*, or *Hermolaus Barbarus*, the younger, was the grandſon of Francis Barbaro, and born at Venice, in the year 1454. In very early life he was eminently diſtinguiſhed by his genius, application, and proficiency; and at the age of fourteen years he received from the hand of the emperor Frederic the poetic crown. At ſixteen, he undertook the tranſlation of Themiſtius, which was publiſhed ſeven years afterwards. Having graduated in the ſchool of Padua in juriſprudence and philoſophy, he returned to Venice, and devoted himſelf entirely to affairs of ſtate. However, after an interval of twelve years, he reſumed his ſtudies with freſh ardour; and, particularly attached to the Greek language, he read lectures, without gratuity, in his own houſe, upon Demoſthenes, Theocritus, and Ariſtotle, which were very numerouſly attended. At the age of thirty-two years, he was ſent ambaſſador to the emperor Frederic, who conferred upon him the honour of knighthood; and in conſequence of a ſubſequent embaſſy to pope Innocent VIII. that pontiff created him patriarch of Aquileia. This office he accepted, though the laws of Venice had prohibited its miniſters from accepting any dignity from any foreign prince, without the conſent of the republic; and for his oppoſition to this order, the Venetians pronounced upon him a ſentence of perpetual exile. For preventing its execution he wiſhed to relinquiſh the patriarchate; but the pope refuſed to accept the renunciation. From this time, he reſided at Rome; but upon the acceſs of the plague, he removed into the country, which, however, afforded him no aſylum; for he was ſeized with this malady, and died in the year 1493.

Beſides the tranſlation of Themiſtius, Hermolaus publiſhed verſions of Dioſcorides, and of the rhetoric of Ariſtotle; an abridgement of the moral and phyſical doctrine of that philoſopher; two large works upon Pliny, one intitled "Conſtitutiones Plinianæ," the other "Conſtitutiones Secundæ;" "Corrections of Pomponius Mela;" and an "Explanation of the more difficult words in Pliny." He boaſted that he had corrected 5000 errors in the text of Pliny, and 300 in that of Mela. Although he is charged with having been too free in his conjectural emendations, he exerciſed great ingenuity and induſtry in theſe labours. The illuſtrious Lorenzo de' Medici treated him with great reſpect, and when he was at Florence on an embaſſy from the republic of Venice, entertained him very liberally and offered him the uſe of his villa and library for the proſecution of his ſtudies. "Hermolaus is certainly entitled to rank in the firſt claſs of learned men, at a period when claſſical learning was the firſt and almoſt the ſole object of attention: nor is it any depreciation of his merit as a ſcholar, whatever it may be of his character as a philoſo-

pher,

pher, if the whimſical ſtory be true, that, being exceedingly perplexed concerning the meaning of Ariſtotle's Μετεωρα, a term which has perhaps never been underſtood, he endeavoured, or pretended to conſult the devil upon the ſubject." Gefner in Bibliothec. Gen. Dict.

BARBAROSSA, ſo called from the red colour of their beard, Aruc or Horuc, and Hayradin, were the ſons of a potter of the iſland of Leſbos, or as ſome ſay, of a Sicilian renegado; who, prompted by a reſtleſs and enterpriſing ſpirit, forſook their father's trade, and joined a crew of pirates. They ſoon diſtinguiſhed themſelves by their valour and activity, and becoming maſters of a ſmall brigantine, carried on their infamous trade with ſuch conduct and ſucceſs, that they aſſembled a fleet of twelve gallevs, beſides many veſſels of ſmaller force. Of this fleet, Horuc, the elder brother, was admiral, and Hayradin ſecond in command, but with almoſt equal authority. They called themſelves the friends of the ſea, and the enemies of all who ſail upon it; and their names ſoon became terrible from the ſtraits of the Dardanels to thoſe of Gibraltar. Whilſt they were acting as corſairs, they adopted the ideas and acquired the talents of conquerors. They often carried the prizes which they took on the coaſts of Spain and Italy, to which they extended their depredations about the year 1504, into the ports of Barbary; and enriching the inhabitants by the ſale of their booty, and the thoughtleſs prodigality of their crews, they were welcome gueſts in every place at which they touched. The convenient ſituation of theſe harbours, lying ſo near the greateſt commercial ſtates at that time in Chriſtendom, made the brothers wiſh for an eſtabliſhment in that country. An opportunity occurred for this purpoſe, which they eagerly ſeized and improved to their own advantage. Eutemi, king of Algiers, having made ſeveral unſucceſsful attempts for taking a fort which the Spaniſh governors of Oran had built not far from his capital, ſought the aſſiſtance of Horuc, whoſe valour the Africans conſidered as irreſiſtible. The active corſair gladly accepted the invitation, and leaving his brother Hayradin with the fleet, marched at the head of 5000 men to Algiers, where, in the year 1516, he was received as their deliverer. Such a force gave him the command of the town. The ambitious conqueror, having ſecretly murdered the monarch whom he came to aſſiſt, cauſed himſelf to be proclaimed king of Algiers in his ſtead. He then proceeded to eſtabliſh the authority which he had uſurped, by arts ſuited to the genius of the people whom he had to govern; by unbounded liberality to thoſe who favoured his promotion; and by cruelty as unbounded towards all whom he had any reaſon to diſtruſt. Having detected and defeated a conſpiracy formed againſt him by the Arabs, and obliged the king of Tunis, who marched to their ſuccour with a powerful army into the territory of Algiers, to ſeek refuge in the mountains; Barbaroſſa laid ſiege to Tunis, made himſelf maſter of it, and was acknowledged as ſovereign. He then attacked the neighbouring king of Tremecen, vanquiſhed him in battle, and added his dominions to thoſe of Algiers. At the ſame time he continued his depredations on the coaſt of Spain and Italy; and the devaſtations which he committed obliged Charles V., at the beginning of his reign, to furniſh the marquis de Comares, governor of Oran, with troops ſufficient to attack him. That officer, aſſiſted by the dethroned king of Tremecen, executed the commiſſion with ſuch ſpirit and ſucceſs, that Barbaroſſa's troops being defeated in ſeveral encounters, he himſelf was ſhut up in the citadel of Tremecen. After defending it to the laſt extremity, he was reduced by the approach of famine to the neceſſity of attempting an eſcape by a ſubterraneous paſſage; and in order to delay the purſuit, he ſcattered his treaſures upon the road. At length the Spaniards overtook him on the banks of the Heſcura, eight leagues from Tremecen; and here Barbaroſſa with his Turkiſh followers fought for ſome time with an obſtinate valour, but they were at laſt totally defeated, and the conqueror himſelf was ſlain, in the forty-fourth year of his age, A.D. 1518.

His brother Hayradin, known likewiſe by the name of Barbaroſſa, aſſumed the ſceptre of Algiers with the ſame ambition and abilities, but with better fortune. His reign being undiſturbed by the Spaniards, who were fully employed in the wars among the European powers, he regulated with admirable prudence the interior police of his kingdom, carried on his naval operations with great vigour, and extended his conqueſts on the continent of Africa. For his greater ſecurity, he put his dominions under the protection of the Grand Signior, and received from him a body of Turkiſh ſoldiers ſufficient for his defence againſt domeſtic as well as foreign enemies. Solyman at length A.D. 1533, offered him the command of the Turkiſh fleet, in oppoſition to Andrew Doria, who was the greateſt ſea-officer of that age. Barbaroſſa, proud of this diſtinction, repaired to Conſtantinople, and with a wonderful verſatility of mind, combined the addreſs of a courtier with the boldneſs of a corſair, and thus gained the entire confidence of the ſultan and his vizier. To them he communicated a ſcheme which he had formed of making himſelf maſter of Tunis, the moſt flouriſhing kingdom, at that time, on the coaſt of Africa; and as they approved the ſcheme, they furniſhed him with every thing he demanded for carrying it into execution. Availing himſelf of the inteſtine diviſions of the kingdom, and making perfidious uſe of the name and intereſt of Abraſchid, an exiled prince, whom he deceived and impriſoned, he was ſupported by a powerful fleet and a numerous army. His fleet conſiſted of 250 veſſels, with which he ſailed towards Africa; and after ravaging the coaſts of Italy, he appeared before Tunis. Having landed his men, he announced his intention of aſſerting the right of Abraſchid, whom he pretended to have left ſick on board of the admiral galley, but who was in reality confined in the ſeraglio at Conſtantinople, and who was never heard of more. The fort of Goletta, which guards the bay, ſoon ſubmitted, and the inhabitants of Tunis declared unanimouſly in favour of Abraſchid; ſo that the gates were opened to Barbaroſſa, whom they conſidered as the reſtorer of their lawful ſovereign. But as Abraſchid did not appear, they ſoon began to ſuſpect the corſair's treachery; and with arms in their hands, ſurrounded the citadel into which Barbaroſſa had led his troops. Their attack, however ardent and impetuous, was of no avail; and they were forced to acknowledge Solyman as their ſovereign, and to ſubmit to himſelf as his viceroy. Having put the kingdom into a proper poſture of defence, he extended his depredations to the Chriſtian ſtates, ſo that complaints of his outrages were conveyed to the emperor Charles by his ſubjects both in Spain and Italy. The emperor concluded a treaty with Muley-Haſcen, the exiled king of Tunis, who implored his aſſiſtance; and made preparations for invading Tunis. His fleet conſiſted of nearly 500 veſſels, and they had on board above 30,000 regular troops. The armament ſailed from Cagliari, and after a proſperous navigation, landed within ſight of Tunis. Barbaroſſa aſſembled at Tunis for oppoſing the imperial

army, a force compoſed of 20,000 horſe, together with a vaſt body of foot. By the reduction of the Goletta, after an obſtinate defence by 6000 Turkiſh ſoldiers under the command of Sinan, a renegado Jew, the braveſt and moſt experienced of all Barbaroſſa's corſairs, the emperor became maſter of the fleet, conſiſting of eighty ſeven galleys and galliots, together with the arſenal, and 300 cannon moſtly of braſs, that were planted on the ramparts. In theſe circumſtances, however, Barbaroſſa neither loſt his courage, nor abandoned the defence of Tunis. But as the walls were extremely weak as well as extenſive, he determined to advance with his army, amounting to 50,000 men, towards the imperial camp, and to decide the fate of his kingdom by the iſſue of a battle. Having communicated his reſolution to his principal officers, he propoſed to provide againſt the danger of a mutiny among the Chriſtian ſlaves, during the abſence of the army, by maſſacring 10,000 of them before he began his march. The barbarity of the propoſal filled his officers with horror; and Barbaroſſa, dreading their reſentment, conſented to ſpare the lives of the ſlaves. The emperor's army which ſuffered inconceiveable hardſhips in their march over burning ſands, ſoon came up with the Moors and Arabs under the command of Barbaroſſa, who were ſo completely routed, that, notwithſtanding all his efforts to rally them, he was hurried along with them in their flight back to the city. This was found a ſcene of confuſion; ſome of the inhabitants were flying with their families and effects; others were opening the gates to the conquerors; the Turkiſh ſoldiers were retreating; and the citadel was in poſſeſſion of the Chriſtian ſlaves. Barbaroſſa, diſappointed and enraged, fled precipitately to Bona; and Tunis ſurrendered to the victorious army of the emperor. But the luſtre of this victory was tarniſhed by the exceſſes of the ſoldiers; who ſacrificed more than 30,000 of the innocent inhabitants, and carried away 10,000 of them as ſlaves. Barbaroſſa eſcaped firſt to Algiers, and then repaired to Conſtantinople, where he was received again into favour, and ſent with a fleet to ravage Calabria. Having perſuaded Soliman to make war on the Venetians, he committed great devaſtations in the iſle of Corfu, and afterwards made an expedition to the coaſt of Arabia Felix, when he reduced all Yemen under the Turkiſh dominion. In a ſubſequent war between the Turks and Venetians, he took many iſlands in the Archipelago. In 1538 he croſſed over to Candia, and made an unſucceſsful attempt on Canea. From thence he retired to the Ambracian gulf, where he was overtaken by the Chriſtian fleet under the famous Andrew Doria. By his ſkilful manœuvres he not only avoided the danger that threatened him, but gained ſome partial advantages, and cauſed Doria to make a haſty retreat to Corfu. In 1539 he recovered Caſtel Nuovo from the confederates. In 1543, Barbaroſſa left Conſtantinople with a powerful fleet; and proceeding to the Faro of Meſſina, took Reggio, and ſacked the coaſt of Italy. He then beſieged and took Nice; but when Doria approached with his fleet, Barbaroſſa avoided him; and remaining in thoſe ſeas during winter, he next ſpring ravaged the coaſts and iſlands of Italy, and then returned with many priſoners to Conſtantinople. During the remaining period of his life, he ſuperintended the naval affairs of the grand ſignior, and purſued that voluptuous courſe to which he had been habituated, amidſt a number of fair captives; and died at the age of eighty years, in 1547, leaving his ſon Haſſan in poſſeſſion of the viceroyalty of Algiers, and heir to all his property. With the ferocity of a Turk and a corſair, Barbaroſſa poſſeſſed ſome generous ſentiments, and obtained a character for honour and fidelity to his engagements. Mod. Un. Hiſt. vol. x. p. 66, &c. vol. xv. p. 14, &c. Robertſon's Hiſt. of Charles V. vol. iii. p. 97, &c. Gen. Biog. See Algiers.

Barbarossa, in *Entomology*, a ſpecies of Scarabæus, deſcribed by Fabricius as a native of New Holland. The anterior part of the thorax is ſcabrous; horns of the head recurved and ſhort.

BARBAROUS, in a general ſenſe, denotes ſomething that partakes of the quality of Barbarism; and in this ſenſe, the term is applied to a nation, age, writer, word, or the like. Barbarous Latin words are innumerable; the ſchoolmen abound with them; the chemiſts, phyſicians, and lawyers can ſcarcely write intelligibly without them. Du-Cange has given two large volumes in folio of barbarous Latin words, and as many of Barbarous Greek words. The modern or vulgar Greek is ſometimes called barbarous Greek, "barbaro-Greca," or "Greco-barbara lingua." Langius has publiſhed "Philologia Barbaro-Greca," "Grammatica Barbaro-Greca," or "Gloſſarium Barbaro-Grecum."

BARBARUS, in *Entomology*, a ſpecies of Papilio. (*Pleb. Rur.*) The wings are without tails, and blueiſh; beneath ſpotted all over with brown, and two ſpots behind. Gmelin.

Barbarus, a ſpecies of Tenebrio, of a black colour, and very gloſſy; thorax orbiculated; anterior margin of the ſhield of the head elevated. This is about the middle ſize; wing-caſes joined. Brander, &c.

Barbarus, a ſpecies of Cryptocephalus that inhabits Barbary. The antennæ are ſerrated; body hairy, obſcure, braſſy. Found on compoſite flowers. Fabricius.

Barbarus, in *Ichthyology*, a ſpecies of Syngnathus, found in European ſeas. It has neither caudal nor anal fin; body ſix-ſided. Gmelin. In the dorſal fin are about forty-three rays; and in the pectoral fin twelve rays; body olive with faint blueiſh tranſverſe lines.

Barbarus, in *Ornithology*, a ſpecies of Vultur that inhabits Barbary, and ſome other parts of Africa. It is of a blackiſh brown; beneath white, inclining to brown; legs woolly; toes lead colour; claws brown. Gmelin. This is *vultur barbatus*, Briſſ. Orn. and *bearded vulture* of Edwards and Latham.

Barbarus, a ſpecies of Falco, called by the Engliſh writers the *Barbary falcon*; the cere and legs are yellowiſh; body blueiſh, ſpotted with brown; breaſt immaculate; tail banded. Gmelin. The length of the bird is ſeventeen inches, and, as its name implies, it is a native of Barbary.

BARBARY, in *Geography*, the northern tract of Africa, is one of the three diſtinct parts of North Africa, according to the diſtribution of major Rennel, and lying along the Mediterranean. See Africa.

As to the origin of the name of Barbary, we have a variety of conjectures. Some ſuppoſe, that the Romans, after they had conquered this large tract, gave it the name by way of contempt or diſlike of the rude and barbarous manners of the natives. Marmol deduces it from the Arabic word "Berber," a name given by the Arabs to the ancient inhabitants, and which they retain to this day in many parts of this tract, eſpecially along the ridge of the Great Atlas, where they are very numerous, and which was given to them by their new invaders on account of the barrenneſs of their country. Leo Africanus ſays that it was given to theſe people on account of their ſtrange language, which appeared to them an inarticulate murmur, the Arabic word "barbar," ſignifying "a murmuring ſound or noiſe."

Others

Others derive it from "bar" twice repeated, which ſignifies a "deſert," which was its ancient ſtate; accordingly, they ſay that the fugitive king Ifrik, from whom it is pretended the whole African continent derived its name, when cloſely purſued by his enemies in his flight out of Arabia Felix, and heſitating what courſe to purſue, was directed by ſome of his retinue by theſe words, "Bar, Bar," that is "To the Deſert, To the Deſert."

The hiſtory of the word "Barbar," ſays Gibbon (Rom. Emp. vol. ix. p. 463:), may be claſſed under four periods. 1. In the time of Homer, when the Greeks and Aſiatics might probably uſe a common idiom, the imitative ſound "of Barbar," was applied to the ruder tribes, whoſe pronunciation was moſt harſh, whoſe grammar was moſt defective. Καρες βαρβαροφωνοι (Iliad. ii. 867. with the Oxford Scholiaſt, Clarke's Annotation, and Henry Stephens's Greek Theſaurus, tom. i. p. 720.) 2. From the time, at leaſt, of Herodotus, it was extended to *all* the nations who were ſtrangers to the language and manners of the Greeks. 3. In the age of Plautus, the Romans ſubmitted to the inſult (Pompeius Feſtus, l. ii. p. 48. ed. Dacier), and freely gave themſelves the name of Barbarians. They inſenſibly claimed an exemption for Italy, and her ſubject provinces, and at length removed the diſgraceful appellation to the ſavage or hoſtile nations beyond the pale of the empire. 4. In every ſenſe, it was due to the Moors; the familiar word was borrowed from the Latin provincials by the Arabian conquerors, and has juſtly ſettled as a local denomination (Barbary) along the northern coaſt of Africa.

Barbary is bounded on the north by the Mediterranean ſea, which divides it from Europe, on the eaſt by Egypt, on the ſouth by Sahara, Zaara, or the Deſert, and on the weſt by the Atlantic ocean. Its utmoſt extent from eaſt to weſt, that is, from cape Non, on the moſt weſtern coaſt of Morocco, to the confines of Egypt, is almoſt 37 degrees, that is from 10° W. to 26½ E. long. or about 2200 geographical miles. Its breadth from north to ſouth is very unequal; in ſome parts it is not above 6 or 7 degrees; and where it is wideſt, as from cape Non to Tangier, not above 10 degrees. Some geographers, however, have given it a much greater extent both in length and breadth, making the former 4000 miles, and the latter 1200, in order to which eſtimate they have included the creeks and windings, which are too precarious and unknown to be depended upon. Others have made the length from eaſt to weſt to be only 1200 miles, and the breadth from north to ſouth, which is very variable, 320 miles. It commences on the weſt at the famous mount Atlas, called by the Arabs Ayduacal, or Al Duacal, and incloſes the ancient kingdoms of Suez and Dela, now provinces of Morocco, and extends north-eaſtward along the Atlantic coaſt to the pillars of Hercules at cape Finiſterre, through the ſtraits of Gibraltar, and ſo on by an eaſtern courſe, along the Mediterranean coaſt to the city of Alexandria, which is the ſouthern boundary of Egypt, where it joins to this of Barbary. The principal kingdoms into which it is now divided, are thoſe of Morocco, Fez, Algiers, Tunis, and Tripoli; the kingdom of Telenſin or Tremecen having been incorporated with that of Algiers, and that of Barca having been reduced to a dependence on that of Tripoli. (See each of theſe articles.) Both the coaſts of Barbary, whether watered by the Atlantic ocean, or by the Mediterranean, are fertile in corn and paſturage; the former being watered by a multitude of ſmall and large rivers which deſcend from the great Atlas, and empty themſelves into the ocean; and the former extending along the declivity of a vaſt ridge of mountains, ſome of which are conſiderably high, and ſpread above 40 leagues into the inland, ſupplying a number of rivers, which after many windings through pleaſant and fertile vallies, diſcharge themſelves into the Mediterranean. Beſides, the temperature of the climate contributes to its fertility. However the coaſt and mountains along the Mediterranean from the ſtraits of Gibraltar to Egypt, are rather cold than hot, and ſnow falls at certain times of the year; and the tops of ſome mountains are covered with it through the year. The winter in this country commences about the middle of October, and is often ſevere; the rains commonly begin about the end of the month, and continue to the end of January; in February the weather becomes milder; and in March the weſt and north winds begin to blow and to produce univerſal verdure. During the whole ſpring ſeaſon, which begins about the latter end of February, the weather is generally ſerene and pleaſant, except from the latter end of April to that of May, when refreſhing ſhowers are abundant; which with the concurring heat of the ſun, bring the productions of the earth to maturity; ſo that in the latter end of May, they begin to gather ripe figs and cherries in Tunis, Algiers, and ſome parts of Morocco; in the middle of July, the apples, pears, and plums are ripe, and grapes and other later fruits are completely gathered before the latter end of September. The ſummer begins, according to their reckoning, on the 28th of May, and laſts till the 29th of Auguſt; during which the heats are exceſſive and dangerous; their autumn commences on the 27th of Auguſt, and ends on the 16th of November, when the heat abates; and their winter begins on the 17th of November, and ends on the 16th of February. The greateſt cold begins on or about the 12th of December, and the greateſt heat about the 12th of June. On mount Atlas, and the higher lands, they reckon but two ſeaſons, namely, winter and ſummer; the former laſting from October to April, when great quantities of ſnow fall, and the latter from April to September, when the heat in the vallies is exceſſive.

The principal quadrupeds of the ſtates of Barbary are the horſe, which has of late years very much degenerated, the aſs and mule, the kumrah, produced between an aſs and a cow, the camel, the black cattle, which are ſmall and ſlender, the goat, and ſheep, of which latter there are two ſpecies not known in Europe; the one the broad-tailed ſheep, and the other the ſheep of Sahara, as tall as our fallow-deer, and reſembling them in ſhape. Each of theſe kinds of quadrupeds is very numerous and prolific. Several Arabian tribes, who can bring no more than three or 400 horſes into the field, are poſſeſſed of more than ſo many thouſand camels, and triple the number of ſheep and black cattle. The Arabs ſeldom diminiſh their flocks by uſing them for food, but live chiefly upon bread, milk, butter, dates, or what they receive in exchange for their wool. Among the quadrupeds that are not naturally tame and domeſticated, we may reckon the "bekker-el-waſh," or wild cattle, which Dr. Shaw ſuppoſes to be the bubalus of the ancients, or bos Africanus of Belloniuſ; and deer, in ſize betwixt the red and fallow-deer; the ſiſhtall or lerwee, ſeeming in ſize, ſhape, and other circumſtances, to be the tragelaphus of the ancients, or an animal betwixt a goat and a deer; the gazell or antilope, of which there is a ſpecies called lidmee, ſuppoſed by Shaw to be the ſtrepſiceros or addace of the ancients. Among quadrupeds of a leſs tameable nature, we may enumerate the lion and panther; the ſaadh or chamus of Pliny, the leſſer panther, and the ſhibeardon or Spaniſh genetta; the dubbah or hyæna; the deeb or jackall; the fiyah-guſh or black-eared cat; the porcupine; the jird, and jerboa. Beſides theſe animals, Barbary alſo produces the bear or dabh; the ape or ſhedy; the

ichneumon or tezerdea; the ferret or nimfe; and the weefel or fert-el-heile. The mole, likewife, the rabbit, the hare, and the wild boar, which is the chief prey and food of the lions, are every where numerous. Among the oviparous quadrupeds, Dr. Shaw enumerates the land and water tortoife, the former being very palatable food, but the latter unwholfome; the warral or guaral; the dhab or dab; the zermoumeah; the fkink or feincus; and the neije-laimah or hooka-fhah. Of the ferpentine kind, befides the flow-worm and the fnake, which are common, the moft remarkable fpecies are the thaibaane, the zurreike or jaculus, the leffah or dipfas. Thefe are the only fpecies of the viper kind which Dr. Shaw difcovered; and he adds, that the northern parts of Africa do not produce above five or fix diftinct fpecies among the many that are defcribed by Lucan and Nicander. Among the birds, he enumerates, befides the eagle kind, the kirabunno, about the fize of our buzzard, the red-legged crow or pyrrhocorax; the enfeefy or ox bird; the boo-ouk or long-neck; the buron-roa, one of the larger fpecies of the horned owl; the yarouroui; the fhagarag; the houbara or houbaary; the rhead or faf-faf; the kitawiah or African lagopus; the Barbary partridge or red-legged quail; the green thrufh; and the Capfa fparrow. The infects of this part of Africa are more numerous than curious. The moft curious fpecies of the butterfly kind is the lappet butterfly, about four inches from one tip of the wing to the other, beautifully ftreaked with murrey and yellow, and having near the tail a fpot of a carnation colour. The rareft fpecies of the libellæ or adderbolts is one, 3½ inches long, broad-tailed, of a ruffy colour, with bright fpotted wings. The leaft frequent of the beetle kind, is a fpecies with one horn, of the colour and fize of a chefnut. In the hotter months of the fummer, the cicade, τεττιγξ, or grafshopper, as we falfely tranflate it, is perpetually ftunning the ears with its fhrill and ungrateful noife, from mid-day to the middle of the afternoon. The locufts are very numerous, firft appearing towards the latter end of March, and in the middle of April forming large fwarms, which even darken the fun, and beginning gradually to difappear in May. Of the ackrab or fcorpion there are feveral fpecies. For other particulars relating to the productions, commerce, cuftoms, &c. of the ftates of Barbary, fee ALGIERS, MOROCCO, &c.

The coaft of Barbary was probably firft planted by the Egyptians. The Phœnicians afterwards fent colonies thither, and built Utica and Carthage. The Carthaginians foon became powerful and wealthy by trade; and finding the country divided into many little kingdoms and ftates, either fubdued or made the princes on that coaft their tributaries, who, being weary of their yoke, availed themfelves of the opportunity of affifting the Romans in fubduing Carthage. The Romans remained fovereigns of the coaft of Barbary, which indeed was almoft the whole of their poffeffion, Egypt excepted, on the continent of Africa, until the Vandals in the fifth century reduced it under their dominion. The Roman, or rather the Grecian emperors, having fome time after recovered the coaft of Barbary from the Vandals, retained the dominion of it till the Saracen caliphs made an entire conqueft of the north of Africa in the feventh century, and divided the country among their chiefs, of whom the fovereign of Morocco was the moft confiderable, poffeffing the north-weft part of that country, which, in the Roman diviſion, obtained the name of Mauritania Tingitania, from Tingis or Tangier the capital; and is now ftyled the empire of Morocco, comprehending the kingdoms or provinces of Fez and Morocco. In the eighth century, their anceftors made a conqueft of the greateft part of Spain; but after the lofs of Granada, about the year 1492, they were difpoffeffed of this country, and compelled by Ferdinand and Iſabella to renounce their religion, or tranfport themfelves to the coaft of Africa. The exiles confederated with the Mahometan princes on the coaft of Barbary, and fitted out little fleets of cruizers, which made depredations on Spain, brought away many of its inhabitants, and made flaves of them. The Spaniards aſſembled a fleet of men of war, invaded Barbary, took Oran and other places on the coaft of Algiers, and were proceeding to make an entire conqueft of the country. In this diſtreſs, the African princes beſought the aſſiſtance of the famous Turkiſh rover, called Barbaroſſa (fee the article BARBAROSSA), againſt the Chriſtians. When he had repulſed their enemies, he uſurped the government of Algiers, and treated the people who called him to their ſuccour as ſlaves. His brother Hayradin purſued the ſame meaſures with regard to the people of Tunis; and a third by ſimilar means obtained the government of Tripoli. In theſe uſurpations they were ſupported by the grand ſignior, who claimed the ſovereignty of the whole coaſt, and for ſome time they were conſidered as the ſubjects of Turkey, and governed by Turkiſh baſhas and viceroys; but each of theſe ſtates, or rather the military men, at length elected a ſovereign out of their own body, and rendered themſelves independent of the Turkiſh empire. The grand ſignior has not now ſo much as a baſha or officer at Algiers; but the dey acts as an abſolute prince, and is only liable to be depoſed by the ſoldiery that advanced him. At Tunis and Tripoli he has ſtill baſhas, who are ſome check upon the deys, and receive a ſmall tribute. All of them, however, in caſe of emergency, claim the protection of the Ottoman court, and they ſtill continue to prey upon the Spaniards, having never been at peace with them ſince the loſs of Granada. They make prize alſo of all other Chriſtian ſhips that have Spaniſh goods or paſſengers on board, and indeed of all others that are not at peace with them. The Turks of Algiers, Tunis, and Tripoli, are an abandoned race, conſiſting of pirates, banditti, and the refuſe of Turkey, who have been forced to leave their ſeveral countries to avoid the puniſhment of their crimes. See ALGIERS, &c. and alſo AFRICA.

Barbary is chiefly inhabited by three ſorts of people; namely, Moors, who are the original natives; the Arabs, who have overran this country; and the Turks, who have ſince made themſelves maſters of ſome of its beſt provinces, and the ſeveral kingdoms of Tripoli, Tunis, and Algiers, though under a kind of tribute to, or dependence upon the Ottoman porte. The Moors, or natives, are for the moſt part Mahometans; as there are few who have not been induced or compelled to embrace Mahometaniſm ſince their ſubjection to the Turks. They are even more ſcrupulous obſervers of the Mahometan law than the Turks themſelves; and as they are generally even more ignorant, they have adopted every abſurdity of ſuperſtition. Among the corſairs of Barbary, no charm, or magic ſpell, no expedient, though ever ſo ſenſeleſs, monſtrous, and ſeemingly diabolical, can be invented, to which they will not have recourſe, preferably to any of a more rational nature and efficacy, in fights, ſtorms, or other emergencies attending their hazardous profeſſion. Their condition is abject and miſerable to the extreme, being cruſhed with a heavy load of taxes, and treated with the utmoſt cruelty by their inſulting maſters, or expoſed to the continual inroads of the plundering Arabs. Such is the ſtate of thoſe who live at large in the country upon their agriculture and cattle. As for thoſe who inhabit the ſea-ports along the coaſt, they are allowed to follow a variety of handicraft trades and manufactures, and even to carry on ſome commerce by land and ſea. But they are no leſs oppreſſed with taxes and other exactions.

The Arabs of Barbary are like thoſe of other parts of Africa; they follow the ſame mode of living, are governed by their own deſpotic cheyks, and all of them, except thoſe of the wandering kind, and ſuch as live under the dominion of the emperors of Morocco and Fez, are in ſome part tributary to the Turks, ever ſince they have made themſelves maſters of the remainder of the Barbary coaſt. They are often obliged, by the oppreſſion they ſuffer, to abandon their habitations, and to ſeek ſhelter among the moſt rocky and inacceſſible mountains, whither the Turkiſh forces cannot purſue them. Such is the condition of thoſe who live in the country, and along the ridge of mount Atlas; but there is another and more civiliſed claſs of them, who are, like the Moors, ſettled in ſome of the towns and villages, and apply themſelves to agriculture, and eſpecially to the breeding of that race of horſes ſo much eſteemed, known to us by the name of barbs, for which their country has been famous all over Europe. The wild, or wandering Arabs, who range along the great Atlas and other parts of Barbary, are warlike, bold, and even deſperate in all their plundering excurſions; eſpecially in their attempts on the large and rich caravans, which go from Morocco into Egypt. The Arabs of each claſs are addicted to the ſtudy of aſtronomy and aſtrology, to which they are diſpoſed by their paſtoral life, which affords much leiſure, their clear ſky, and natural ſuperſtition. The neither ſow, reap, plant, travel, buy, or ſell, nor undertake any expedition, without previouſly conſulting the ſtars, or in other words, their almanacks, or ſome of the makers of them, whether they be Mahometans or idolaters.

The Turks are of all the inhabitants of Barbary the feweſt in number, and in all reſpects the worſt of all the three claſſes; being originally no better than a wretched crew of indigent, looſe, idle, and thieviſh fellows, inliſted in and about Conſtantinople, and ſent from thence once in three years to recruit the ſoldiery, They are wanton and ſavage in the exerciſe of their tyranny over both the Moors and Arabs. They make oſtentatious profeſſions of Mahometaniſm; but in practice they neglect and violate its precepts in the moſt licentious degree, and are ſo notorious for the diſſoluteneſs of their manners, that they are abhorred by all true Mahometans.

The whole tract of Barbary from one end to the other is ſo excellently ſituated for navigation and commerce, ſo fertile of every neceſſary of life in its variety of ſoils and climates, ſo rich in its mines of gold, ſilver, and other metals and minerals, ſo healthy, and ſo populous, that it might defy the whole force of Europe or Aſia to reduce it, were its inhabitants as induſtrious as they are indolent and knaviſh, and were the ſeveral nations that inhabit it, or the ſeveral powers to which it is ſubjected, united in one common intereſt. Shaw's Travels, paſſim. Mod. Un. Hiſt. vol. xi. p. 226, &c. vol. xiv. p. 288. vol. xxxvii. p. 186, &c.

Barbary *Point*, the weſtern point of the entrance into the river, &c. of Senegal, on the coaſt of Africa. N. lat. 15° 38′. W. long. 15° 30′.

BARBAS, Cape, lies on the coaſt of Africa, weſt from Cypriano river, and 26 leagues north from cape Blanco. N. lat. 22° 15′ 30″. W. long. 16° 40′.

BARBASQTE, a ſea-port town of Africa, in the kingdom of Fez, a little to the weſt of Ceuta.

BARBASTELLUS, Vespertilio, in *Zoology*, the tailed bat, with elevated hairy cheeks, and large ears, angulated on the lower part. (Linn. Syſt. Nat. Gmelin, p. 48.) *Barbaſtelle* of Buffon and Pennant. Its length is about two inches from noſe to tail; extent about ten inches; upper part of the body duſky brown; under part aſh coloured; forehead ſunk; ears broad and long, lower parts of the inner ſides touching each other, and thus concealing the face and head when viewed in front; noſe ſhort; cheeks full; end of the noſe flattened; found in France. Shaw.

BARBATA, in *Entomology*, a ſpecies of Cantharis that inhabits Germany. It is of a brown colour; antennæ and ſhanks pitchy. Olivier. The down on the body is changeable to a golden hue.

Barbata, a ſpecies of Cicada (*Dorſata*) of a brown colour, with greeniſh abdomen, and a ſnowy-white woolly tuft at the vent. Fabricius, Gmelin.

Barbata, a ſpecies of Phalæna that inhabits Barbary. The wings are greyiſh, with a brown ſpot in the middle, and an obſolete band behind. Fabricius, &c.

Barbata, a ſpecies of Pimelia (*Longa*. Fabric.) of a black colour; feelers advanced, and with the legs yelloviſh. Inhabits Saxony. Fabricius.

Barbata, in *Natural Hiſtory*, a ſpecies of Corallina, about three inches in length, that grows on the ſhores of Jamaica. Ellis, in his work on coralline, calls it the roſary or bead-coralline of Jamaica; it is the bead-band ſtring of Plunknet, and corallina major, nervo craſſiori fuciformi intermedia brèviora nectente of Sloane. (Hiſt. Jam.) This kind is ſpecifically diſtinguiſhed according to Pallas, Solander, and others, by being dichotomous, with cylindrical joints, the extreme ones bearded at the tips.

Barbata, a ſpecies of Nais, about one third of an inch in length, that is found in wet places, in woods, and ſometimes adhering to the *Helix planorbis* and other freſh-water ſnails. The lateral briſtles are diſpoſed in tufts, and it has no proboſcis. (Müller, Bonnet, &c.) The body is hairy beneath, and each ſegment furniſhed on both ſides with four divergent briſtles; eyes two, and of a black colour; length four lines.

Barbata, in *Ornithology*, a ſpecies of Fringilla that lives in the mountainous parts of Chili. This bird is about the ſize of a Canary-bird; of a pale yellow colour, with green wings, ſpotted with black and red; and has the chin bearded. It is ſaid to ſing delightfully, and to be capable of imitating the notes of other birds with the greateſt facility. The bill is white at the baſe, and black at the tip; head black; chin in the young bird yellow, in a few months this changes black, and appears, when full grown, bearded; this is only in the male bird, for the female has no beard, and is of a cinereous colour, with a few ſpots of yellow on the wing. Molin. Hiſt. Nat. Chili. Gmel. &c.

Barbata, a ſpecies of Muscicapa, of an olive-brown colour above; beneath greeniſh yellow; crown yellow; rump yellow. A native of Cayenne; called by Buffon barbichon de Cayenne; and by Latham the whiſkered fly-catcher.

The length of this bird is five inches; bill broad, depreſſed, and ſhorter than the whiſkers. Female greeniſh-black, yelloviſh beneath; breaſt browniſh; on the crown an oblong yellow ſpot.

BARBATED Leaf, in *Botany*, is a leaf terminated by a bunch of ſtrong hairs.

BARBATELLI, Bernardino, called Pochetti, in *Biography*, a painter of hiſtory, fruit, animals, and flowers, was the diſciple of Ridolfo Ghirlandaio at Florence; and from his ſchool he went to Rome, where he applied with ſuch aſſiduity, and his mind was ſo engaged by the objects of his contemplation, that he neglected the neceſſary refreſhments of ſleep and food. In painting the ſubjects, to which his attention was principally directed, he not only imitated but equalled nature. His touch was free, light and delicate, and the colouring of his objects inexpreſſibly true; and beſides

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his merit in his appropriate ſtyle of painting, his hiſtorical ſubjects, from ſacred and profane authors, were much admired. He was born at Florence in 1542, and died in 1612. Pilkington.

BARBATIA, in *Ancient Geography*, a town of Aſia, towards the Tigris. It belonged to the Arabs, according to Pliny.

BARBATINA, or Semen *contra*, in the *Materia Medica*, a ſeed which is efficacious in extirpating worms from the human body, to which children are chiefly liable; it comes from Perſia, and the borders of Muſcovy. This ſeed, when good, is plump, of an agreeable ſcent, and very green. Special care muſt be taken that it be not dyed green, and that the ſeed of ſouthern-wood be not ſold inſtead of it.

BARBATISSUS, in *Ancient Geography*, a town of Aſia, near the weſtern bank of the Euphrates, on the ſmall river Daradax, ſouth-weſt of Nicephorium, about 35° 40′ lat.

BARBATO, in *Geography*, a river of Spain, which runs into the Atlantic, between Cadiz and the ſtraits of Gibraltar, about 9 leagues ſouth of Cadiz.

Barbato, or *Puerto Barbato*, a ſea-port town of Spain, in Andaluſia, on the coaſt of the Atlantic, near the mouth of the river Barbato.

BARBATULA, in *Ichthyology*, a ſpecies of Cobitis with ſix cirri; head unarmed and compreſſed. (Linn.) This is the bearded loche of Engliſh writers; enchelyopus, &c. Klein; cobitis fluviatilis, Ray; fundulus, Marſd.

"The bearded loche is a native of Europe and Aſia; and is moſt frequent in freſh-water ſtreams and lakes in mountainous countries. From its habit of lurking at the bottom of the water, on the gravel, it has been called the groundling; but the latter name is now given to the ſpiny loche, a fiſh diſtinguiſhed from the preſent by having a forked ſpine under each eye, and is that ſpecies of cobitis which Gmelin calls tænia.

"This is a fertile creature; it ſpawns in the month of March and April, and grows to the length of three or four inches, but ſeldom larger. It feeds on aquatic inſects; and, we are told by Mr. Pennant, is frequent in the ſtream near Ameſbury in Wiltſhire, where the ſportſmen, through frolic, ſwallow it down alive in a glaſs of wine.

"The loche is found in greater abundance in France, and other parts of Europe, than in England; and are in ſuch high eſtimation for their exquiſite delicacy and flavour, that they are often tranſported with conſiderable trouble from the rivers they naturally inhabit, to waters more contiguous to the eſtates of the great. This is uſually performed in winter; and it is neceſſary to keep the water in continual agitation the whole way, as the fiſh would otherwiſe die. Frederic I. king of Sweden, had them brought in this manner from Germany into his country, where they have been ſince naturalized; a circumſtance that leads us to conclude they were either ſcarce, or not originally natives of that country.

"In the dorſal fin of the ſpecimen deſcribed, are nine rays, in the pectoral eleven; ventral eight; anal ſeven; and in the tail nineteen." Donov. Brit. Fiſhes, vol. i. p. 22.

BARBATUS, in *Entomology*, a ſpecies of Cerambyx (*Prionus*), of a large ſize, that inhabits South America. The thorax is entire; jaws ferruginous, and very hairy; antennæ of a moderate ſize. (Fabricius.) Antennæ rough, extreme joint ſmooth and compreſſed; ſhell pitchy; abdomen villous white; legs black.

Barbatus, a ſpecies of Scarabæus, that is unarmed, ſmooth, and black; vent bearded. (Fabricius.) A native of India.

Barbatus, in *Ichthyology*, a ſpecies of Gobius, with fan-ſhaped pectoral fins; twelve rays in the firſt dorſal fin, and thirteen in the ſecond. Its native country is unknown. Gmelin.

Barbatus, a ſpecies of Lophius, of a depreſſed form, with the lower jaw bearded. (Montin. act. ſuec, 1779.) Inhabits the ſeas in the northern parts of Europe, is about three inches and a half in length, and is extremely rapacious. Perhaps not diſtinct from *lophius Veſpertilio*. Gmelin.

Barbatus, in *Ornithology*, a ſpecies of Falco, of a whitiſh red colour, with the back brown; and a black ſtripe above and beneath the eyes. Gmelin, &c. *Vultur barbatus* Linn. *Vulturine eagle* Albin.

Of this bird there is a variety of a rufous colour, with the back black; head and neck above rufous white; quill and tail feathers brown. *Vultur aureus* Briſſ. *Vultur barbatus* Ray. *Golden vulture* Willughby and Latham. A third variety occurs, *falco magnus* Gmel. It, in which the cere is bluiſh; legs and body beneath chetnut, intermixed with white; tail cinereous.

The firſt kind inhabits the Alps; the two latter the mountainous parts of Perſia. It is larger than the golden eagle, meaſuring rather more than four feet in length; is very daring, flies in flocks, and will attack men as well as animals.

BARBE, or Barb, in *Zoology* and *Commerce*, a kind of horſe brought from Barbary, much eſteemed for its beauty, vigour, and ſwiftneſs. Barbs have a long fine neck, not overcharged with hair, and well divided from the withers; the head is ſmall and beautiful; the ears are handſome and properly placed; the ſhoulders are light and flat; the withers are thin and well raiſed; the back is ſtraight and ſhort; the flank and ſides are round, and the belly not too large; the haunch bones are properly concealed; the crupper is ſomewhat long, and the tail placed rather high; the thigh is well formed, and rarely flat; the limbs are fine, handſome, and not hairy; the tendon is prominent, and the foot well made; but the paſtern is often long. They are of all colours, but generally grayiſh. In their movements they are apt to be careleſs, and require to be checked. They are ſwift, nervous, light, and make very fine hunters. Theſe horſes appear to be the moſt proper for improving the breed. The ſtature, however, is not ſo large as could be wiſhed. They are ſeldom above four feet eight inches, and never exceed four feet nine inches, or 14¼ hands. It is confirmed by repeated experience, that in France, England, &c. they produce foals which grow larger than their parents. Of the Barbary horſes, thoſe of the kingdom of Morocco are ſaid to be the beſt, and next to theſe are the Barbs from the mountains. The horſes of Mauritania are of an inferior quality, as well as thoſe of Turkey, Perſia, and Armenia. Buffon's Nat. Hiſt. vol. iii. p. 357. It is a maxim, that barbs grow ripe, but never grow old, becauſe they retain their vigour to the laſt, which makes them prized for ſtallions: their mettle, according to the duke of Newcaſtle, never ceaſes but with their lives. It is ſaid, they were anciently wild, and ran at large in the deſerts of Arabia; and that it was in the time of the cheq Iſhmael, that they firſt began to tame them. It is alſo affirmed, that there are barbs in Africa that will outrun oſtriches; ſuch have been ordinarily ſold, according to Dapper, for 1000 ducats, or 100 camels. They are fed very ſparingly, and, as Dapper ſays, with camel's milk. It is added, that in Barbary they preſerve the genealogy of their Barbs with as much care as the Europeans do that of their noble families; and that in the

the ſale of them, they always produce their titles of nobility. The race of horſes is much degenerated in Numidia; the Arabs having been diſcouraged from maintaining it by the Turkiſh officers, who are ſure to become maſters of them. The Tingitanians and Egyptians have had the reputation of preſerving the beſt breed both for ſize and beauty. Some of theſe are ſixteen hands high, and all of them ſhaped, according to their phraſe, like the antelope. The good qualities of a Barbary horſe, beſides the ſuppoſed one of never lying down, and of ſtanding ſtill when the rider drops his bridle, are to have a long walk, and to ſtop ſhort, if required, in a full career. The Barb is very lazy and negligent in all his motions; he will ſtumble in walking upon the ſmoothest ground; his trot is like that of a cow, and his gallop very low and very eaſy to himſelf. This ſort of horſe, however, is for the moſt part ſinewy, nervous, and excellently winded; it is therefore good for a courſe, if not overweighted. The mountain barbs, which are the largeſt and ſtrongeſt, are much eſteemed; they belong to the Alarbes, who value themſelves much upon them, and are as fond of them as other nations are, ſo that they are not eaſily procured. The common barbs have been uſually bought in Provence and Languedoc in France, at a moderate price; and many of our perſons of faſhion in England have them from thence. Barbs, amongſt us, fall ſhort of the ſwiftneſs attributed to them in their native country: this may be accounted for, partly from the ſmallneſs and lightneſs of their riders, and partly from their not being loaded with heavy ſaddles and bridles, as in Europe, nor even with ſhoes. An Arab ſaddle is only a cloth girt round with a pair of light ſtirrups, and a ſort of pummel to ſuſtain them.

Baſtard-Barbs, thoſe deſcending from the Engliſh mares, covered by barb ſtallions, are, by experience, conſtantly found both better ſhaped and fitter for the ſaddle, and ſtronger for ſervice than their ſires. Phil. Tranſ. N° 105.

Barbe, St. in *Geography*, a town of Mexico, in New Biſcay, in the vicinity of which are very rich ſilver mines; diſtant 500 miles N. W. from the city of Mexico. N. lat. 26° 10′. W. long. 110° 5′.

Barbe, St. *Iſlands of*, lie off the mouth of Green bay, and to the eaſt of cape Den, or the ſouth point of White bay in the Marchigonis river; on the eaſt coaſt of Newfoundland, and to the north of cape Bonaviſta.

Barbe, or *Barbet*, in the *Military Art*.—To fire en Barbe, is to fire the cannon over the parapet, inſtead of through the embraſures; in which caſe the parapet muſt not be more than three feet and a half high.

Barbe, or Barde, is alſo an old term for the armour of the horſes of the ancient knights and ſoldiers, who were accoutred at all points.

Della Cruſca ſays, the barde is an armour of iron or leather, wherewith the neck, breaſt, and ſhoulders of the horſe are covered.

BARBEAU, in *Geography*, a river of Canada, which runs into the Utwas. N. lat. 45° 15′. W. long. 76° 20′.

BARBED, in *Heraldry*. The five petals or leaves which appear on the outſide of a full blown roſe are called *barbs*, and are emblazoned thus: a roſe gules *barbed* and *ſeeded* proper, the roſe is *red*, the *barbs* green, and the ſeeds yellow or grey.

Barbed *Arrow*, ſignifies an arrow whoſe head is pointed of an angular form, and jagged. See Plate of *Heraldry*.

Barbed *Horſe* is a horſe barbed at all points, that is, a war-horſe completely armed, furniſhed, and accoutred.

Barbed *and Creſted*, a term uſed in blazoning to expreſs the comb and gills of a cock. The uſual term in the Engliſh blazon is combed and wattled.

BARBE'E, *or* Barbed Cross, is by ſome called croſs cramponée and tourné. See Plate of *Heraldry*.

BARBEL, in *Ichthyology*. See Cyprinus Barbus.

BARBELA, or Virbella, in *Geography*, a river of Africa, in Congo, which joins the Zaire near its mouth.

BARBELICOTÆ, in *Eccleſiaſtical Hiſtory*, an ancient ſect of Gnoſtics, ſpoke of by Theodoret. The doctrine of the Barbelicotæ was, that one of the æons, poſſeſſed of immortality, had commerce with a virgin ſpirit named *Barbeloth*, who demanded of him, firſt preſcience, then incorruptibility, and laſtly eternal life, all which were granted to her: that being one day in a gayer humour than ordinary, ſhe conceived, and afterwards brought forth light, which being perfected by the unction of the ſpirit, was called *Chriſt*; the child Chriſt deſired to have underſtanding, νους, and obtained it; after which, underſtanding, reaſon, incorruptibility, and Chriſt, united together; and from their union aroſe autogenes, αυτογενης. To theſe fables they add divers others. They were alſo denominated *Barbariani*.

BARBELLA, Emanuel, of Naples. It would be unjuſt not to beſtow a few words on this pleaſing and peculiar player on the violin of the old ſchool. The father of this ſingular but worthy and inoffenſive character, was an eminent performer on the violin, and leader of the opera band at Naples in the beginning of the laſt century, during the life of Corelli, when his ſcholar Geminiani arrived at that city from Rome. (See Corelli, and Geminiani.) On the firſt hearing of the younger Barbella, he [illegible] no one who had heard Giardini and other famous violiniſts of the new ſchools. He was not young, indeed, when the parallel was drawn, and ſolo playing was diſregarded at Naples, where vocal compoſition and ſinging were chiefly cultivated in the conſervatories, and patronized by the public, ſo that teaching and orcheſtra playing were Barbella's chief employment and ſupport; and for the latter he was ill-qualified by the ſmallneſs of his tone, and the ſhortneſs of his bow. He performed, however, moſt admirably the famous Neapolitan air, which the common people conſtantly play at Chriſtmas to the virgin. Barbella executed it with a drone kind of bagpipe baſe, in a very humorous though delicate manner. But as a ſolo player, though his tone was very even and ſweet, it was ſomewhat languid and inferior in force to that of Nardini of the ſame ſchool, and indeed to that of ſeveral others then in Italy; but he knew muſic well, had much fancy in his compoſitions, with a tincture of not diſagreeable madneſs.

He was moſt remarkable for his ſweet and inſinuating manner of playing Calabreſe, Locceſe, and Neapolitan airs, and among the reſt a humourous piece compoſed by himſelf, which he calls *Tonna Nonna*; it is a nurſery tune, or *Lullaby*, excellent in its way, and with his expreſſion, was extremely captivating.

Barbella was the moſt obliging and beſt-natured of mortals; his temper has been ſaid to be as ſoft and ſweet as the tone of his violin.

In a correſpondence with the author of this article, who had requeſted of him an account of the Neapolitan ſchool of muſic, and above all, of his own ſtudies; as his anſwer concerning himſelf was ſhort and characteriſtic, we ſhall here inſert a tranſlation of it.

"Emanuele Barbella had the violin placed in his hand when he was only ſix years and a half old, by his father Franceſco Barbella. After his father's deceaſe he took leſſons of Angelo Zaga, till the arrival of Pasquilino Bini, a ſcholar

a ſcholar of Tartini, in Naples, under whom he ſtudied for a conſiderable time, and then worked by himſelf. His firſt inſtructor in counterpoint was Michele Gabbalone; but this maſter dying, he finiſhed compoſition under the inſtructions of Leo, till the time of his death; and pleaſantly adds: *Non per queſto, Barbella, è un uomo aſſai che non ſa niente:* "Yet, notwithſtanding theſe advantages, Barbella is a mere aſs, who knows nothing."

This modeſt and ingenious muſician, and true follower of Tartini's principles, died at Naples 1773. His worthy diſciple, ſignor Raimondi, with more force in public, has the ſame ſweetneſs of tone and temper in private.

BARBER, a perſon who makes a trade of ſhaving, and dreſſing the wigs and hair of other men, for money. There were no barbers at Rome before the year A. U. C. 454. Varro reports that Ticinius Mena brought them thither from Sicily. The barbers' ſhops very ſoon became the reſort of idlers and goſſips. To this purpoſe, Horace, in expreſſing what was public and notorious, ſays, that all the barbers knew it:

"Omnibus et lippis notum et tonſoribus eſſe."

Beſides curling the hair, and ſhaving the beard, the ancient barbers alſo trimmed the nails. Thus Plautus (Aulul. ii. 4. 33.): "Quin ipſi pridem tonſor ungues demſerat;" and Tibullus (1. 9. 11.):

———"Quid ungues
Artificis doctâ ſubſecuiſſe manu?"

Anciently a lute or viol, or ſome ſuch muſical inſtrument, was part of the furniture of a barber's ſhop, which was then frequented by perſons above the ordinary rank, who reſorted thither for the cure of wounds, or to undergo ſome chirurgical operations, or as it was called to be *trimmed*, a word which ſignified either ſhaving or cutting and curling the hair. Theſe, and alſo letting of blood, were the ancient occupations of the barber ſurgeon. The muſical inſtruments in his ſhop were for the amuſement of waiting cuſtomers, and anſwered the end of a newſpaper, with which it has been uſual for ſuch to entertain themſelves. The origin of the "barber's pole" has been the ſubject of various conjectures among etymologiſts. Some have ſuppoſed it to have been derived from the word *poll*, or head; but the true intention of this party-coloured ſtaff was to ſhew that the maſter of the ſhop practiſed ſurgery, and could breathe a vein, as well as take off the beard; ſuch a ſtaff being to this day, by every village practitioner, put into the hand of a perſon undergoing the operation of phlebotomy. The white band, which encompaſſes the ſtaff, was deſigned to repreſent the fillet, thus elegantly turned about it.

The barbers were incorporated with the ſurgeons of London, but not to practiſe ſurgery, except drawing of teeth, &c. 32 Hen. VIII. c. 42; but ſeparated by 18 Geo. II. c. 15.

Barbers, *Company of.* See Company.

Barber *Sand*, in *Geography*, lies within the ſands which form Yarmouth roads, and parallel with the northern part of them, and of the coaſt, beginning off the town of Caſtor. There is within it a good channel along the ſhore, in five, ſix, or ſeven fathoms, till you go out north at Winterton Neſs.

BARBERAIN, or Barberian, an iſland off the coaſt of the iſland of Ceylon, in the Eaſt Indies, about 15 leagues ſouth of Columbo on the weſtern ſide; in N. lat. 6° 25′. and E. long. 80°.

BARBERANO, a town of Italy, in the ſtate of the church, and province of Patrimonio; ſix miles from Bieda.

BARBERINI, Maffeo, in *Biography*. See Urban VIII.

BARBERINO, Francis Da, an Italian poet, was born in 1264 at Barberino, a caſtle of Valdeſſa, and educated for the profeſſion of the civil and canon law at Padua and Bologna. Upon his removal to Florence in 1294, he ſerved two biſhops in the way of his profeſſion, and made frequent journeys to the papal court at Avignon. He was honoured with the degree of doctor of laws by Clement V.; and attended the general council at Vienna in 1311. Amidſt his profeſſional purſuits, he cultivated poetry, and publiſhed a work, intitled, "Documenti d'Amore," which treats of moral philoſophy, and conſiſts of twelve parts, each of which has for its ſubject ſome virtue and its rewards. His ſtyle is not diſtinguiſhed by caſe or elegance, but favours too much of Provençal poetry; and yet the author has been reckoned among the good writers and founders of the language. This poem was firſt printed at Rome in 1640, adorned with fine figures. Another work, in verſe, on the Manners of Women, is preſerved in MS. in the Vatican. Barberino died of the plague at Florence in the year 1348. Gen. Dict. Nouv. Dict. Hiſtor.

Barberino, in *Geography*, a town of Italy, in the duchy of Tuſcany, ſeated on a mountain, 16 miles ſouth of Florence.

Barberino is alſo a town of Italy, in the duchy of Tuſcany, ſituated at the foot of the Apennines, on the ſide of the river Sieve, four miles weſt of Scarperia. N. lat. 43° 40′. E. long. 12° 15′.

BARBERNOLA, or Blanc, *Cape*, lies on the coaſt of Aſia, in N. lat. 38° 9′, and E. long. 26° 27′.

BARBERRY, in *Botany* and the *Materia Medica*. See Berberis.

BARBESIEUX, in *Geography*, a town of France, and principal place of a diſtrict in the department of the Charente. It has a manufacture of linen cloth, and near it is a medicinal ſpring. N. lat. 45° 28′. W. long. 0° 15′.

BARBESOLA, or Barbesula, in *Ancient Geography*, a river of Spain, in the country of the Baſtuli. Ptolemy and Pliny.

Barbesola, *Barbeſula*, or *Barbeſul*, a town of Spain, in the country of the Baſtuli, ſituated on the ſtrait between Carteia and Tranſducta. Ptolemy, Pliny, and Mela.

BARBET, in *Zoology*. Buffon calls the *water-dog* of Pennant, *canis aquaticus* of Gmelin, &c. *le grand barbet*; and *canis minor* Gmel. *le petit barbet*. Hiſt. Nat.

Barbet, in *Ornithology*, the Engliſh name of a genus of birds in Latham's Synopſis, correſponding with that of *bucco*, Linn. See Bucco.

BARBETICUM Jugum, in *Ancient Geography*, a promontory of Spain, in Bætica.

BARBETS, in *Geography*, the name of the inhabitants of ſeveral vallies in Piedmont, particularly thoſe of Lucern, Angrona, Peruſa, and St. Martin.

BARBEYRAC, Charles, in *Biography*, an eminent phyſician of France during the ſeventeenth century, was the ſon of a gentleman of Cereſte in Provence. He ſtudied phyſic at Aix and Montpelier, and in 1649 took his doctor's degree in the univerſity of the latter place, where he ſettled; and in 1658, became a candidate for the medical profeſſorſhip, but on account of his being a proteſtant, he was ineligible. In the diſputations on this occaſion he acquired great reputation, and his advice was ſought in difficult caſes by perſons both in his native country and alſo in foreign kingdoms. He declined the office of being phyſician to Mademoiſelle d'Orleans, preferring liberty to the ſhackles of a court; and at Montpelier, where he reſided, he was attended in his viſits by many ſtudents to whom he gave clinical inſtructions. His practice was diſtinguiſhed by its ſimplicity,

ſimplicity and energy; and he introduced many valuable reforms into the ſtate of medicine in that country. He was no leſs eminent for his condeſcenſion and liberality than for his medical reputation, and he alike viſited the poor and the rich. The celebrated Mr. Locke was particularly acquainted with him at Montpelier, and teſtified to his honour, that he never knew two men more ſimilar in their manners and opinions than Barbeyrac and his friend Sydenham. After an uninterrupted courſe of practice for 50 years, he died of a fever in 1699, in his 70th year, leaving a ſon of his own profeſſion, and two daughters. The only works he publiſhed were "Traité contre vax de Medicine, contenant les Maladies de la Poitrine et du Poumon, et quelques autres Maladies internes," 12mo. 1696; and "Quæſtiones Medicæ duæ," 4to. 1655. A work, intitled, "Medicamentorum Conſtitutio, &c." publiſhed in 1751, is aſcribed to him upon uncertain authority, according to the editor M. Farjon. Haller. Bibl. Med. Pract. Gen. Biog.

Barbeyrac, John, the nephew of the preceding, was born in 1674 at Beziers, whence he withdrew to Lauſanne in 1686. His father deſigned him for the profeſſion of theology, but his own inclination led him to the ſtudy of juriſprudence; and he became eminent in that particular branch of it which comprehends the law of nature and nations. After teaching the Belles Lettres in the French college at Berlin, he was appointed in 1710 to the new profeſſorſhip of law and hiſtory founded at Lauſanne by the magiſtrates of Berne, which he occupied ſeven years. In 1717 he was removed to the chair of law at Groningen, and this ſtation he long occupied with general applauſe. His works are numerous and valuable. His French tranſlation of Puffendorf's "Law of Nature and Nations," and his treatiſes "On the Duties of a Man and a Citizen," and on "Grotius on the Rights of War and Peace," were enriched with learned prefaces and notes, which enhanced the value of the originals. He alſo tranſlated two diſcourſes of Noodt, "On the Power of the Sovereign," and "On Liberty of Conſcience;" a treatiſe of Bynkerſhoek "On the civil and criminal Powers of Ambaſſadors; ſome of "Tillotſon's Sermons;" and Cumberland's Latin treatiſe "On Natural Laws." Barbeyrac was alſo the author of ſeveral original works. But that which excited the greateſt attention was his "Treatiſe on the Morality of the Fathers," 4to. 1728, in reply to the Benedictine Ceillier's "Apology for the Fathers," occaſioned by Barbeyrac's free ſtrictures on them in his preface to the tranſlation of Puffendorf. His "Treatiſe on Gaming," in two volumes, 8vo. was printed in 1709; his "Defence of the Rights of the Dutch Eaſt India Company againſt the Pretenſions of the People of the Auſtrian Netherlands," in 1725; and "The Hiſtory of ancient Treaties diſperſed in Greek and Latin authors to the time of Charlemagne," fol. in 1739. He alſo inſerted literary and critical remarks in different journals, and publiſhed ſome academical diſcourſes. He cloſed a life of learned labour and moral worth about the year 1747. Nouv. Dict. Hiſtor.

BARBI, in *Natural Hiſtory*, a ſpecies of Labrichthys, of an ovate ſhape, yellow colour, faſciated; neck long, white, cylindrical; and cyathiform (glaſs or potſhape) at the end, found in the inteſtina of the barbel.

BARBICAN. See Barbacan.

Barbican, in *Ornithology*, the name of the Gmelinian *bucco dubius*, or doubtful barbet, in Buffon's Hiſt. Birds. *Barbu* is alſo a name given by that writer to all the birds of the *bucco* genus, which he deſcribes.

BARBICANAGE, Barbicanagium, in our *Old Writ-*

ers, money given for the maintenance of a barbican, or watch-tower; or a tribute towards repairing or building a bulwark.

BARBICON (Barbicon de Cayenne), in *Ornithology*, the name of the *Muſcicapa barbata* of Gmelin, in Buffon's Hiſt. Birds.

Barbicornis, in *Entomology*, a ſpecies of Dasytes that inhabits New Zealand. It is cylindrical, with the beak very long and bearded beneath: wing-caſes elongated. Habits New Caledonia. The Cerambyx *barbicornis* of Fabricius Spec. Inſ. 171.

Barbicornis, a ſpecies of Cerambyx, with the thorax ſpinous: four of the joints of the antennæ bearded with black; body teſtaceous, variegated with black. Linn. A native of Aſia.

Barbicornis, a ſpecies of Cimex (*Reduvius*) that inhabits Sierra Leone. This is of a black colour, with the thorax and baſe of the abdomen olive. Fabricius. *Obſ.* The thorax is ſometimes, though rarely, black, and the antennæ in one ſex is bearded.

Barbicornis, a ſpecies of Tipula, of a black colour; antennæ plumoſe, and ſimple at the tip. Inhabits Europe. This is a ſmall ſpecies. Gmelin.

BARBIER D'Aucour, *John*, in *Biography*, a counſellor, and man of letters, was born of mean parentage, in 1641, at Langres, and educated at Dijon. On his removal to Paris, he was entered at the bar, and became a counſellor of the parliament of Paris. He diſtinguiſhed himſelf by the excellence of his "factums" or written pleas; but being obliged, either through want of preſence of mind or failure of memory, to ſtop at his firſt public pleading, he renounced the practice of his profeſſion. In 1677 the miniſter Colbert appointed him preceptor to his eldeſt ſon, and in 1683, he was elected into the French Academy. Colbert conferred on him ſome lucrative employments; but, on his death, he was under a neceſſity of returning to the bar, and gained great reputation by the defence of Le Brun, the domeſtic of a lady of Paris, who had been falſely accuſed of murdering his miſtreſs. He was ſoon after carried off by an inflammation of the lungs in 1694. His circumſtances were ſo reduced, that when he was viſited, in his laſt illneſs, by a deputation from the academy, which expreſſed concern at finding him ſo ill lodged, he replied, "It is my conſolation, and a very great one it is, that I leave no heir to my wretchedneſs." When the abbé Choiſi, who was one of them, ſaid, "You leave a name that will never die;" "Alas! (replied D'Aucour) I do not flatter myſelf in that reſpect; if my works have any intrinſic value, I have been wrong in the choice of my ſubjects; I have employed myſelf in criticiſm, which has no long duration; for if the work that is criticized, ſhould fall into contempt, the criticiſm falls with it, ſince it is immediately perceived to be uſeleſs; but if, in ſpite of the criticiſm, the book maintains its ground, the criticiſm is equally forgotten, becauſe it is thought to be unjuſt." Barbier was in early life embroiled with the Jeſuits, who by way of contempt called him "Sacrus," in conſequence of his having inadvertently uſed that word inſtead of "Sacer," in his reply to one of them. Reſenting this offence, he made the ſociety and its writers the objects of his attacks; and he gained great credit as an ingenious writer by a work, intitled, "Sentimens de Cleanthe ſur les Entretiens d'Ariſte et d'Eugene, par le Pere Bouhours, Jeſuite," 12mo. 2 vols, 1671, 1672. This work has been often cited as a model of refined criticiſm, equally juſt and witty; and Boileau could not ſuppreſs his admiration of it. Some other pieces of this author againſt the Jeſuits, abounding with coarſe raillery, did him no honour. In his

two ſatires, written in verſe againſt Racine, he was unſucceſsful. Beſides his "factums" for Le Brun, he publiſhed ſome others. Nouv. Dict. Hiſtor.

Barbier, Mary Anne, was a native of Orleans, and ranked among the dramatic writers of France. Her tragedies, and a comedy in verſe, were repreſented at Paris, and printed in one volume, 12mo. The ſubjects are well choſen, but the characters, and thoſe of the men eſpecially, are without force, and the ſtyle is diffuſe and proſaic. Mad. Barbier was intimate with the abbé Pellegrini, who is ſaid to have beſtowed, at leaſt, correction on her works. She died in an advanced age at Paris, about the year 1745. Nouv. Dict. Hiſtor.

Barbier, *Miſtreſs*, firſt appeared as a new Engliſh ſinger, on the revival of the opera of *Almahide* in 1711, while queſtions were aſked in Italian, and anſwered in Engliſh, and *e contra*. Her timidity on firſt appearing on the ſtage, gave birth to an admirable Spectator (No. 131), in which Mr. Addiſon apologiſes for, and commends, diffidence and modeſty with a ſympathetic zeal and ſenſibility. It is well known, that this excellent writer, with all his learning and abilities, was never able to perform his part in public as a ſpeaker, when he was ſecretary of ſtate and in parliament, long after this paper was written; and here, by a kind of precognition, he extenuates his fault before it was committed. With reſpect to Mrs. Barbier's diſtreſs on her firſt facing an audience on the ſtage, Mr. Addiſon has put it in the moſt amiable light poſſible: "this ſudden deſertion of oneſelf," ſays he, "ſhews a diffidence, which is not diſpleaſing; it implies at the ſame time the greateſt reſpect to an audience that can be: it is a ſort of mute eloquence, which pleads for their favour much better than words can do; and we find their generoſity naturally moved to ſupport thoſe who are in ſo much perplexity to entertain them. I was extremely pleaſed," continues he, "with a late inſtance of this kind at the opera of Almahide, in the encouragement given to a young ſinger, whoſe more than ordinary concern on her firſt appearance, recommended her no leſs than her agreeable voice and juſt performance." This lady was a native of England, who continued to ſing at the opera ſeveral years, and afterwards was a favourite concert and playhouſe ſinger, till the year 1729.

In the year 1717, it ſeems as if ſhe had a little vanquiſhed her baſhfulneſs in private, however it may have incommoded her in public; for ſhe had muſtered courage ſufficient to elope from her father's houſe with a perſon that was *ſuſpected* to be of a different ſex. During her abſence, Mr. Hughes wrote the following pleaſant verſes:

"O yes!—hear all ye beaux and wits,
Muſicians, poets, 'ſquires, and cits!
All, who in town or country dwell,
Say, can you tale or tidings tell
Of Tortorella's haſty flight?
Why in new groves ſhe takes delight;
And if in concert, or alone,
The cooing murmurer makes her moan?
Now learn the marks by which you may
Trace out and ſtop the lovely ſtray.
Some wit, more folly, and no care,
Thoughtleſs her conduct, free her air;
Gay, ſcornful, ſober, indiſcreet,
In whom all contradictions meet,
Civil, affronting, peeviſh, eaſy,
Form'd both to charm you and diſpleaſe you;
Much want of judgment, none of pride,
Modiſh her dreſs, her hoop full wide;
Brown ſkin, her eyes of ſable hue,
Angel when pleaſed, when vexed a ſhrew.
Genteel her motion when ſhe walks,
Sweetly ſhe ſings, and loudly talks;
Knows all the world, and its affairs,
Who goes to court, to plays, to prayers,
Who keeps, who marries, fails, or thrives,
Lead honeſt or diſhoneſt lives;
What money match'd each youth or maid,
And who was at each maſquerade;
Of all fine things in this fine town,
She's only to herſelf unknown.
By this deſcription, if you meet her,
With lowly bows and homage greet her;
And if you bring the vagrant beauty
Back to her mother and her duty,
Aſk for reward a lover's bliſs,
And, if ſhe'll let you, take a kiſs;
Or more, if more you wiſh and may
Try if at church the words ſhe'll ſay,
Then make her, if you can—obey.

BARBIERI, Giovanni Francesco, called *Guercino Da Cento*, an eminent hiſtorical painter, was born at Cento, a village near Bologna, in 1590; and was at firſt the diſciple of Benedetto Gennari, but afterwards ſtudied for ſome time in the ſchool of the Caracci. He preferred the ſtyle of Caravaggio to that of Guido or Albano, and conceived it impoſſible to imitate nature truly, without the aſſiſtance of ſtrong lights and ſhadows; and on this principle, his light was admitted into his painting room from above. By this oppoſition of his ſtrong lights and ſhadows he unqueſtionably gave ſuch force to his pictures, that few, thoſe of Caravaggio excepted, equal them in their effect. His principal attention was employed in acquiring perfection of colouring, from a perſuaſion that few perſons are qualified to diſcern the elevation of thought which conſtitutes the excellence of a compoſition, or are perhaps capable of examining even the correctneſs of any part of a painting; whereas every eye, and even every imperfect judge of a picture, may be ſenſibly affected by the form and beauty of the colouring. His taſte of deſign was natural, eaſy, and often grand, but without any extraordinary ſhare of elevation, correctneſs, or elegance. The airs of his heads are often deſtitute of dignity, and his local colours of truth: nevertheleſs his colours poſſeſs great union and harmony, although his carnations are not very freſh; and in all his works there is a powerful and expreſſive imitation of life, which will for ever render them eſtimable. Towards the decline of life, obſerving that the clearer and brighter ſtyle of Guido and Albano had attracted the admiration of all Europe, he altered his manner even againſt his judgement. But he apologized for this conduct by declaring that he had formerly painted for fame, and with a view of pleaſing the judicious; but he now painted to pleaſe the ignorant, and to enrich himſelf. The moſt capital performance of Guercino is the hiſtory of St. Petronilla, which is conſidered as one of the ornaments of St. Peter at Rome. He died in 1666. Pilkington.

Barbieri, *Paulo Antonio, Da Cento*, the father of the preceding artiſt, was born at Cento in 1596, and ſelected for his ſubjects fruits, flowers, inſects, and animals, which he painted after nature with a lively tint of colours, with great tenderneſs of pencil, and a ſtrong character of truth and life. Pilkington.

BARBILLON, in *Ichthyology*, a name given by Brouſſonet, (Act. Pariſ.) to the Squalus cirratus of Gmelin.

BARBING is ſometimes uſed in *Ancient Statutes* for ſhearing. Cloth is not to be exported till it be barbed, rowed, and ſhorn. 3 Hen. VII. c. 11.

BARBIROSTRIS, in *Entomology*, a ſpecies of CURCULIO, found in China and ſome other parts of Aſia. It is black; ſnout bearded; anterior legs tridentated. Fabricius. Donov. Inſ. China, &c.

BARBITANI MONTES, in *Ancient Geography*, mountains of India, on this ſide the Ganges, in which, according to Ammianus Marcellinus, are the ſprings of many rivers that flow into the Indus.

BARBITON, an ancient muſical inſtrument, of which nothing is known but the name; and Rouſſeau has not even ventured to give us that. Complaints are frequently made of the darkneſs in which critics, commentators, and hiſtorians leave the ſubject of ancient muſic; which none have more cauſe to lament than thoſe who have ſpent the moſt time and labour in its inveſtigation. But as no record or memorial has been found, which aſcertains the invention, form, or ſpecies of inſtrument called the *barbiton*, would mere conjecture ſatisfy the complainants? Meſſrs. Framery and Caſtilhon, more courageous than the citizen of Geneva, have told us, in the new Encyclopedie, all that is pretended to be known about it; though the former begins by telling us that it is an inſtrument about which nothing is known. The ancients and moderns have frequently confounded it with the lyre. Dacier conjectured that it was a ſtringed inſtrument; and deriving its name from *barumiton*, which implies *thick ſtrings of flaxen thread*, he concludes that it was an inſtrument with thick ſtrings. It is certain that flax was in uſe for ſtrings to muſical inſtruments, before the art was known of making them of the bowels of animals. Horace calls this inſtrument Leſbian, *Leſboum barbiton*, ode i. lib. 1; and 32 of the ſame book, *Leſbio primum modulate civi*, "Thou, O barbiton, firſt touched by a citizen of Leſbos," meaning Alcæus, to whom he aſcribes the invention. But, ſays M. Caſtelhon, we may conclude from what Muſonius aſſerts of this inſtrument, in his treatiſe "De Luxu Græcorum," that they made a kind of concert with the *pectis* of the Lydians. (See PECTIS.) He aſſures us that Terpander was the inventor of it. Julius Pollux alſo calls it barbiton barumiton. Athenæus relates that they likewiſe called it *barmus*, and attributes the invention to Anacreon. We hope the grumblers will be perfectly enlightened by this *clear*, *conſiſtent*, and *ſatisfactory* account.

BARBLE, or BARBEL, in *Ichthyology*. See BARBUS.

BARBLES, in the *Manege*, knots of ſuperflous fleſh growing in the channels of a horſe's mouth; that is, in the intervals which ſeparate the bars; and obſtruct his eating.

Theſe are alſo called *barbes*; and obtain in black cattle as well as horſes.

For the cure, they caſt the beaſt, take out his tongue, and clip off the barbles with a pair of ſciſſars, or cut them with a ſharp knife; others chooſe to burn them off with a hot iron.

BARBONI, in *Ichthyology*, a name formerly given by many to the MULLUS BARBATUS; which ſee.

BARBONNE, in *Geography*, a town of France, in the department of the Marne, and chief place of a canton in the diſtrict of Sezanne, 1½ league ſouth from Sezanne.

BARBORA, an iſland of Africa, oppoſite to the kingdom of Adel, ſo called after a town of the ſame name upon the neighbouring continent. This iſland, which is almoſt contiguous to the Terra Firma, is very fertile, and produces plenty of corn, fruits, and cattle. The inhabitants are negroes clothed in the faſhion of the natives of Adel, induſtrious in trade, and great breeders of cattle, for which the ſoil affords excellent paſturage. The produce of this iſland is exported into other countries. The city of Barbora lies at the bottom of a convenient bay; and was for a long time a kind of rival in commerce with Zeila, and no leſs the place of reſort for foreign merchants. It is ſituated over againſt the city of Aden, and made once a conſiderable figure, but was plundered and burnt by the Portugueſe fleet in the year 1518; but the inhabitants, being previouſly apprized of their deſign, conveyed themſelves and their moſt valuable effects away.

BARBOSA, ARIAS, or AYRES, in *Biography*, a native of Aveiro in Portugal, and one of the reſtorers of claſſical literature in his own country and in Spain. Having commenced his education at Salamanca under many diſadvantages, he purſued his ſtudies, particularly that of Greek, which he cultivated with great ardour, at Florence, under Angelo Politiano. After his return to Salamanca in 1494, he taught there for 20 years, in connection with Antony de Lebrixa, who, with Andrew de Reſenda, was alſo one of the principal promoters of uſeful learning in Spain. Barboſa directed ſpecial attention to poetry, and publiſhed a ſmall volume of Latin poems, which were commended for the harmonious ſtructure of the verſe. He was afterwards employed for ſeven years as preceptor to the two princes of Portugal, Alphonſo and Henry: and then retired to domeſtic life, in which he died at an advanced age in 1540. Beſides the poems above mentioned, Barboſa publiſhed ſeveral works, which contributed at the time to the progreſs of literature, but are now forgotten; ſuch as, "Commentaries on the poem of Arator," "Quodlibeticæ Quæſtiones," "De Proſodia," &c. Moreri. Nouv. Dict. Hiſtor.

BARBOSA, *Peter*, a celebrated lawyer, was born at Viana, in Portugal, and became firſt profeſſor in the univerſity of Coimbra. Although he occupied ſeveral important ſtations, and was appointed by Philip II. of Spain, when he became maſter of Portugal, one of the four counſellors of the council of ſtate, and afterwards chancellor of the kingdom, he proſecuted his profeſſional ſtudies; and, in 1595, he publiſhed an ample commentary on the article in the "Digeſts," on the recovery of dowry after the diſſolution of marriage. In 1613, the works left by him in MS., which were commentaries on the "Digeſts," art. "On Judgments," were publiſhed by his nephew, and ſo well received, as to be reprinted at Frankfort in 1715. Other poſthumous treatiſes were publiſhed at Lyons in 1662. Moreri. Nouv. Dict. Hiſtor.

BARBOSA, *Emanuel*, an eminent Portugueſe lawyer, was born at Guimaranes, and was king's counſellor for the province of Alentejo. In 1618, he publiſhed a treatiſe relative to contracts, laſt wills, and crimes, according to the Spaniſh and Portugueſe law. In 1638, he publiſhed a work, "De Poteſtate Epiſcopi;" and in that year he died, aged near ninety years. Moreri. Nouv. Dict. Hiſt.

BARBOSA, *Auguſtin*, ſon of the preceding, ſtudied civil and canon law under his father, and afterwards at Rome, with inceſſant aſſiduity, ſearching libraries in the day, and compoſing in the night. It is related of him, that he received a ſcrap of manuſcript wrapping ſome ſalt fiſh, which he purchaſed, and that he reſcued the remainder from a ſimilar uſe; and thus formed the work "De Officio Epiſcopi," which he corrected and publiſhed in his own name. A prejudice was thus conceived againſt him, and ſeveral of his treatiſes on the canon law were aſcribed to his father. He was, however, a very ſtudious man; and on his return to Spain in 1632, he purſued the ſame kind of life which he had paſſed at Rome. His ſkill in eccleſiaſtical cauſes occaſioned his promotion, in 1648, to the biſhopric of Ugen-

to, in the territory of Otranto. Having been conſecrated at Rome in the following year, he returned to Ugento with a view of performing the duties of his office, but died there within a few months. His works were numerous, and were printed at Lyons in 1716 and the following year, in 16 tomes folio. Moreri. Nouv. Dict. Hiſtor.

BARBOSTHENES, in *Ancient Geography*, a mountain of Greece in the Peloponneſus, 16 miles from Lacedæmon. Livy.

BARBOT, Penn.; Barbota, Rond.; in *Ichthyology*, ſynonymous name of the ſpecies of Gadus called Lota by Linnæus.

BARBOTES Rocks, in *Geography*, are two rocks which are about half a league N.N.W. from the Calmardiers, and appear every tide.

BARBOTINE, a ſeed otherwiſe called *Semen ſantonicum*, and *ſemen contra vermes*, in Engliſh *wormſeed*.

BARBOULT Point, lies within the ſouth-weſt point of the bay of Cancale, to the eaſt of St. Maloes, on the coaſt of France.

BARBOUR, or Barber, John, in *Biography*, an eminent divine, hiſtorian, and poet, was born in the city of Aberdeen, as ſome ſay, about the year 1330, but according to others, in 1326. Having received a learned education, he entered into holy orders, and was promoted by king David II. to the archdeaconry of Aberdeen, A.D. 1356. Such was his love of learning, that he continued to proſecute his ſtudies after his promotion; and with this view he prevailed on his own ſovereign, David Bruce, with whom he was in great favour, to obtain permiſſion from Edward III. to ſtudy at Oxford. The grant for this purpoſe was dated at Weſtminſter, Aug. 13th, A.D. 1357. He was alſo appointed by the biſhop of Aberdeen, one of the commiſſioners for the ranſom of David II. king of Scotland; and he obtained permiſſion from Edward III. A.D. 1365, to travel through England to St. Dennis, near Paris, with ſix horſemen as his attendants. Barbour was not only famous for his extenſive knowledge in the philoſophy and divinity of thoſe times, but ſtill more admired on account of his admirable genius for Engliſh poetry; in which he compoſed, as he tells us, in 1375, a hiſtory of the life and glorious actions of Robert Bruce king of Scotland, at the deſire of king David Bruce, his ſon, who granted him a conſiderable penſion for his encouragement, which he generouſly beſtowed on an hoſpital at Aberdeen. This work is not only remarkable for a copious circumſtantial detail of the exploits of that illuſtrious prince, and his brave companions in arms, Randolf earl of Moray, and the lord James Douglas, but alſo for the beauty of its ſtyle, which is not inferior to that of his cotemporary Chaucer. This poem paſſed through about twenty editions in Scotland ſince the year 1616, in which the firſt edition, that can be diſcovered, was printed at Edinburgh, in 12mo. But theſe editions were all modernized. An edition of this moſt ancient production of the Scottiſh muſe extant, in the language and orthography of its author, from a MS. written in 1489, and preſerved in the advocates' library at Edinburgh, was printed by Mr. Pinkerton, under the title of "The Bruce," with notes and a gloſſary, in 1790, in 3 vols. 12mo. The following verſes, diſtinguiſhed by their ſoftneſs, afford a ſpecimen of the author's talent at rural deſcription, and alſo of the ſtate of the Engliſh language in his time.

"This was in midſt of month of May,
When birdis ſing on ilka ſpray,
Melland their notes, with ſeemly ſoun,
For ſolace of the ſweet ſeaſoun.
And leavis of the branchis ſpreds,
And bloſſomis bright, beſide them, breeds,
And fieldis ſtrawed are with flow'rs
Well favouring of ſeir colours;
And all things worthis, blyth, and gay."

Barbour is ſaid to have died at an advanced age in 1396, but the time and circumſtances of his death are not ſatisfactorily aſcertained. Henry's Hiſtory, vol. viii. p. 249. Pinkerton, ubi ſupra. Wharton's Hiſt. Eng. Poetry, vol. i. p. 318.

BARBUDA, or Berbuda, in *Geography*, one of the Britiſh Caribbee iſlands in the Weſt Indies, is a ſmall iſland, about 20 miles long and 12 broad, and lies about 15 miles north-eaſt of Montſerrat. This iſland was planted ſoon after the Engliſh had ſettled upon St. Chriſtopher's, in 1628, and called "Dulcina" from its beautiful appearance. It is the property of the Codrington family, whoſe anceſtor Colonel Codrington obtained a grant of it for his important ſervices to the crown of England in the Weſt Indies, and is ſaid to yield above 5000l. a year. Upon his death in 1710, he bequeathed two plantations in Barbadoes, and part of Barbuda, valued at 2000l. per annum, to the ſociety for propagating the goſpel for the inſtruction of the negroes in Barbadoes and the other Caribbee iſlands in the Chriſtian religion, and for erecting and endowing a college in Barbadoes. This is the only proprietary government of all the Engliſh Caribbee iſles; and the appointment of a governor is in the Codrington family. The land lies low, but is fertile; and the inhabitants are chiefly employed in breeding black cattle, ſheep, kids, fowls, and all kinds of domeſtic ſtock; in planting Indian corn, and in other parts of huſbandry; and they ſupply the neighbouring iſlands with theſe articles. The iſland, however, is capable of yielding, by cultivation, citrons, pomegranates, oranges, raiſins, Indian figs, maize, cocoa-nuts, cinnamon, and pine-apples, with various kinds of wood and drugs, ſuch as braſil, ebony, pepper, and indigo. There are ſome large ſerpents upon this iſland, which, not being poiſonous, are uſeful in deſtroying rats, toads, and frogs; and others ſo venomous, that their bite proves mortal, unleſs an antidote be applied in the ſpace of two hours. The coaſt abounds with rocks: but on the weſt ſide of the iſland there is a well-ſheltered road, and there are two ſhoals, which run more than two leagues into the ſea, from the north-weſt and ſouth-weſt points. The inhabitants are computed to be about 1500. N. lat. 17° 49′ 45″. W. long. 61° 50′.

BARBUE, Riviere-a-la, a river of North America, empties itſelf into lake Machigan, from E.S.E. between Raiſin and Marame rivers. Its mouth is 60 yards wide, and lies 72 miles N. by W. from fort St. Joſeph. This is alſo the name of a river, which diſcharges itſelf into lake Erie, from the N. by E. 40 miles W.N.W. from the extremity of Long point, in that lake, and 22 E. by S. from Tonty river.

BARBULÆ, in *Botany*, a name given by Pliny to the ſemi-floſculi.

BARBUS, in *Ichthyology*, a ſpecies of Cyprinus, having ſeven rays in the anal fin; beards four; ſecond ray of the firſt dorſal fin ſerrated on both ſides. Linn. Muſ. Ad. Fr. &c.

This is the *barbel* of the Engliſh; a common inhabitant of moſt freſh waters in Europe, and eaſily diſtinguiſhed from the other ſpecies of carp, or cyprinus genus, to which it belongs, by the upper jaw being advanced far beyond the lower one, and in having the four beards appendant, from which the appropriate name of barbus or barbel is derived. This fiſh,

during

during the ſummer, prefers the rapid currents and ſhallows of rivers, and retires at the approach of winter to the more full and deeper places. They live in ſocieties; lurking in holes along the ſides of the water under ſhelter of the deepeſt banks, and feed on muddy filth and worms and fleſh of all kinds, for which they dig in the banks like ſwine. In the day-time they love to lurk occaſionally among weeds, and between the ſtones in retired parts of the river, and wander out at night in ſearch of prey. They ſpawn in April, and begin to be in ſeaſon in May and June.

The fleſh of the barbel was never in great eſteem for the table. Mr. Pennant quotes a paſſage in Auſonius, which, as he obſerves, is no panegyric on its excellence, for he lets us know it loves deep waters, and that when it grows old, it is not abſolutely bad:

"Laxos exerces *barbe* natatus
Tu melior pejore ævo, tibi contigit uni
Senatum ex numero non inire ſenectus."

And he adds himſelf, that "they are the worſt and coarſeſt of freſh-water fiſh, and ſeldom eat but by the poorer ſort of people, who ſometimes boil them with a bit of bacon to give them a reliſh."

"The barbel," ſays old Walton, "though he be of a fine ſhape, and looks big, yet he is not accounted the beſt fiſh to eat, neither for his wholeſomneſs nor his taſte, but the male is reputed much better than the female, whoſe ſpawn is very hurtful."

Again, when ſpeaking of Rondelitius, he makes this remark on the ſpawn, "we agree with him, that the ſpawn of the barbel, if it be not poiſon, as he ſays, yet that it is dangerous meat, eſpecially in the month of May; which is ſo certain, that Geſner and Gaſſius declare, it had an ill effect upon them even to the endangering of their lives." Sir John Hawkins, in his Annotations, inclines to the ſame opinion, and gives an inſtance of his ſervant being taken dangerouſly ill after having incautiouſly eaten of this fiſh. M. Bloch, and ſome other ichthyologiſts, contend that this is a vulgar and moſt abſurd prejudice. M. Bloch in particular obſerves, that himſelf and all his family have eaten the ſpawn of the barbel, and never experienced the ſlighteſt ill effects from it. Donov. Brit. Fiſhes.

The time for taking this fiſh is very early in the morning, or late in the evening: the place ſhould be baited with chopped worms ſome time before; and no bait is ſo good for the hook as the ſpawn of the ſalmon, or ſome other fiſh: in defect of theſe, lob-worms will do; they muſt be very clean and nice, and the hook carefully covered, otherwiſe he will not touch them. Old cheeſe ſteeped in honey is alſo a very fine bait. The beſt ſeaſon for angling for this fiſh is from May to Auguſt.

BARBY, in *Geography*, a ſmall bailiwick of Germany, in the circle of Upper Saxony, forms a part of the circle of Wittenberg, and was granted in 1748 and 1765, to the count of Reuſs, and the ſociety of united brethren, or Moravians.

Barby is alſo the name of a town of Germany, in the circle of Upper Saxony, ſeated on the Elbe, near the mouth of the Saale, in which is a Moravian academy for the inſtruction of youth, 14 miles N.W. of Deſſau, and 14 S.S.E. of Magdeburg. N. lat. 51° 37′. E. long. 11° 51′.

BARBYLA, in *Botany*, a name by which Theocritus, and others of the early writers, have called the common damaſk prune.

BARCA, in *Geography*, an extenſive deſert country, ſituate on the ſouth coaſt of the Mediterranean, between Tripoli and Egypt, and forming part of the great deſert, or Sahara. It extends in length from weſt to eaſt from about the 30th degree of longitude to the 45th degree, and in breadth from north to ſouth about 20 leagues, though the coaſt on the ſouth ſide are very imperfectly known. It is, in general, a dry and barren land, where the [illegible] "Sahart," or "Ceyrart Barka," that is the "Deſert," or "Road of Whirlwinds and Hurricanes." Water is ſcarce; and, except in the neighbourhood of its towns and villages, if they may be ſo called, where the ground produces ſome grain, ſuch as corn, millet, and [illegible] and uncultivated. The articles which the poor inhabitants produce they are obliged to exchange with their no leſs indigent neighbours for dates, ſheep, and camels. This country forms part of the ancient Cyrenaica and Marmarica (ſee Cyrenaica, and Marmarica): in the moſt deſert and dangerous diſtrict of it ſtood the temple of Jupiter Ammon (See Ammon.) This ſpot, though in the moſt pleaſantly ſituated, is ſurrounded by quick and burning ſands, which are very pernicious to travellers, and ſometimes overwhelm whole caravans. Againſt this temple Cambyſes, and an army of 50,000 men, marched from Thebes in Upper Egypt; but their fate is uncertain, as they never returned either to Egypt or to their own country. (See Ammon.) This country is indeed ſo deſert, that there is no travelling through it without the aid of a compaſs, or the direction of the ſtars; and though it was once the thoroughfare for caravans from Barbary and Morocco to Mecca, yet it has been infeſted with wild Arabs to ſuch a degree, that they are obliged to ſteer 50 leagues about to avoid being plundered. The French geographers divide the country of Barca into two parts; one called the kingdom, and the other the deſert; the former hath, according to their ſtatement, ſome conſiderable ports, towns, and villages, and is under the protection of the Porte, governed by a cadi, who is the baſha of Cairo, and reſides at Tripoli; but for this they have no ſufficient authority. According to Sanſon and Baudrand, the other part, which extends along the eaſtern coaſt, called by them the eaſtern ſhore of Tripoli, reaches from the port of Solomon or Solyman, to the gulf of Sydra; but this coaſt is commonly diſtinguiſhed by the name of Derna, one of the moſt conſiderable of its towns and ports; beſides which it has ſeveral others, and the ruins of many more, which are now reduced to poor villages. The moſt remarkable are the cape Raccallino, ſtyled by Ptolemy Cherſoneſus, becauſe it forms a peninſula; and the furtheſt towards Egypt is the town of Angela or Onguela. (See Angela.) Between theſe two, are many others differently placed and named, as the Porto Tabarca, formerly Batrachus, Batracha, and Patriarcha, cape de Lucco or Loco, anciently Promontorium Carylonium, Porto Meſulman, the haven of Salonef or Salona, ſuppoſed by ſome to be the ancient Portus Panormus, and Galinus, and by others the Portus Catabathmus, which our lateſt geographers place on the moſt eaſtern verge of the Barcan coaſt, next to the confines of Egypt. To which may be added the large valley of Carto Sappires, the ancient Catabathmus, extending quite to Egypt, oppoſite to the ſpot where the temple of Jupiter Ammon ſtood. From theſe we proceed to Porto Albertene, or the Sultan's port; that of Caguxi, formerly Trifachi; the cape and haven of Raxa, anciently Paretonium; and, laſtly, the city of Barca or Barce, which gives name to the whole province, and lies farther inland, on the eaſtern coaſt of the gulf of Sydra. This was the capital of the Barcæi, and is mentioned by Strabo, Pliny, Scylax, and Ptolemy; and is ſaid by the two former to have occupied the ſpot on which Ptolemais was afterwards built; but the two latter are of a different opi-

nion.

nion. It ſeems to have ſtood to the weſt of Cyrene, and had a port near the Greater Syrtis. As it was a maritime city, it is moſt probable that it ſtood by the port of the Barcæi, and not where Barce ſtood; more eſpecially as that capital was 100 ſtadia from the ſea, according to Scylax. Herodotus ſays, that Barca was built by the brothers of Arceſilaus III. king of Cyrene, more than a generation before the beginning of the reign of Cyrus; but it is more probable, that it was of Phœnician, if not of Egyptian or Libyan extraction; for Barca was a Phœnician name, well known in thoſe parts of Africa, as we learn from Silius Italicus, and others. Servius intimates, that its citizens came originally from Carthage, which would lead us to conclude, that Barca, Dido's brother, who attended her into Africa, with ſome of his countrymen, ſettled here. It ſufficiently appears from Virgil and Silius, that the Barcæi ſpread themſelves over ſeveral conſiderable parts of Libya; and, according to Servius, their metropolis made the greateſt figure of any city in this region, except Cyrene. St. Jerom confirms theſe laſt authorities, when he aſſerts that this town was ſituated in a deſert; and that its inhabitants, or at leaſt their deſcendants, diſperſed themſelves over ſeveral diſtricts, lying as far to the weſtward as Mauritania, and the eaſtward as India. The Barcæi learned (ſays Stephanus) the art of managing horſes from Neptune, and of driving chariots from Minerva. The modern kingdom and deſert of Barca undoubtedly derived their name from the Barcæi; and we may hence infer, that theſe people formerly held a conſiderable rank among the various nations of Libya.

What is the preſent condition of the towns of Barca, what is their commerce, and how they are governed, we have no authentic documents for aſcertaining. The maritime towns are, probably, under the protection of the Porte; but it is not certain whether they are under the government of the baſha of Egypt or Tripoli, or they have formed themſelves into free ſtates like thoſe of Algiers and Tunis. This however is certain, that the inhabitants of the maritime towns are more civilized than thoſe within land. The firſt profeſs Mahometaniſm, and have imbibed ſome notions of humanity and juſtice; but the latter, and eſpecially thoſe of the deſert, who have neither religion nor any appearance of worſhip among them, are altogether brutiſh and ſavage, and live wholly upon theft and plunder, like all other wild Arabs. By them this tract, which was before a barren deſert, was firſt inhabited. Deſtitute and indigent in the extreme, they are ſaid alſo to be the ugliеſt of all the Arabs; their bodies being meagre, their faces grim, and aſpect fierce and ravenous; their garb, which is commonly ſtripped from the paſſengers and pilgrims, tattered with long wearing; whilſt the pooreſt of them want rags to cover their nakedneſs. They are likewiſe reported to be reſolute and expert robbers and plunderers; but deriving a ſcanty ſupply from their own neighbourhood, they are compelled by neceſſity to extend their excurſions as far as Numidia, Libya, and other ſouthern parts, where they commit many atrocious acts of cruelty. So indigent and famiſhed are theſe Barcans, that they commonly let, pledge, and even ſell their children, for procuring the neceſſaries of life, to the Sicilians, and other neighbouring Chriſtians, from whom they have moſt of their corn, eſpecially before they ſet out on any long expedition. The chief towns of Barca are Derna, the capital and reſidence of the ſangiac, Tolometa or Ptolometa, and Grena or Caren. Anc. Un. Hiſt. vol. xvi. p. 181. Mod. Un. Hiſt. vol. xv. p. 196, &c.

Barca, a ſmall port on the coaſt of Peru, about S. lat. 11° 20′, where ſhips may anchor, but obtain no ſupply.

BARCALAO, a Spaniſh word, which the French pronounce *baccala* or *baccaliau*. By this laſt name the Baſques moſt commonly call the fiſh which we ſtyle cod; and thoſe people call alſo the iſland which we call Newfoundland, the iſle of *Baccaliau* (*Cod Iſland*), becauſe of the great plenty of cod catched there. There is, however, a league to the weſt of that large iſland, another ſmall one, which is more particularly called *Baccaliau*.

BARCALON, an appellation given to the chief miniſter of the emperor of Siam, to whom belongs the care of trade both within the kingdom and out of it, the ſuperintendency of the royal magazines, the receipt of the revenues, and the management of foreign affairs.

BARCA-Longa, a large Spaniſh fiſhing-boat, navigated with lug-ſails, and having two or three maſts. Theſe are very common in the Mediterranean. See Bark.

BARCANI, in *Ancient Geography*, a people of Aſia, in the vicinity of Hyrcania. They are placed by M. D'Anville, on the eaſt of the Caſpian ſea, near one of the mouths of the Oxus.

BARCAROLLA, in *Muſic*, a kind of ſong in the Venetian language, ſung at Venice by their gondoliers or watermen, in their boats or barks. Theſe airs (ſays Rouſſeau) are compoſed for the common people, and often by the gondolieri themſelves. They have ſo much melody, and ſuch an agreeable accent, that there is not a muſician in all Italy who does not pique himſelf on knowing ſome of them. The being admitted *gratis* into a gallery appropriated to them in all the theatres, enables gondolieri to form their ear and taſte, without trouble or expence, ſo that they compoſe and ſing their airs, without altering their natural ſimplicity, in the ſtyle and expreſſion of perſons not ignorant of the refinements of muſic. The words of theſe ſongs are commonly jocoſe, and more than natural, like the converſation of thoſe that ſing them; but ſuch as the faithful picture of the manners of a people can pleaſe, and ſuch as are likewiſe partial to the Venetian dialect, ſoon become paſſionately fond both of the words and muſic of theſe airs, chiefly known in England by the title of Venetian ballads, of which travellers into Italy make collections.

The late earl of Leiceſter, one of the ſubſcribers to the royal academy of muſic in 1720, uſed to ſay, that at the firſt eſtabliſhment of operas in England, the nobility and gentry, in imitation of the Venetians, ſuffered their ſervants to have admiſſion, gratis, into the upper gallery, with a view to improve the national taſte in ſinging; but inſtead of profiting or deriving pleaſure from this privilege, they became ſo noiſy and inſolent, that about 40 years ago, like our firſt parents, they were driven out of paradiſe.

We muſt not forget (ſays Rouſſeau) to remark, for the glory of Taſſo, that moſt of the gondolieri know the chief part of his poem "Gieruſalemme liberata," by heart, and ſome the whole; that they paſs their ſummer nights in their gondolas, ſinging it alternately from bark to bark; that the poem of Taſſo is an admirable barcarolla; that Homer only had the honour of being thus ſung before him; and that, ſince his time, no other Epic poem has been thus diſtinguiſhed.

BARCAROTA, in *Geography*, a town of Spain, in Eſtramadura, 4 miles from Almendrolejo.

BARCE, in *Ancient Geography*. See Barca.

Barce, a town of India, built by Alexander, on the ſea-coaſt, in memory of his exploits, and where, according to Juſtin, he erected altars.

BARCELONA, in *Geography*, a rich and ſtrong city and

and ſea-port of Spain, in the province of Catalonia, of which it is the capital, and the ſee of a biſhop, ſuffragan of the archbiſhop of Taragona. It was originally founded by Hamilcar Barcas, the father of Hannibal, and from him called "Barcino," about 250 years before Chriſt. It was reduced by the Romans, and continued ſubject to them till the kingdom of Spain was overrun by the Goths and Vandals, and afterwards by the Saracens and Moors. At the beginning of the ninth century it was poſſeſſed by the Moors, under the government of Zade. This governor having abuſed the clemency of Charlemagne, and by his perfidious behaviour provoked his ſon, Lewis king of Aquitaine, Barcelona was inveſted, and the generals who were intruſted with the command of the ſiege had orders not to abandon it till Zade was delivered into the hands of Lewis. The Moor made an obſtinate reſiſtance; but finding that it was impoſſible to preſerve the city any longer, after a defence of many months, he determined to throw himſelf upon the emperor's mercy, and was condemned to perpetual exile. At length, however, the city ſurrendered, and the king of Aquitaine appointed one Bera, count of Barcelona. The city continued ſubject to him and his ſucceſſors, who were diſtinguiſhed by the title of "Counts of Barcelona," from the year 802 to 1131; when it was united to the crown of Arragon by the marriage of Don Raymond V. count of Barcelona, with Donna Petronilla the daughter of Don Ramiro the monk, and heireſs of Arragon. In conſequence of the revolt of the Catalonians, in 1465, Barcelona was beſieged by Don Juan II. king of Arragon, in 1471. The ſiege was proſecuted for a conſiderable time with vigour, but without effect; however, in 1472, it capitulated on its own terms; and the king, upon his public entry into the city, confirmed all its privileges. In 1640, the Catalans, having ſhaken off the yoke of the Spaniards, called in the French to their ſuccour; and they continued maſters of the capital till 1652, when, after a ſiege of fifteen months, it ſurrendered to Don Juan of Auſtria. In 1697, it was again taken by the French under the command of the duke of Vendôme, but reſtored the ſame year to the Spaniards by the peace of Ryſwick. Although the inhabitants of Barcelona had taken the oath of fidelity to the king of Spain, Philip V. and received from him a confirmation of their privileges, they invited the Engliſh and Dutch, and the governor was obliged to ſurrender the town to the allies in 1705, when Charles, afterwards emperor, was received and proclaimed king. In the following year, Philip, aſſiſted by the French, aſſailed the city, and took the fortreſs of Montjoui; but the fleet of the allies advancing to the relief of the beſieged, he was compelled to abandon the enterpriſe and to retire from the place, May 12th 1706. By the treaty of Utrecht, in 1713, the troops of the emperor evacuated Catalonia; but the inhabitants of Barcelona perſiſted in their revolt, and would not acknowledge Philip for their king. Accordingly they ſuffered blockade for a year, which was followed by a terrible bombardment; and at length, after a ſiege of ſixty-two days, from the opening of the trenches by the duke of Berwick, the town was taken by aſſault on the 11th of September 1714. By the moderation of the conqueror, the city was ſaved from pillage, but the inhabitants were deprived of their privileges; they have ſince, however, been re-eſtabliſhed, and in 1715 a citadel was erected to keep them in awe.

Barcelona is now one of the largeſt and handſomeſt cities in Spain, and is reckoned the third moſt conſiderable city in the kingdom. It is ſituated on a plain by the ſea-ſide, open to the ſouth-eaſt, but protected by hills on the north and weſt, ſo that it affords a healthy and delightful reſidence; however it is ſubject to a fog brought on by the eaſt wind. The city is ſurrounded by a good brick wall, round which is another, with fourteen baſtions, horn-works, ramparts, and ditches. The ramparts are high and ſpacious, and a great number of carriages may be ſeen every evening driving upon them for pleaſure. The city is divided into two parts; the old and the new, which are ſeparated from each other by a wall and a large ditch. The ſtreets are narrow and crooked, and the churches are rather rich than beautiful. Barcelona contains ſeveral conſiderable edifices: that called the Terſana, or the arſenal, is of large extent; and a prodigious gallery, containing twenty-eight forges, has been erected in it within a few years. The other moſt remarkable buildings are the cathedral, adorned with two high towers, the church of Notre Dame, the palace of the biſhop, the exchange, the palace of the governor, that where the nobility of the country aſſemble, called "La Caſa de la Deputation," and that of the inquiſition. The hoſpicio contains about 1400 induſtrious poor; and in the houſe of correction are ſometimes found women of rank, who have been guilty of drunkenneſs, or other low vices. The harbour is ſpacious, deep, and ſecure, and defended on one ſide from the winds by a mountain called Montjoui, which riſes in the middle of the plain near the city, runs into the ſea in the form of a promontory, is covered with vineyards, gardens, and groves of trees, and a ſtrong fort for defending the city, and furniſhes a quarry of fine hard free-ſtone; and on the other ſide by a large mole; having a light-houſe with a ſmall fort and garriſon at the extremity. Into this harbour 1000 veſſels are ſuppoſed to enter during peace, and of theſe 500 are Spaniſh, 120 French, 100 Engliſh, and 60 Danes. Barcelona is a place of great trade, on account of the convenience of its harbour; although none but ſmall veſſels can enter within the mole. Its chief manufactures are ſilk, cotton, and wool, and excellent fire-arms and cutlery: its chief imports are corn, fiſh, and woollen goods; and its exports wine, brandy, cloth, and leather. Silks from Lyons, ſtockings from Niſmes, ſeveral kinds of ſtuffs and cottons although they are prohibited, and particularly dried cod, an article for which Spain is ſaid to pay annually to the Engliſh three millions of piaſtres, paſs into Catalonia through this port. About twenty years ago, a very large cannon foundery was eſtabliſhed in this city, under the direction of M. Maritz, a Swiſs; and it has ſeveral glaſs-houſes. The inhabitants are induſtrious and active, and their number is ſaid to exceed 100,000; they are hoſpitable to ſtrangers; the women are as handſome as any in Spain, lively in their converſation, and leſs reſtrained in their conduct than in other parts of the country. Barcelona was erected into a county by Charlemagne, and became an independent ſovereignty in the year 873 or 884. The king of Spain is called the count of Barcelona. The dioceſe contains 213 pariſhes, beſides 8 in the city. It is diſtant 13 leagues E. N. E. from Taragona, and 92 E.N.E. from Madrid. N. lat. 41° 26′. E. long. 2° 13′.

BARCELONETTA, a town of France, and principal place of a diſtrict in the department of the Lower Alps. It anciently belonged to Piedmont, and was ceded to France by the treaty of Utrecht in 1713. It is ſituated on the right bank of the Ubaye, in a valley of excellent paſturage, 4 leagues S. of Embrun, and 8½ N.N.E. of Digne. N. lat. 44° 23′. E. long. 6° 40′.

BARCELONETTA, or *Cumanyotto*, a town of South America, in the country of Terra Firma, and principal place of a diſtrict in the province of Cumana.

BARCELONNE, a town of France, in the department of the Gers, and chief place of a canton in the diſtrict of Nogaro, ſeated on the Adour, containing about 2000 inhabitants;

bitants; 3 leagues S.W. of Negaro, and 9½ W.N.W. of Mirande.

BARCELORE, a sea-port town of the East Indies, on the coast of Malabar, between Goa and Mangalore, in a district ceded to the British by the treaty of 1799. It has a good harbour, and the Dutch had formerly a factory in this place, which carried on a considerable trade in pepper. N. lat. 13° 36'. E. long. 74° 45'.

BARCELOS, a town of Portugal, with the title of a duchy, in the province of Entre Duero e Minho, not far from the sea, on the river Cavado, 8 miles W. of Braga. N. lat. 41° 20'. W. long. 7° 0'.

BARCES, or Barches, were formerly a kind of ship guns, not unlike sakers, only shorter, thicker in metal, and wider bored.

BARCHIN, in *Geography*, a town of Persia, in the province of Kerman, 120 miles S. E. of Sirgian.

BARCHOCHEBAS, or Cazeba, in *Biography*, a false Messiah of the Jews, who taking advantage of the animosity excited among his countrymen by the profanations of the emperor Adrian, when he founded his new city of Ælia on the ruins of Jerusalem, about the year 134, assumed the name of *Barchocab*, or *child of the Star*, in allusion to a prophecy of Balaam (Numb. xxiv. 17.) and pretended to be the long-expected deliverer of his nation. He chose for his precursor the famous Akiba; and collecting together an army of 200,000 men from among the banditti who then infested Judæa, took possession of the strong town of Bither, called by St. Jerom Bethoron, between Cæsarea and Diospolis, which he fortified as the place of his retreat and the capital of his newly-projected kingdom. Here he was anointed king, and caused money to be coined in his own name, by which he proclaimed himself the Messiah and prince of the Jewish nation. However he deferred declaring war against the Romans, till Adrian had quitted Egypt, so that it did not break out till the 17th year of that emperor's reign. Adrian seems at first to have neglected this new revolt; but when he perceived that it was likely to become formidable, he sent Tinnius Rufus with a strong reinforcement to quell it. This force being insufficient to restrain the depredations of these banditti, who massacred all the Romans and Christians that fell in their way, Julius Severus was recalled from Britain, and sent at the head of an army against the impostor. This general laid siege to Bither, which was resolutely defended, till Barchochebas was slain. The town was then carried by storm, and this event, which, according to Eusebius, happened in the 18th year of Adrian, was followed by a most dreadful slaughter of the Jews. Crevier's Rom. Emp. vol. vii. p. 188, &c. Basnage, Hist. des Juifs. l. vii. c. 12. Mod. Un. Hist. vol. x. p. 437. &c. See Akiba.

BARCHUL, in *Geography*, a town of Spain, in the country of Granada, five leagues from Guadix.

BARCHUSEN, or Burkhausen, John Conrade, in *Biography*, a learned physician and chemist, was born at Horne in the county of Lippe, in 1666. After a liberal education, and a course of travelling through the principal cities of Germany with a view to his improvement in pharmacy and chemistry, he became physician to the Venetian general in his expedition to the Morea in 1704; and on his return settled at Utrecht, where he obtained permission to teach chemistry, in which employment he continued till the time of his death in 1717. His character is distinguished by integrity and zeal for public good, as well as by indefatigable assiduity in the pursuit of knowledge; without possessing any very extraordinary share of genius or solidity of judgment. His works are, "Synopsis Pharmaceutica," Frankf. 1690, and Utrecht, 1696, 8vo.; "Pyrosophia," Leyd. 1698, 4to. enlarged and published at Leyden in 1771, under the title of "Elementa Chemiæ" &c. "Acroamaat ad Jatrochymiam & Physicam Spectantia," Utr. 1703, 8vo.; "Historia Medicinæ," Amst. 1710, 8vo.; published with enlargements under the title of "De Medicinæ ortu et progressu Dissertationes," &c. Utr. 1723, 4to. in which work an account is given of all the sects and theories of medicine from the earliest times to the author's own age, but with less accuracy, especially in relation to the ancient writers, than those of Le Clerc and Freind; "Synopsis Pharmaciæ," Leyd. 1712, 4to; "Compendium Ratiocinii Chemici," Leyd. 1712, 4to; "Collecta Medicinæ Practicæ Generalia, et Dialogus de optima Medicorum secta," Amst. 1715, 8vo. Haller Bib. Med. Pract.

BARCINO, in *Ancient Geography*, a town of Hispania Tarraconensis, and capital of the Laletani; now Barcelona.

BARCLAY, Barcley, or Barklay, Alexander, in *Biography*, an elegant British writer of the 16th century, was a native either of England or Scotland, but probably of the latter country. About the year 1495, he came to Oriel college, Oxford, and having distinguished himself by his parts and learning, he travelled on the continent and acquired a competent knowledge of the languages spoken in Holland, Germany, Italy, and France. On his return to England, he became one of the priests of St. Mary Ottery in Devonshire, and afterwards a monk of the monastery of Ely. After the dissolution of this monastery in 1539, he was presented successively to several livings, the last of which were those of Baddow-Magna in Essex, and of Allhallows in London. He was honoured with the degree of doctor in divinity. He died at a very advanced age at Croydon in Surry, in June 1552. Different accounts have been given of his character. Bale, the protestant, treats his memory with indignity, and charges him with being a scandalous adulterer, whilst he led a single life; but Pitts, the papist, assures us that he directed his studies to the service of religion, and employed his time in reading and writing the lives of the Saints. These accounts, however, are not altogether incompatible. As an improver of English literature, his merits are acknowledged; and his industry in enriching our language with many translations, written in a style more pure and fluent than that of his contemporaries, entitles him to grateful commemoration. Some of the principal of his works, of which there is no complete catalogue, are the "Miseræ Curialium," or "Eclogues on the Miseries of Courtiers," compiled by Æneas Silvius; the "Eclogues of Baptist Mantuan;" the "Castle of Labour," from the French; a treatise "Of Virtues," by Mancini; several "Lives of Saints;" the "Jugurthine war" of Sallust; a "Treatise against Skelton," who was poet laureat, and a great enemy to priests; and the most popular of all his works, the "Navis Stultifera" or "Ship of Fools," which is a free translation, with considerable additions, from a work under the same title, by Sebastian Brantius; this is a satirical work, adorned with many pictures printed from wooden cuts; it passed through several editions, and was first printed at London by Richard Pynson, in 1509, in small folio, again in 1519, and in 4to. in 1570. Gen. Dict. Biog. Brit.

Barclay, William, a learned civilian, was born in Aberdeenshire in 1541, and descended from one of the best families in Scotland. After the captivity of Mary queen of Scots, by whom he was favoured, he retired to France about the year 1573, and then by close application became a proficient in the knowledge of the civil law, so that he obtained a professorship in that science in the university of

Ponta-

Pontamouſſon, founded by the duke of Lorrain; he was alſo appointed by this duke counſellor of ſtate, and maſter of requeſts. In 1581, he married a lady of Lorrain, by whom he had a ſon, who was the cauſe of his conteſt with the Jeſuits, he whoſe influence he was induced to the neceſſity of quitting Lorrain. He then came to England, and was offered a place in the council of James I. with a conſiderable penſion, on condition of his embracing the eſtabliſhed religion; but declining the offer, he returned to France, and accepted the profeſſorſhip of civil law in the univerſity of Angers, where he taught for ſome time with reputation. Here he died ſome ſay in 1605, according to others in 1608, or 1612. The chief of his works are "De Regno et Regali potentate, adverſus Buchananum, &c." publiſhed at Paris in 1600; "De poteſtate Papæ, an et quatenus in reges et principes ſeculares jus et imperium habeat." Paris, 1609, 1613, 1625. Rouen, 1612, 8vo. Lond. in England, in 1611, 4to; "A Commentary upon the title of the pandects, *de ritu nuptiarum et de ſponſalibus*;" Paris, 1605, 8vo.; and "Poemata, in vitam Agricolæ," Paris, 1599, 2 vols. 8vo. Gen. Dict. Biog. Brit.

Barclay, John, the ſon of the preceding, was born at Pontamouſſon in 1582, and diſtinguiſhed himſelf betimes as a proficient in polite literature. The Jeſuits wiſhed him to enter into their ſociety; but his father incurred their reſentment by preventing it, and taking him to England, at the beginning of the reign of James I. He had already, viz. in 1601, publiſhed a commentary on the Thebaid of Statius. He alſo preſented to James, a Latin poem upon his coronation; and in 1603, publiſhed the firſt part of his "Satiricon Euphormionis," which was dedicated to the king. He accompanied his father to Angers, with whom he continued till the death of the latter, and then removed to Paris. In 1606, he came over to England, where he obtained conſiderable employments under king James, and was made gentleman of the bed-chamber. He is ſaid to have aſſiſted this prince in a controverſial work, which occaſioned ſome unfounded ſuſpicions of his orthodoxy. Having finiſhed his "Euphormio," he publiſhed an apology for it in 1610. Upon his return to Paris, he printed in 1612, a work intitled "Pietas," being a vindication of a performance of his father againſt the power arrogated by the popes over crowned heads, which had been attacked by Bellarmine. Nevertheleſs, he was invited to Rome by Paul IV., and reſided there during the latter part of his life, careſſed by Bellarmine, and poſſeſſing ſome lucrative employments, in return for which he wrote a work of controverſy, intitled, "Paræneſis ad Sectarios." Whilſt he was employed in ſuperintending the firſt edition of his principal work, intitled the "Argenis," he died of the ſtone at Rome, in 1621. The diſpoſition of Barclay was of a melancholy caſt; his mornings were uninterruptedly employed in ſtudy, and the afternoons were devoted to his garden. His reputation, both as a ſcholar and a writer, was extremely high in his own times; but his works were not of a nature, calculated to command laſting attention. His Latin ſtyle was much admired by ſome, and ſeverely cenſured by others. Petronius was his model, but he ſomewhat partakes of the florid affectation of Apuleius in his proſe, and of the bombaſt of Lucian in his verſe. His "Euphormio," and "Argenis," both works of invention, paſſed through ſeveral editions in various languages. The latter is a kind of political allegory, exhibiting a picture of the vices and revolutions of courts, with real characters under fictitious names. It diſplays great ingenuity and learning, and abounds with lively imagery and elevated ſentiments, but with too much parade. It was read with avidity whilſt the ſubjects were recent; and a tranſlation of it in Engliſh by a lady appeared in 1772, without attracting much notice. Gen. Dict. Biog. Brit.

Barclay, Robert, the famous apologiſt for the Quakers, was the deſcendant of an ancient family in Scotland, and the ſon of colonel David Barclay of Mathers. He was born at Gordonſtown in the ſhire of Murray, in 1648, whither his father had retired, after quitting the army; and was ſent for education to his uncle at Paris, who was at that time principal of the Scots college. Pains were taken to proſelyte him to the catholic religion; and he acknowledged that they were not altogether unſucceſsful. He returned home, however, in his 17th year, and was diſtinguiſhed by his accompliſhments in literature, and particularly by his knowledge of the Latin and French languages. At home he extended his acquaintance, by diligent application, with the Greek and Hebrew; and being of a grave diſpoſition, directed his inquiries towards theological ſubjects. His father, having in 1666 become a convert to quakeriſm, was ſoon followed by his ſon; whoſe zeal, though generally under the control of a ſedate temper and ſound judgment, was not altogether free from enthuſiaſm; for he conceived himſelf obliged by divine command to paſs through the ſtreets of Aberdeen clothed in ſackcloth and aſhes, and he actually yielded to this impulſe. But he ſerved the cauſe, to which he was attached from conviction, much more effectually by his powers of reaſoning in its defence. His firſt publication to this purpoſe, intitled "Truth cleared of calumnies," &c. was a reply to a work of W. Mitchell, a preacher near Aberdeen, and dated at his father's houſe at Urie, in 1670. This was followed by an appendix and additional treatiſe, exhibiting a conſiderable portion of controverſial acrimony, but it had the effect of ſilencing his antagoniſt. In 1673 he publiſhed with a view of conciliating the good opinion of Proteſtants, a ſyſtematic expoſition of the doctrines of his ſect, under the title of "A Catechiſm and Confeſſion of Faith, approved of and agreed to by the general aſſembly of the Patriarchs, Prophets, and Apoſtles, Chriſt himſelf chief Speaker in and among them," &c. The deſign of this work was to prove, that Quakeriſm was the perfection of the reformed religion, and that Proteſtants, as they receded from it, were ſo far inconſiſtent with themſelves, and approached to Popery. His fundamental principle was, that the ſcriptures alone were to be regarded as the foundation of faith, and that Chriſtians ought to receive no doctrines which were not capable of being proved by the expreſs words of ſcripture. This work excited very general attention, and removed many prejudices that were entertained againſt the ſociety. His next treatiſe, intitled "The Anarchy of the Ranters and other Libertines, the Hierachy of the Romaniſts, and other pretended churches, equally refuſed and refuted," &c. was intended to mark the diſtinction between the rationaliſts of his ſect, and the enthuſiaſts; but ſome ſentiments concerning church diſcipline, which it contained, involved him in diſputes with ſome of his own brethren, and drew upon him attacks from ſome members of the univerſity of Aberdeen, and from other quarters. He perſiſted, however, in his endeavours for forming a clear, methodical, and rational ſyſtem of Quakeriſm; and in the year 1675, he was diligently employed in compoſing the moſt famous of all his writings, which is his "Apology for the true Chriſtian divinity, as the ſame is held forth and preached by the people in ſcorn called Quakers." This was introduced by his "Theſes Theologicæ," written in various languages, and addreſſed to the clergy of all denominations throughout Europe, requeſting their examina-

tion and judgment. Two copies of the "Apology" were tranſmitted to each of the miniſters plenipotentiary then aſſembled at the congreſs of Nimeguen. It was printed in 1676, at Amſterdam; and two years after, the author publiſhed an Engliſh tranſlation of it. It was alſo tranſlated into other languages, and excited very general attention. The "Apology" is a learned, ſcholaſtic, methodical performance; and it is regarded as the firſt authority for the principles of the ſect. The ſociety derived conſiderable reputation from it; and whilſt it contributed to remove prejudices againſt this ſect both at home and abroad, it gave them a reſpectable rank among the reformed churches. The dedication is no leſs remarkable than the apology itſelf. It is addreſſed to king Charles II.; and ſpeaks to him in ſo plain and forcible a manner reſpecting the events of his own life, and pleads the cauſe of religion, and of the author's own ſociety, with ſuch a manly ſpirit, that it has ever been admired as a model in its kind. Let the following paſſage ſerve as a ſpecimen: "Thou haſt taſted of proſperity and adverſity; thou knoweſt what it is to be baniſhed thy native country, to be over-ruled as well as to rule and ſit upon the throne; and being oppreſſed, thou haſt reaſon to know how hateful the oppreſſor is both to God and man." This addreſs did not avail, as Voltaire aſſerts, to reſtrain the perſecution which then raged againſt the Quakers; for Robert Barclay himſelf, after his return from Holland and Germany, which he viſited in company with the famous William Penn, was, in 1677, impriſoned in Aberdeen, together with his father and many other Quakers, at the inſtigation of Sharp archbiſhop of St. Andrew's, with whom he remonſtrated by an excellent letter on the occaſion. By the interpoſition of Elizabeth the princeſs palatine of Rhine, who reſpected the Quakers and correſponded with both Penn and Barclay, he was ſoon liberated; and he even acquired the favour of the court, ſo that in 1679, he obtained a royal charter for erecting his lands at Urie into a free barony. In 1682, he was elected governor of Eaſt Jerſey, in North America, by the proprietors of the province; but he declined accepting the appointment, and was ſatisfied with naming a deputy governor. Whilſt he was in priſon at Aberdeen, in 1677, he publiſhed a treatiſe on "Univerſal Love," intended to ſhew that this principle prevailed more in his church than in any other. In the ſame year he addreſſed a Latin letter to all "the ambaſſadors and deputies of the Chriſtian princes and ſtates, met at Nimeguen to conſult the peace of Chriſtendom," urging them to promote that good work, and pointing out the true cauſes of war, and its incompatibility with Chriſtian principles. He had alſo written, in 1676, a Latin letter concerning "the Poſſibility and Neceſſity of an inward and immediate Revelation," to Adrian Paets, a perſon of diſtinction in Holland; and in 1686 this letter was tranſlated into Engliſh and publiſhed. This was the laſt, and has by many members of the ſociety, been reckoned among the moſt important of his performances. His time was very much occupied in journies for the benefit of the ſociety, with a view both of promulgating its doctrines, and protecting its members from oppreſſion. Barclay and Penn were on terms of intimacy with James II.; who, ſenſible that he and his party needed toleration, affected to be the great patron of liberty of conſcience. The non-reſiſting principles of the quakers in civil matters, might probably give him a predilection for their religious opinions above thoſe of other Proteſtants. Barclay was engaged in a private conference with the king in the year 1688, juſt as the wind became fair for bringing over the prince of Orange, and on that occaſion urged his majeſty to make ſome conceſſion for ſatisfying his people; but his advice was of no avail. Robert Barclay did not long ſurvive the revolution. He died, after a ſhort illneſs, in his houſe at Urie, in October 1690, in his forty-ſecond year, leaving ſeven children, all of whom were living fifty years afterwards. The moral character of this eminent perſon correſponded to the great employment of his life, which was that of promoting what he conceived to be the cauſe of religious truth. He was amiable and reſpectable; nor did the gravity of his purſuits infuſe any rigour or fourneſs into his converſation and manners. He governed his houſe with great prudence and diſcretion, and preſerved a ſerene mind under all the changes of his fortune. Biog. Brit. Gen. Biog.

Barclay *Fort*, in *Geography*, is the weſt point of the entrance into Engliſh harbour, on the ſouth ſide of the iſland of Antigua; the eaſt point alſo has a battery, from which it is diſtant only about 300 yards.

BARCONE, in *Navigation*, a ſhort broad veſſel, of a middle ſize, uſed in the Mediterranean for the carriage of corn, wood, ſalt, and other proviſions, from one place to another.

BARD, is uſed in the *Culinary Art*, for a broad ſlice of Bacon uſed to cover fowls before they are roaſted, baked, or otherwiſe dreſſed.

BARDA, or Partha, in *Geography*, a town of Germany, in the circle of Upper Saxony and circle of Leipſick, 2 miles S.W. of Grimma.

BARDANA, in *Botany*. See Arctium.

Bardana, in the *Materia Medica*. See Arctium *Lappa*.

BARDANÆ, in *Entomology*, a ſpecies of Curculio, of a cylindrical form, downy, greyiſh; anterior legs elongated. About the ſize of *C. paraplecticus*, and not unlike it in appearance. Inhabits Europe.

BARDARIOTÆ, in *Antiquity*, were a kind of ancient guard attending the Greek emperors, armed with rods, wherewith they kept off the people from crowding too near the prince, when on horſeback. Their captain, or commander, was denominated *primivergius*. The word was probably formed from the *bardæ* or houſings on their horſes.

BARDE. See Barbe.

BARDED, in *Heraldry*, is uſed in ſpeaking of a horſe that is capariſoned.

He bears ſable, a *cavalier d'or*, the horſe *barded*, argent.

BARDELLE, in the *Manege*, denotes a ſaddle made in form of a great ſaddle, but only of cloth ſtuffed with ſtraw, and tied tight down with packthread, without either leather, wood, or iron. *Bardelles* are not uſed in France; but in Italy they trot their colts with ſuch ſaddles; and thoſe who ride them are called *cavalcadours*, or *ſcozone*.

BARDESANISTS, in *Eccleſiaſtical Hiſtory*, a ſect thus denominated from their leader, Bardeſanes, a Syrian of Edeſſa in Meſopotamia, in the ſecond century. Bardanes was a man of acute genius and profound erudition, and wrote ſeveral works which procured him reputation. He was eloquent in the Syriac language, and well acquainted with the Greek. His thirſt for knowledge induced him to travel into the eaſt, in order to converſe with the brachmans and other philoſophers of that country. He was held in high eſtimation by Abgarus, who reigned in Edeſſa from the year 152 to 187. A work written by him, "upon Deſtiny," againſt Abydas the aſtrologer, was valued by the ancients; and a fragment of it is quoted by Euſebius, in his Præp. Evang.

Bardeſanes adopted the oriental philoſophy concerning the two principles; maintaining that the ſupreme God is free from all evil and imperfection, and that he created the world and its inhabitants pure and incorrupt; that in

proceſs

proceſs of time the prince of darkneſs, who is the fountain of all evil and miſery, enticed men to ſin; in conſequence of which, the ſupreme God permitted them to be diveſted of thoſe etherial bodies with which he had endued them, and to fall into ſluggiſh and groſs bodies formed by the evil principle: and that Jeſus deſcended from heaven, clothed not with a real but aerial body, in order to recover mankind from that body of corruption which they now carry about them; and that he will raiſe the obedient to manſions of felicity, clothed with aerial vehicles, or celeſtial bodies. It is ſaid that Bardeſanes at length renounced the more chimerical part of his ſyſtem. Euſebius denied that he ever returned to the Catholic faith. His ſect ſubſiſted for a long time in Syria, to which his 150 hymns written in elegant Syriac very much contributed; as they alſo did to the propagation of his opinions. Moſheim's Eccl. Hiſt. vol. i. p. 220. Lardner's Works, vol. ii. p. 299, &c.

BARDEWICK, in *Geography*, a town of Germany, in the circle of Lower Saxony, on the Ilmenau, ſuppoſed to be one of the moſt ancient towns in Germany. It was in a very proſperous ſtate, and the ſee of a biſhop in 1189, when Henry the Lion, duke of Saxony and Brunſwick, took and razed it to the ground, becauſe the inhabitants would not acknowledge him after he had been proſcribed by the emperor Frederick I. The biſhoprick was then removed to Verden; and the city of Luneburgh received the advantages of trade and population; 4 miles N. of Luneburg.

BARDEWISCH, a town of Germany, in the circle of Weſtphalia, and county of Delmenhorſt; 6 miles N. of Delmenhorſt.

BARDI, a town of Italy, in the Parmeſan, ſeated on a rock near the ſmall river Ceno, and capital of a marquiſate, to which it gives name; 26 miles W. of Parma.

BARDIN, a town of Perſia, in the province of Segeſtan, 30 miles W.S.W. of Zareng.

BARDIS, a town of Egypt, and reſidence of a ſcheik, whoſe authority extends a conſiderable way along the Nile, 6 miles ſouth of Girgé.

BARDISTAN, Cape, lies on the coaſt of Perſia, in the Indian ocean. N. lat. 28° 0′. E. long. 52° 0′.

BARDO, a town of Piedmont, in the duchy of Aoſta, ſeated on the Doria Baltea; 17 miles S.E. of Aoſta.

BARDONACHE, a town of Piedmont, in a valley, to which it gives name; 10 miles north of Sezanne, and 6 W.N.W. of Exilles.

BARDOP, a river of England, which runs into the Read, 6 miles N.W. of Ellſdon, in Northumberland.

BARDS, Bardi, in *Antiquity*, ancient poets among the Gauls and Britons, who deſcribed and ſung in verſe the brave actions of the great men of their nation; with deſign to inculcate and recommend virtue, and even ſometimes to put an end to the difference between armies at the point of engagement.

Bochart derives the word from *parat*, *to ſing*. Camden agrees with Feſtus, that *bardus* originally ſignifies *a ſinger*: and adds, that the word is pure Britiſh. Others derive the word from *Bardus*, a druid, the ſon of Dryis, and the fifth king of the Celtæ.

Amidſt this uncertainty with regard to the etymology of the appellation *bards* or *bard*, we may add that ſome have derived it from *bár*, which ſignifies *fury*, and which bears, without doubt, ſome analogy to that poetic fury or enthuſiaſm with which the poets fancied themſelves, or might feign to be inſpired. Among the Welſh, we are told by others, *bard* is preſerved as an indigenous term, having an abſtract ſignification, and denoting one that makes conſpicuous, or cauſes to be revealed. By another and lor we are informed that the word *bard* being a primitive noun, neither derived nor compounded, it can neither be traced to its root, nor reſolved into its parts. It ſignified one who was a poet by his genius and profeſſion, and who employed much of his time in compoſing and ſinging verſes on various ſubjects and occaſions.

The bards, it is ſaid, differed from the *druids*, in that the latter were prieſts and teachers of the nation, but the former only poets and writers.

Larrey, Bodin, and Paſquier, indeed, will have the bards to have been prieſts, as well as philoſophers: and Cluverius, orators too; but without much foundation in antiquity.—Strabo divides the ſects of philoſophers among the Gauls and Britons into three, viz. the druids, bards, and evates. The bards, adds he, are the ſingers and poets; the evates, the prieſts and natural philoſophers; and the druids, to natural philoſophy add alſo the moral. Hermius however reduces them to two ſects, viz. bards and druids; others to one, and make a druid a general name, comprehending all the others. Cluverius will have it, that there were bards alſo among the ancient Germans; becauſe Tacitus makes mention of their ſongs and poems, which contained their hiſtory. Some have diſtributed the ancient Britiſh poets into two claſſes; the firſt claſs comprehending their ſacred poets, who compoſed and ſung their religious hymns, and were called in Greek *Eubates*, in Latin *Vates*, and in their own language *Faids*; the ſecond comprehending all their ſecular poets, "who ſung of the battles of the heroes, or the heaving breaſts of love," according to the deſcription of Oſſian, and they were called bards. The principal buſineſs of theſe bards was to celebrate the praiſes of the gods and departed heroes, in odes and verſes, and to ſing them to their harps, at their religious aſſemblies, public feſtivals, and private entertainments. Theſe men were, in fact, the heralds, the chronologers, and the hiſtorians, as well as the poets of the land, for they kept up the memory of illuſtrious tranſactions, and, by their compoſitions, which tradition handed down to poſterity, they tranſmitted from age to age the names and characters of patriots and warriors. It is remarkable that ſuch a claſs of perſons ſubſiſted in almoſt all nations. They derive their origin from remote antiquity, and were ever held in high eſtimation. Mankind have been early led to poetical compoſitions. Agreeable ſounds ſtrike at firſt every ear, but poetry was neceſſary to give thoſe ſounds a laſting effect. Verſe has therefore been made uſe of to preſerve the memory of remarkable events and great actions. The religious ceremonies of nations, their manners, and rural labours, were alſo recorded in numbers. Hence it was that Greece could boaſt of a Homer, a Heſiod, and of other poets, ſome ages before an hiſtorian had written in proſe. Amongſt the Gauls alſo, and other Celtic nations, there were poems compoſed on various ſubjects from the earlieſt ages. Diodorus Siculus is the firſt author among the ancients, who mentions the bards as the compoſers of verſes which they ſung to the ſound of an inſtrument not unlike a lyre (l. v. § 31.). Ammianus Marcellinus informs us (l. xii. c. 9.), that the bards celebrated the brave actions of illuſtrious men in heroic poems, which they ſung to the ſweet ſounds of the lyre. This account of theſe Greek and Latin writers is confirmed by the general ſtrain and by many particular paſſages of the poems of Oſſian. "Beneath his own tree, at intervals, each bard ſat down with his harp; they raiſed the ſong and touched the ſtring, each to the chief he loved." But this union between poetry and muſic did not ſubſiſt very long, in its greateſt ſtrictneſs, perhaps, in any country. The muſicians ſoon became very numerous, and thoſe of them who had not a genius for compoſing

poſing verſes of their own, aſſiſted in ſinging the verſes of others to the muſic of their harps. Many of thoſe ſongſters, or paraſites (as Athenæus, l. vi. c. 12. calls them), which the Celtic princes took with them when they went to war, were mere muſicians, and the ſongs which they ſung were compoſed by thoſe among them who had a poetical genius, and were called bards. Oſſian, however, excelled as much both in vocal and inſtrumental muſic as he did in poetry, and he ſeems to have had no idea of playing on an inſtrument without ſinging at the ſame time. Whenever his bards touch the ſtring, they always raiſe the ſong.

The bards conſtituted one of the moſt reſpected orders of men in the ancient Britiſh ſtates; and many of the greateſt kings, heroes, and nobles, eſteemed it an honour to be enrolled in this order. They enjoyed, by law and cuſtom, many honourable diſtinctions and valuable privileges. Kings and princes made choice of bards to be their boſom-friends and conſtant companions; indulged them with the greateſt familiarity, and gave them the moſt flattering titles. Their perſons were held ſacred and inviolable; and the moſt cruel and bloody tyrants dared not to offer them any injury. The bards, as well as the druids, were exempted from taxes and military ſervices, even in times of the greateſt danger; and when they attended their patrons in the field, to record and celebrate their great actions, they had a guard aſſigned them for their protection. At all feſtivals and public aſſemblies they were ſeated near the perſon of the king or chieftain, and ſometimes even above the greateſt nobility and chief officers of the court. Nor was the profeſſion of the bard leſs lucrative than honourable. For, beſides the valuable preſents which they occaſionally received from their patrons, when they gave them uncommon pleaſure by their performances, they had eſtates in land allotted for their ſupport. Nay, ſo great was the veneration which the princes of theſe times entertained for the perſons of their poets, and ſo highly were they charmed and delighted with their tuneful ſtrains, that they ſometimes pardoned even their capital crimes for a ſong. It may be reaſonably ſuppoſed that a profeſſion, which was ſo honourable and advantageous, and to which were annexed ſo many flattering diſtinctions and deſirable immunities, would not be deſerted. Accordingly, the accounts we have of the numbers of the bards in ſome countries, particularly in Ireland, are hardly credible. In the poems of Oſſian we often read of 100 bards belonging to one prince, ſinging and playing in concert for his entertainment. Every chief bard, who was called Allah Redan, or doctor in poetry, was allowed to have 30 bards of inferior note conſtantly about his perſon; and every bard of the ſecond rank was allowed a retinue of 15 poetical diſciples. But it is probable that the bards of Britain and Ireland were not ſo numerous at an early period as they became afterwards; nor were they then guilty of thoſe crimes by which they at length forfeited the public favour. In this moſt ancient period, the Britiſh bards ſeem to have been in general men of genius and virtue, who merited the honours which they enjoyed. Though the ancient Britons of the ſouthern parts of this iſland had originally the ſame taſte and genius for poetry with thoſe in the north, yet none of their poetical compoſitions have been preſerved; and this may be eaſily accounted for. After the provincial Britons had ſubmitted quietly to the Roman government, yielded up their arms, and had loſt their free and martial ſpirit, they could take little pleaſure in hearing or repeating the ſongs of their bards, in honour of the glorious atchievements of their brave anceſtors. The Romans too, if they did not practiſe the ſame barbarous policy which was long after practiſed by Edward I. of putting the bards to death, would at leaſt diſcourage them, and diſcountenance the repetition of their poems for very obvious reaſons. Theſe ſons of the ſong being thus perſecuted by their conquerors, and neglected by their countrymen, either abandoned their country or their profeſſion; and their ſongs, being no longer heard, were ſoon forgotten. But ſo natural was a taſte for poetry to the original inhabitants of this iſland, that it was not quite deſtroyed by their long ſubjection to the Romans, but appeared again in the poſterity of the provincial Britons, as ſoon as they recovered their martial ſpirit, and became a free, brave, and independent people. Nennius, who wrote in the ninth century, and in the reign of prince Mervyn, is the firſt of the Britiſh hiſtorians who mentions the bards. He ſays, that Talhaiarn was famous for poetry; that Aneurin and Taliefin, Llywarch-hen and Cian, flouriſhed in the 6th century. Of theſe bards, the works only of three are extant; thoſe of Aneuryn, Taliefin, and Llywarch-hen. Beſides the bards already mentioned, there were others who flouriſhed during this period; of whom the moſt eminent was Merddin Wyllt, who compoſed a poem called Afallenau, or the orchard. From the ſixth to the tenth century it is difficult to meet with any of the writings of the bards, owing probably to the deva ſtations of war, and to the civil diſſenſions among the Welſh.

Such was the reſpect in which the bards were held, that by a law of Howel Dha, whoever ſtruck any one of this order muſt compound for the offence by paying to the party aggrieved one-fourth more than was neceſſary to be paid to any other perſon of the ſame degree.

The election of the bards was made every year, in an aſſembly of the princes and chieftains of the country, in which they were aſſigned precedence and emolument ſuitable to their merit; but the bard moſt highly diſtinguiſhed for his talents was ſolemnly chaired, and had likewiſe a badge given him of a ſilver chain. This congreſs of the bards was uſually held at the royal reſidence of the prince of Wales; the ſovereign himſelf preſiding in that aſſembly. The bards, properly ſo called, were diſtinguiſhed from the Druids and Eubates or Ovates, by the colour of their dreſs; they were clad in ſky-blue garments, whilſt the Druids wore white, and the Ovates green. Their diſciples were arrayed in variegated garments of theſe three colours united. They held their meetings in circles of unwrought ſtones, aſtronomically placed as indexes of the ſeaſons, in the open air, and when the ſun was above the horizon, or as they expreſſed it, *in the face of the ſun, and in the eye of the light.* They had four principal meetings in the courſe of the year. The firſt was on the winter ſolſtice, called *Alban Arthan*, which was the beginning of their year; the ſecond on the vernal equinox, or *Alban Eilir*; the ſummer ſolſtice, or *Alban Hevin*, was the third; and the autumnal equinox, or *Alban Elved*, was the fourth ſolemn convention.

It appears, upon a cloſe examination of its principles, that one of the primary intentions of bardiſm was, that it ſhould be a regular ſyſtem for preſerving authenticated records and various kinds of knowledge in the national memory, as it were, by means of oral tradition. And, in order that nothing ſhould have currency without due conſideration, whatever was intended to be received into ſuch a public record, whether the hiſtorical and aphoriſtical triad, or the didactic ſong, was always laid before the grand meeting. There it was diſcuſſed with the moſt ſcrutinizing ſeverity; if then admitted, it was re-conſidered at the ſecond meeting; if then approved of, it was referred to the third meeting; and being approved of by that, it was ratified or confirmed; otherwiſe it was re-

ferred to the triennial ſupreme convention for ultimate conſideration. At this national meeting, all that had been confirmed at the provincial aſſemblies were alſo recited; and the diſciples, who there attended from every province, were enjoined to learn them, in order that they might become as widely diffuſed as poſſible. What was thus ſolemnly sanctioned was to be recited for ever afterwards, annually at leaſt, in addition to the former bardic traditions, in the ſecondary meetings of diſtricts, and alſo at one or other of the four grand meetings. Such being the bardic eſtabliſhment, by which tradition became formed into a well-combined ſcience, we may rely on its triads for the beſt illuſtration of its principles.

The three cultivators of ſong and imagination among the nation of the *Cymry* were *Gwyzon Cynhaon*, who was the firſt in the world that compoſed poetry; *Hu* the mighty, who firſt applied poetry to preſerve memorials and compoſition; and *Tydain Tâl Aeron*, or *Tydain father of the muſe*, who firſt reduced poetry to an art, and eſtabliſhed rules for compoſition. And from what thoſe three perſons executed, originated bards and bardiſm, as conſtituted with privilege and cuſtom by the three inſtitutional bards, namely *Plenuyz*, *Alon*, and *Gwron*. They eſtabliſhed the privileges and cuſtoms which appertain to bards and bardiſm, and therefore they are called the three inſtitutors. Nevertheleſs there were bards and bardiſm before their time; but they were not under the regulation of inviolable tranſit; and they had neither privileges nor cuſtoms, except what were obtained through civility and courteſy, under the protection of the country and nation, before the time of theſe three. Some ſay that they were contemporary with *Prydain*, ſon of *Aez the Great;* but according to others, they lived in the time of *Dyunwal Moel Mud*, his ſon, who in ſome of the old books is called *Dyvnvarth*, ſon of *Prydain*. For a further account of theſe inſtitutional bards, and of the triads that exhibit their character, office, and privileges, and that illuſtrate their theology, we muſt refer the curious who wiſh for further information on this ſubject, to Williams's Poems, lyric and paſtoral, in 2 vols. 8vo. London, 1794; and to Owen's Heroic Elegies of Llywarch-tten, in 1 vol. 8vo. London, 1792. According to the latter of theſe writers, the bards were divided into Bards Braint, who were the civil magiſtrates or judges; and Bards Druid, who were the prieſts of the community.

From the triads above referred to the reader may deduce a correct outline of bardiſm; and as to the detail of its various parts, he may be ſurprized to be told that they are ſtill preſerved in various memorials of the ancient Britons, and in the memory of its initiated; though it is generally ſuppoſed that this extraordinary ſyſtem, known to the world under the name of Druidiſm, has periſhed above fifteen hundred years paſt, except the few hints given of it by Greek and Roman writers. Loſt it certainly would have been but for its extraordinary means and precaution for ſelf-preſervation; eſpecially in the middle ages, when it had to withſtand the perſecutions of the popiſh church in the fulneſs of its power. Here it may be worthy to remark that bardiſm contains a great many things to induce a conviction of its being the parent of free-maſonry; and ſome of the principles taught in both are the ſame in expreſſion; and indeed it is very remarkable, that artiſan, or maſon, is exactly the meaning of *ovyz*, or ovate, the name of the third claſs of bards; and in this character only could the bards meet under cover. Free-maſons do ſo now; but they preſerve a traditionary memorial of their meeting anciently on the tops of their higheſt hills, and in the bottoms of the loweſt vales, and when the ſun was in its due meridian. Thus bardiſm, whoſe principles were to be diffuſed in the face of the ſun and in the eye of the light, for the ſake of truth and ſelf-preſervation, had the means of becoming even more ſecret than maſonry veiled in the darkneſs of night.

There were three different claſſes of this order in Wales: the firſt was called "Beirdhs," and they were the compoſers of verſes and odes in various meaſures; they were likewiſe the recorders of the arms of the Welch chieftains, and the repoſitories alſo of the genealogies of families. This claſs was accounted the moſt honourable, and was high in the public eſtimation. The ſecond claſs, called "Minſtrels," were performers upon inſtruments, chiefly the harp and the crwth. The third were thoſe who ſung to muſical inſtruments in general, and were called "Datgeiniaid."

The talents of the Welſh bards were not ſolely employed in preſerving the deſcents of families, in the praiſe of heroes, or in recording their illuſtrious actions; they ſometimes in plaintive numbers mourned over the tomb of the fallen warrior.

When tyranny erected her banner in Wales, by the cruel policy of Edward in the maſſacre of the bards, that ancient ſeat of muſic and poetry was deſerted by the muſes, and conſequently was deprived of thoſe faſcinating arts which ſoftened, at the ſame time that they invigorated, the genius of the people. During the ſpirited, and for a while the proſperous inſurrection of Owen Glendwrdwy, the muſes reviſited their native ſeats, encouraged by the munificence of that leader, and animated by the tranſitory ray which had dawned upon freedom. When the Welſh had made the laſt effort for their expiring freedom, they ſunk into a ſtate of ſlavery the moſt deep and ſevere. The bards were prohibited by law from making their annual progreſs, and from holding public aſſemblies; which privileges were called by the natives "clera" and "cymhortha." During this period, and the conteſt between the houſe of York and Lancaſter, the genius of poetry was nearly extinguiſhed, or was only employed in ſoothing the miſery of the times, by obſcure predictions of more proſperous days. A brighter proſpect opening on this nation in the reign of Henry VII. a ſeries of bards aroſe from that time; and theſe bards, being ſupported in the families of the Welſh chieftains, aſcertained and preſerved their genealogies; and as the cauſes of reciting warlike exploits had ceaſed, they celebrated the civil virtues of their patrons, their magnanimity, their hoſpitable ſpirit, their talents, and the graces of their perſons. They likewiſe, amidſt other duties, had the mournful office of compoſing an elegy on the death of the chieftain in whoſe family they reſided, which was ſung to the ſurviving relations in honour of the dead, reciting the noble families from which the deceaſed had ſprung, and the great actions performed by himſelf or his anceſtors.

Since the reign of queen Elizabeth, there has not been any regular aſſembly of the bards. The motives to emulation having ceaſed, and the ſpirit of ancient freedom being extinguiſhed, the poetic fire, for which the Welſh nation had been ſo renowned, gradually declined. But a ſpark of that ancient fire ſtill remains in the genius of the Welſh, which, in the ſeaſons of their feſtivity, breaks out into a ſingular kind of poetry, called "*pennyll.*" Even at this day ſome vein of the ancient minſtrelſy ſurvives among the Welſh mountains. Numbers of perſons aſſemble, and ſit round the harp, ſinging alternately "pennillion," or ſtanzas of ancient or modern compoſitions. Often, like the modern improviſatore of Italy, they ſing extempore verſes; and a perſon converſant in this art readily produces a "pennyll" appoſite to the laſt that was ſung. Many have their memories ſtored with ſeveral hundreds, perhaps thouſands of "pennillion," ſome of which they have always ready for anſwers to every ſubject that can be propoſed, or if their

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recollection ſhould fail them, their invention ſupplies them with ſomething pertinent and proper for the occaſion.

Bards have been found in many countries; and continued in Ireland and Scotland, as well as in Wales, to our own days. The genealogical ſonnets of the Iriſh bards are ſtill the chief foundations of the ancient hiſtory of Ireland.

Spenſer, the poet, in his view of the ſtate of Ireland in the reign of queen Elizabeth, obſerves that he cauſed ſeveral compoſitions of the bards to be tranſlated; "and ſurely," he adds, "they favoured of ſweet wit and good invention, but ſkilled not of the goodly ornament of poetry; yet were they ſprinkled with ſome pretty flowers of their natural device, which gave good grace and comelineſs unto them; the which it is great pity to ſee ſo abuſed, to the graceing of wickedneſs and vice, which with good uſage would ſerve to adorn and beautify virtue."

The ſongs of the Iriſh bards, ſays Warton in his "Hiſtory of Engliſh Poetry" (diſſ. i. vol. i.), are by ſome conceived to be ſtrongly marked with the traces of Scaldic imagination; and theſe traces are believed ſtill to ſurvive among a ſpecies of poetical hiſtorians, whom they call "Tale-Tellers," ſuppoſed to be the deſcendants of the original Iriſh bards. The Iriſh hiſtorians inform us that St. Patrick, when he converted Ireland to the Chriſtian faith, deſtroyed 300 volumes of the ſongs of the Iriſh bards. Such was their dignity in this country, that they were permitted to wear a robe of the ſame colour with that of the royal family. They were conſtantly ſummoned to a triennial feſtival; and the moſt approved ſongs delivered at this aſſembly were ordered to be preſerved in the cuſtody of the king's hiſtorian or antiquary. Many of theſe compoſitions are referred to by Keating, as the foundation of his hiſtory of Ireland. Ample eſtates were appropriated to them that they might live in a condition of independence and eaſe. The profeſſion was hereditary; but when a bard died, his eſtate devolved not to his eldeſt ſon, but to ſuch of his family as diſcovered the moſt diſtinguiſhed talents for poetry and muſic. Every principal bard, as we have already obſerved, retained thirty of inferior note as his attendants; and a bard of the ſecondary claſs was followed by a retinue of fifteen. They ſeem to have been at their height in the year 558. None of their poems have been tranſlated.

In the highlands of Scotland there are conſiderable remains of many of the compoſitions of their old bards ſtill preſerved. But the moſt genuine, entire, and valuable remains of the works of the ancient bards, and perhaps the nobleſt ſpecimen of uncultivated genius, are the poems of Oſſian, the ſon of Fingal a king of the Highlands of Scotland, who flouriſhed in the ſecond or third century, lately collected by Mr. Macpherſon, and by him tranſlated from the Erſe or Gaelic language into Engliſh. Dr. Johnſon, indeed, has ſuggeſted his doubts concerning the exiſtence of any ſuch ancient MSS. as thoſe from which the poems of Oſſian have been tranſlated. But this is not a place for diſcuſſing this ſubject of controverſy. Admitting, however, their genuineneſs upon the whole, whatever additions may have been made to them, they afford an admirable ſpecimen of what might be the conceptions of ancient bards. Theſe poems, ſays Warton (ubi ſupra), notwithſtanding the difference between the Gothic and the Celtic rituals, contain many viſible veſtiges of Scandinavian ſuperſtition. The alluſions in the ſongs of Oſſian to ſpirits who preſide over the different parts, and direct the various operations of nature, who ſend ſtorms over the deep, and rejoice in the ſhrieks of the ſhipwrecked mariner, who call down lightning to blaſt the foreſt or cleave the rock, and diffuſe irreſiſtible peſtilence among the people, beautifully conducted and heightened under the ſkilful hand of a maſter bard, entirely correſpond with the Runic ſyſtem, and breathe the ſpirit of its poetry. Had Oſſian found it convenient to have introduced religion into his compoſitions, not only a new ſource had been opened to the ſublime, in deſcribing the rites of ſacrifice, the horrors of incantation, the ſolemn invocations of infernal beings, and the like dreadful ſuperſtitions, but probably many ſtronger and more characteriſtical evidences would have appeared of his knowledge of the imagery of the Scandinavian poets.

The remains of Taliеſin, and other Welſh poets, aſſiſt us in forming a competent judgment upon this ſubject. See Evans's Diſſertation de Bardis. Jones's Muſical and Poetical Relics of the Welſh Bards.

It is not improbable, ſays Warton (ubi ſupra), that the Welſh bards might have been acquainted with the Scandinavian Scalds, at leaſt before their communication with Armorica. The bards flouriſhed moſt in thoſe parts of Britain which moſt ſtrongly retained their native Celtic character. The proſody of the Welſh bards depended much on alliteration; hence they ſeem to have paid an attention to the Scaldic verſification. The Iſlandic poets are ſaid to have carried alliteration to the higheſt pitch of exactneſs in their earlieſt periods; whereas the Welſh bards of the ſixth century uſed it but ſparingly, and in an imperfect degree: from this circumſtance we may deduce a proof of imitation, or at leaſt of emulation. There are, moreover, ſtrong traces of conformity between the manners of the two nations. Beſides, the Scandinavian Scalds were well known in Ireland; and there is ſufficient evidence to prove that the Welſh bards were early connected with the Iriſh. Even ſo late as the eleventh century, the practice continued among the Welſh bards of receiving inſtructions in the bardic profeſſion from Ireland. The Welſh bards were reformed and regulated by Gryffyth ap Conan, king of Wales, in the year 1078. At the ſame time he brought over with him from Ireland many Iriſh bards for the information and improvement of the Welſh. In Ireland, to kill a bard was highly criminal; and to ſeize his eſtate, even for the public ſervice and in time of national diſtreſs, was deemed an act of ſacrilege. Thus, in the old Welſh laws, whoever even ſlightly injured a bard, was to be fined 6 cows and 120 pence. The murderer of a bard was to be fined 126 cows. Moreover, an intercourſe was neceſſarily produced between the Welſh and Scandinavians from the piratical irruptions of the latter. It may be added, that the Welſh, although living in a ſeparate and detached ſituation, and ſo ſtrongly prejudiced in favour of their own uſages, yet from neighbourhood and unavoidable communications of various kinds, might have imbibed the ideas of the Scandinavian bards from the Saxons and Danes, after thoſe nations had occupied and overſpread all the other parts of our iſland. (See Scalds.) The effect of an intercourſe with Armorica is perceived in the compoſition of thoſe Welſh bards who flouriſhed after the native vein of Britiſh fabling had been tinctured by the "fairy tales" which had been propagated by the Arabians in Armorica, and which the Welſh had received from their connection with that province of Gaul. It is eaſy to collect from the Welſh odes, written after the tenth century, many ſignatures of this exotic imagery. See Scandinavia, and Armorica.

BARDSEY-Isle, in *Geography*, an iſland of Wales, called in Welſh *Yr Ynis Enlli*, or the iſland in the current, from the fierce current which runs between it and the main land; and Bardſey, probably from the bards who retired here. It forms the north point of Cardigan bay, and is ſituated oppoſite to it, within the county of Caernarvon. At Aberdaron bay there is good anchorage; but the entrance for large ſhips is very difficult. It was to this place that Dubritius, arch-

archbiſhop of Caerleon, retired after he had reſigned his ſee to St. David, and here he is ſaid to have died in 612. *Bardſey Abbey*, of which the remains are conſiderable, was founded in the year 516. A ſingular oratory belonging to it, conſiſts of a long arched edifice, with an inſulated ſtone altar near the eaſt end. The iſland forms a remarkably fertile and well-cultivated plain of about two miles in compaſs. It contains a few inhabitants, and is rented from lord Newborough. It was granted by Edward VI. to his uncle ſir Thomas Seymour, and after his death to the earl of Warwick. The late ſir John Wynn purchaſed it from the late Rev. Dr. Wilſon of Newark. It is 10 leagues N. E. by N. of Caernarvon bar, and 12 leagues N. by W. of Holyhead in the iſle of Angleſea. N. lat. 52° 58′. W. long. 5° 5′.

BARDSTOWN, a town of Kentucky, in the United States of North America, and chief place of the county of Nelſon, on the Beech Fork river; about 25 miles from the Ohio. N. lat. 37° 48′. W. long. 86° 13′ 30″

BARDT, or BARTH, a poſt-town of Germany, in the duchy of Pomerania, ſituated in a ſmall bay on the Baltic, 6 leagues weſt from Stralſund. It belongs to Sweden. N. lat. 54° 20′. E. long. 13° 20′.

BARDUBITZ, or PARDUBITZ, a town of Bohemia, in the circle of Chrudim, celebrated for its manufactures; ſeated on the Elbe, 7 miles north of Chrudim.

BARE, in a general ſenſe, ſignifies not covered. Hence we ſay, bare-headed, bare-footed, &c.

The Roman women, in times of public diſtreſs and mourning, went bare-headed, with their hair looſe.

Among Greeks, Romans, and Barbarians, we find a feaſt called *nudipedalia*, at which perſons were to attend bare-footed.

The Abyſſinians never enter their churches but bare-footed; not on account of Moſes, who was commanded to put off his ſhoes on mount Sinai, but in reverence of the place; as is alſo done by them in entering the palaces of kings and great men.

Sagittarius has a diſſertation on thoſe who went bare-footed among the ancients, "De Nudipedalibus Veterum;" wherein he treats of ſuch as went bare-footed in journies or otherwiſe, either out of choice or neceſſity; alſo of bare-footed religious mourners and penitents, who went bare-footed; and, laſtly, of the *leviri*.

BARE, in reſpect of *Manufacture*. A cloth is ſaid to be bare or naked when the nap is too ſhort, as having been ſhorn too near, or not being ſufficiently covered with wool by the teazel.

BARE is alſo uſed for a ſort of bowling ground, not covered with green ſwarth.

BARE-*Foot* CARMELITES, and *Auguſtines*, are religious of the order of St. Carmel, and St. Auguſtin, who go without ſhoes like the Capuchins.

There are alſo bare-foot fathers of mercy. Formerly there were bare-foot Dominicans, and bare-foot nuns of the order of St. Auguſtin.

BARE-*Footed Trinitarians*. See TRINITARIAN.

BARE-*Poles, under*, in *Sea Language*, expreſſes the ſtate of a ſhip, when ſhe has no ſail ſet.

BARE-*Pump*. See PUMP.

BARE, in *Geography*, an iſland in the Southern Pacific ocean, near the eaſt coaſt of New Ireland. It is high land, not fertile, but inhabited; ſituate in S. lat. 39° 57′. and S. S. W. from cape Kidnappers.

BARE *Haven*, lies on the coaſt of Nova Scotia, in North America, about 3 leagues S. W. from cape Canſo. It is ſheltered by an iſland off the point called White point.

BAREA, in *Ancient Geography*, a town of Spain, upon the Iberian ſea, in the country of the Baſtuli. Ptolemy.

BAREE, in *Geography*, a province of Hindoſtan, in the country of Lahore, between the rivers Rauvee, Beyah, and Setledge.

BAREGE WATERS, in the *Materia Medica*, are celebrated thermal waters, ſituated in and near the village of Barege, on the French ſide of the Pyrenées, at the foot of theſe lofty mountains. There are four principal hot ſprings in this place, which differ, however, very conſiderably in temperature, the higheſt being about 120° Fahr. and the loweſt about 73°. This variety of heat gives every convenience for bathing, drinking, and topical application. Chemical analyſis ſhews in this water a quantity of ſulphur, in the form of ſulphurated hydrogen, united to a ſmall portion of ſoda, a little common ſalt, and a kind of ſlimy bituminous matter. The ſulphur and the ſoda, together with the heat, may be conſidered as the active ingredients, but the quantity of them is very ſmall; as the water ſcarcely exceeds diſtilled water in ſpecific gravity.

The waters of Barege are remarkable for a ſmooth ſoapy feel, and they give ſuppleneſs and ſmoothneſs even to dead ſkin that is immerſed in them. They are uſed chiefly as a diſcutient and detergent bath, in reſolving indolent tumours and rigidity of the joints left by gouty or rheumatic affections. They are alſo of great advantage in cutaneous diſeaſes. Internally taken, the water gives relief in diſorders of the ſtomach, heartburn, indigeſtion, cholic, and alſo in ſeveral calculous affections of the urinary organs. Saunders on Mineral Waters.

BAREITH, BAREUTH, or BAYREUTH, in *Geography*, a town of Germany, in Franconia, in the margravate of Culmbach. It is the capital of the principality, and often called the principality of Bareuth. Its palace, which was burnt down in the year 1753, was again rebuilt in a beautiful ſtyle. It has one Calviniſt, and two Lutheran churches, a Roman catholic chapel, a public ſchool, a foundling hoſpital, and an academy, founded in 1722 by the margrave Frederic, beſides the college. In 1430, this town was burnt down by the Huſſites. It belonged to a prince of the houſe of Brandenburg, the laſt of whom dying in 1782, it deſcended to the king of Pruſſia. Near the Fichtelburg, Bareuth produces a variety of beautiful marbles, and ſome curious minerals. The principality of Bareuth is alſo known by the name of Culmbach; and, with Onolſbach, forms the chief power in Franconia, now annexed to the ſovereignty of Pruſſia. N. lat. 50° 0′. E. long. 11° 50′.

BARELLY, a town of Hindoſtan, in the province of Oude; 41 miles S. S. E. of Lucknow.

BAREN, a river of Germany, which runs into the Roer, near Schwiert, in the county of Marck, and circle of Weſtphalia.

BAREN, a town of Switzerland, in the Valais, 25 miles eaſt of Sion.

BARENA, in *Ancient Geography*, a town of Aſia, in Media, near Ecbatana. Steph. Byz.

BARENFELS, in *Geography*, a town of Germany, in the circle of Upper Saxony, and county of Erzgeburg, 2 miles weſt of Altenberg.

BARENSTEIN, or BERNSTEIN, a town of Germany, in the circle of Upper Saxony, and margravate of Meiſſen, 17 miles ſouth of Dreſden.

BARENT, DIETERICK, in *Biography*, a painter of hiſtory and portrait, was born at Amſterdam in 1534; and having received early inſtruction from his father, travelled to Venice, where he was admitted into the ſchool of Titian, and became the favourite diſciple of that inimitable maſter. With

With Titian he continued ſeveral years, and painted a portrait of him, which gained him great reputation; and he was ſingularly ſucceſsful in imitating the touch, the manner, and the ſtyle of colouring, peculiar to that excellent genius. Upon his return to his own country, he was very much employed in works that added to his honour; but the compoſition, which contributed more than any other to eſtabliſh his fame, was the picture which repreſented the fall of Lucifer, containing a number of figures, naked, well contraſted, and excellently coloured. He died in 1582. Pilkington.

BARENTIN, in *Geography*, a town of France in the department of the Lower Seine, 3 leagues N.W. of Rouen.

BARENTON, a town of France, in the department of the Channel, and chief place of a canton in the diſtrict of Mortain, ſeated at the ſource of the Ardee, containing about 2000 inhabitants, and diſtant 7 leagues E.S.E. from Avranches, and 14 S.E. of Mortain.

BARESUND, a ſea-port town of Sweden, in the province of Eaſt Gothland, between Nordkioping and Soderkioping.

BARETTI, Joseph, in *Biography*, was the ſon of an architect of reputation, and born at Turin about the year 1716. He received a good education, but ſquandered his patrimony in gaming. Being of a rambling and deſultory diſpoſition, he was frequently reduced, notwithſtanding his talents and literary character, to circumſtances of diſtreſs. In 1748, he was employed at Venice in teaching the Italian language to ſome Engliſh gentlemen: and in 1750, at the inſtigation of lord Charlemont, he viſited England, which was the place of his future reſidence. Poſſeſſing a wonderful facility in acquiring the knowledge of languages, as well as a critical acquaintance with his own, his talents were well adapted to the profeſſion of a teacher of languages, in which he engaged. In 1753 he wrote a treatiſe in Engliſh, which was "A Defence of the Poetry of his native country againſt the cenſures of Voltaire." About this time an acquaintance commenced between Baretti and Dr. Johnſon, which was kind and cordial on the part of the latter, and reſpectful in the higheſt degree on the part of the former. As he had acquired reputation by ſome works which he had publiſhed on the Italian language and literature, he availed himſelf of his friend's Engliſh dictionary to compile a dictionary of the Italian and Engliſh languages, which firſt appeared in 1760, and which maintains its ſuperiority over all other works of the ſame kind. In this year he viſited his native country, with ſome proſpects of preferment, in which he was diſappointed; but on his arrival, he publiſhed at Venice a periodical work, intitled "Fruſta Literaria," under the character of an old complaining ſoldier who was returned to his country after long abſence. His criticiſms, however, in this work, which met with great ſucceſs, were ſo ſevere, that he was obliged to leave the country; and after an abſence of ſix years, he returned through Spain and Portugal to England. In 1768 he publiſhed "An Account of the Manners and Cuſtoms of Italy," intended chiefly as a reply to the ſevere ſtrictures of Mr. S. Sharp, the ſurgeon, in his "Letters from Italy." By Dr. Johnſon he was introduced into the family of Thrale, both as a teacher and a literary gueſt. In 1769, he viſited Spain, probably intending to complete his account of a tour in that country. Soon after his return, an accident occurred, which was followed by very diſtreſſing conſequences. Having engaged in an angry altercation with a woman of the town in the Hay-market, he was accoſted by three men, who inſulted and joſtled him. Alarmed for his life, Baretti took out of his pocket a French deſert knife, and attacked one of the aſſailants; and unfortunately purſuing the conteſt and repeating the blows, he inflicted wounds which proved fatal. He was arreſted and tried for murder at the Old Bailey. In this trial the public were much intereſted; and a number of men of the firſt literary eminence appeared to bear teſtimony to Baretti's character; among whom were Johnſon, Burke, Garrick, Goldſmith, Reynolds, and Beauclerk. The event was the acquittal of Baretti; but the charge very materially affected his reputation. In 1770 he publiſhed his "Journey from London to Genoa, through England, Portugal, Spain, and France," 4 vols 8vo. which was deſervedly well received; and he continued publiſhing introductory works for the uſe of ſtudents in the Italian and ſome other modern languages. Although he had been domeſticated in the family of Mr. Thrale, he left it in 1776, in diſguſt, and by this ſudden ſtart of whim or ill-humour, involved the latter part of his life in many inconveniences and difficulties. His attempt, in 1779, for introducing to the public a claſſical entertainment, which was the "Carmen Seculare" of Horace ſet to muſic, failed of ſucceſs. Reduced to a ſtate of precarious ſubſiſtence, he obtained under lord North's adminiſtration a penſion from government of 50l. a year, but during the urgency of public wants this fell into arrear, and Baretti could ſcarcely preſerve himſelf from abſolute indigence. His laſt performance was publiſhed in 1786, and was intitled "Tolendron: Speeches to John Burke about his edition of Don Quixote; together with ſome account of Spaniſh literature." Oppreſſed by anxiety and uneaſineſs of mind, and with a conſtitution impaired by fits of the gout, he died on May 5th, 1789. Baretti, although he had a rough and ſomewhat cynical appearance, was formed for ſociety, and his converſation was inſtructive, particularly to young perſons, with whom he had much intercourſe. Having lived much in the world, and having had no opportunity in early life of acquiring fixed principles, he indulged a conſiderable laxneſs and freedom of opinion. However his integrity was unimpeached, his morals were pure, and his manners were correct. His charity had no bounds, and by the imprudence with which he exerciſed it, he was himſelf involved in difficulties. His literary talents, though not of the higheſt order, were uſeful and agreeable. "I know no man," ſaid Dr. Johnſon to Boſwell, "who carries his head higher in converſation than Baretti; there are ſtrong powers in his mind; he has not, indeed, many hooks, but with what hooks he has he grapples very forcibly." Boſwell's Life of Johnſon. Europ. Mag. for 1789. Gen. Biog.

BAREUX, in *Geography*, a town of France, in the department of the Lower Pyrenées, and chief place of a canton in the diſtrict of Mauleon, 5 miles ſouth-eaſt of Mauleon.

BAR-FEE, in *Law*, a fee of 20 pence, which every perſon acquitted of felony pays the gaoler.

BARFLEUR, in *Geography*, a ſea-port town of France, in the department of the Channel. It had formerly a good harbour and a conſiderable trade; but in conſequence of neglect, the harbour is choaked with ſand, and the trade decayed. Cape Barfleur is 6 leagues eaſt from Cherburg, in N. lat. 49° 40'. W. long. 1° 17'.

BARGA, a town of Italy, in the duchy of Tuſcany, on the river Serchio, 2 leagues from Lucca.

BARGAIN, in *a General Senſe*, a contract either for the ſale, purchaſe, or exchange of a thing. The word is formed from the French *barguigner*, *to barter* or *haggle*. He that ſells is the *bargainor*, and he that buys the *bargainee*.

Bargain *and Sale*, in *Law*, is properly a contract made of

of manors, lands, and other things, transferring the property thereof from the *bargainor* to the *bargainee*, for a conſideration in money: or, it is an inſtrument by which the property of lands and tenements is for valuable conſideration granted and transferred from one perſon to another. It is called a real contract upon a valuable conſideration, for paſſing of lands, tenements, and hereditaments, by deed indented and enrolled. 2 Inſt. 672.

It is a good contract for land, and the fee paſſes, though it be not ſaid in the deed, to have and to hold to him and his heirs, and though there be no livery and ſeiſin given by the *vendor*, ſo it be by deed indented, ſealed, and enrolled, either in the county where the land lies, or in one of the king's courts of record at Weſtminſter, within ſix months after the date of the deed.

This manner of conveying lands was created and eſtabliſhed by the 27 Hen. VIII. c. 10. which executes all uſes raiſed; and as this introduced a more ſecret way of conveying than was known to the policy of the common law, therefore the enrolment of the deed of *bargain and ſale* was made neceſſary by the 16th chapter of that ſtatute. The objects of this proviſion evidently were, firſt, to enforce the contracting parties to aſcertain the terms of the conveyance by reducing it into writing; ſecondly, to make the proof of it eaſy, by requiring their ſeals to it, and conſequently the preſence of a witneſs; and laſtly, to prevent the frauds of ſecret conveyances, by ſubſtituting the more effectual notoriety of enrolment, for the more ancient one of livery. But the latter part of this proviſion, which, if it had not been evaded, would have introduced almoſt an univerſal regiſter of conveyances of the freehold, in caſe of corporeal hereditaments, was ſoon defeated by the invention of the conveyance by leaſe and releaſe, which ſprung from the omiſſion to extend the ſtatute to bargains and ſales for terms of years: (See 8 Co. 93. 2 Ro. Abr. 204. 2 Inſt. 671.) and the other parts of the ſtatute were neceſſarily ineffectual in our courts of equity, becauſe theſe were ſtill left at liberty to compel the execution of truſts of the freehold, though created without deed or writing. The inconveniences ariſing from this inſufficiency of the ſtatute of enrolments are now in ſome meaſure prevented by ſtat. 29 Car. II. c. 3. which provides againſt conveying any lands or hereditaments for more than three years, or declaring truſts of them, otherwiſe than by writing. 1 Inſt. 48 *a*. n. 3. See Blackſt. Com. vol. ii. p. 338. Jacob's Law Dict. by Tomlyns, Art. *Bargain and Sale.*

BARGAINS, in *Commerce*, are of divers kinds: *verbal*, thoſe made only by word of mouth, and giving earneſt; *written*, thoſe where the terms are entered in form on paper, &c.

At Amſterdam they diſtinguiſh three kinds of *bargains*.

BARGAINS, *Conditional*, for goods which the ſeller has not yet in his poſſeſſion; but which he knows have been bought for him by his correſpondents abroad, and which he obliges himſelf to deliver to the buyer, on their arrival, at the price and the conditions agreed on.

BARGAINS, *Firm*, thoſe wherein the ſeller obliges himſelf to deliver to the buyer a certain quantity of goods, at the price and in the time agreed on.

BARGAINS, *Optional*, thoſe wherein a dealer obliges himſelf, in conſideration of a *premium* received in hand, either to deliver or take a certain quantity of goods at a fixed price, and within a time limited; but with a liberty, nevertheleſs, of not delivering or not receiving them, if they think proper, upon forfeiture of their *premium*.

BARGAINS, *For hand*, are thoſe, wherein goods are bought or ſold, in order to be delivered at a certain time afterwards, ſome part of the price being advanced.

BARGASA, in *Ancient Geography*, a town of Aſia, in Caria, ſeated at the bottom of the gulf called Ceramicus.

BARGAZAR POINT, in *Geography*, a cape on the coaſt of Iceland. N. lat. 66° 18'. W. long. 16° 38'.

BARGE, in *Navigation*, a kind of ſtate, or pleaſure-boat, or large luggage-boat, uſed chiefly in the navigation of rivers which lead to great cities.

Barges are of various kinds, and acquire various names, according to the variety of their uſes and ſtructure: as,

A company's barge,	*A Severn trow*,
A row barge,	*A Wore barge*,
A royal barge,	*A light horſeman*,
A ſand barge,	*A high-decked barge.*

A barge differs from a bark, as being ſmaller, and uſed only on rivers; whereas the latter goes out to ſea.

There are alſo barges, belonging to men of war, ſerving to carry generals, admirals, and chief commanders.

Sailing barges are veſſels with one maſt, and ſometimes a bowſprit. Thoſe that have boom-ſails, are rigged like ſloops; but, having few hands on board, the boom and gaff are more eaſily hoiſted or topped, the power being increaſed by the addition of blocks. Sailing lighters or barges, with a ſprit-mainſail, rig with a ſprit-yard at the head of the ſail, hanging diagonally to the maſt. Some large barges have vangs like a ſhip's mizen, and a down-hauler at the peek-end of the ſprit-yard. Large barges have a fore-ſail, jib, croſs-jack-yard, and top-ſail, ſimilar to ſloops.

BARGE, or *Barges*, in *Geography*, a town of Piedmont, in the diſtrict of the 4 Vallies, 7½ miles ſouth of Pinerola.

BARGE-*Brune*, in *Ornithology*, Buffon's name of the duſky ſnipe; *ſcolopax fuſca*, Gmelin.

BARGE *Blanche*, is likewiſe a name aſſigned by Buffon to the white avoſet, *recurviroſtra alba*, Gmelin.

BARGE' *le Chatel*, in *Geography*, a town of France, in the department of the Ain, and chief place of a canton, in the diſtrict of Pont-de-Vaux, 4½ leagues W.N.W. of Bourg-en-Breſſe. N. lat. 46° 19'. E. long. 4° 49'.

BARGE-*Couples*, in *Architecture*, a beam mortiſed into another, to ſtrengthen the building.

BARGE-*Courſe* is uſed by workmen, to ſignify a part of the tiling, which projects over the gable of a building, and is made up with mortar.

BARGEMON, in *Geography*, a town of France, in the department of the Var, and chief place of a canton in the diſtrict of Draguignan, 2 leagues N.N.E. of Draguignan.

BARGH, is uſed in ſome places of England for a ſteep horſe-way up a hill.

It ſeems to come from the German *bargh*, *a hill*.

BARGH-*Maſter*, BARMER, or BAR-*Maſter*, in the *Royal Mines*, the ſteward or judge of the barghmote.

The word is formed of the German *berg-meiſter*, q. d. *maſter of the mines*.

The bar-maſter is to keep two great courts of barmote yearly, and every week a ſmall one, as occaſion requires.

BARGHMOTE, or BARMOTE, a court which takes cognizance of cauſes and diſputes between miners.

Some ſuppoſe it thus called from a *bar*, at which the ſuitors appear; others, with more probability, derive the word from the German *berg*, a mine.

By the cuſtom of the mines, no perſon is to ſue at the bar for ore-debt, or for ore, or for any ground in variance, but only in the court of barmote, on penalty of forfeiting the debt, and paying the charge at law.

BARGIACIS, in *Ancient Geography*, a town of Hiſpania Tarraconenſis, ſituated in the inner part of the country, and in the territory of the Vaccæans. Ptolemy.

BARGIE, in *Geography*, the name of a barony in the ſouthern part of the county of Wexford, province of Leinſter, Ireland, which, with the adjoining one of Forth, was peopled by the followers of earl Strongbow. The language uſed there is ſaid to be a broken Saxon, more like Flemiſh than Engliſh, and not one in a hundred knows any thing of Iriſh. "They are evidently," ſays Mr. Young, "a diſtinct people, and I could not but remark that their features and caſt of countenance varied very much from the common native Iriſh. The girls and women are handſome, having much better features and complexions. Their induſtry is ſuperior to that of their neighbours; and their better living and habitations are alſo diſtinctions not to be forgotten. The poor have all barley bread and pork, herrings and potatoes. On the coaſt there is a conſiderable fiſhery of herrings." Both men and women wear ſtraw hats, which give them a comic appearance. The inhabitants are reckoned more induſtrious and cleanly, and better farmers than in any other part of Ireland; but Mr. Young found their ſyſtem very defective. The farms were in general from 20 to 80 acres at an average rent of a guinea per acre. The ſoil is light, and being extremely well tilled, produces large quantities of barley. Young's Tour, and Latocnay's Rambles through Ireland.

BARGOSA, in *Ancient Geography*, a town of India, which was the country of the philoſopher Zarmanochegas, who committed himſelf to the flames in the preſence of Auguſtus, according to Strabo.

BARGOTA, in *Geography*, a town of Spain, in Navarre, 6 leagues from Eſtella.

BARGULIA, or BARGULUS, in *Ancient Geography*, a place of Illyria, in the neighbourhood of the people denominated Parthini, which Philip ceded to the Romans by a treaty, 204 years before the vulgar æra.

BARGUS, a river of Illyria, both ſides of which were inhabited by the Scordiſci; it diſcharged itſelf into the Iſter, according to Strabo. Pliny ſays, that a river of this name flowed into the Hebrus.

BARGUSII, an ancient people of Spain, to whom envoys were ſent from Rome to ſolicit the Spaniards to take part with the Romans rather than with the Carthaginians. They inhabited the interior of Spain, on the other ſide of the Ebrus; and were ſubdued by Hannibal. Livy, l. xxi. c. 19, 23.

BARGUSIN, in *Geography*, a town of Siberia, in the province of Nertſhinſk, in the government of Irkutſk, formerly an oſtrog, now a circle-town, on the right bank of the river Barguſin, 20 verſts above where it falls into the Barguſinian bay of the Baikal, 53° lat. 127° long. 524 verſts north-eaſt from Irkutſk. It is chiefly remarkable on account of the baths in its diſtrict. They were diſcovered in a waſte region at the diſtance of eighty verſts from any habitation. M. Grand, ſurgeon to a regiment quartered in thoſe parts, having ſucceſsfully preſcribed the uſe of theſe baths to ſeveral patients, M. Von Klitſha, the governor of Irkutſk, in 1779, cauſed ſome buildings to be erected there. They have proved of great benefit to perſons afflicted with rheumatiſm, ſcurvy, phthiſis, and other complaints of a like nature. The water is drank either pure, or, on account of its naſeous taſte reſembling that of rotten eggs, mixed with milk. It promotes perſpiration, does not quench thirſt, and may be drank in large portions. When boiled, it is of a very agreeable taſte, and is particularly good with tea.

BARGYLA, BARGYLIA, or BARGILEA, in *Ancient Geography*, a town of Aſia Minor, in Caria, near Jaſus and Mindus. It is mentioned by Pliny, Strabo, and Ptolemy. It was ſituated near the Meander, ſouth of Miletus. M. d'Anville places it north-eaſt of Halicarnaſſus, on the gulf called Iaſſius.

BARGYLUS, a mountain of Phœnicia, on the confines of Syria, on the way towards Antiochene. It was ſituated north of mount Libanus.

BARH-NAGASH, in *Geography*. See BAHARNAGASH.

BARI, a ſea-port town of Italy, in the kingdom of Naples, on the coaſt of the Adriatic; once the capital of a province of the ſame name, and ſee of an archbiſhop. It is well-built, populous, and has a good trade. The harbour was almoſt deſtroyed by the Venetians. 120 miles E.N.E. of Naples. N. lat. 41° 31′. E. long. 17° 40′. It contains, ſays Swinburne, about 6000 perſons.

BARI, or *Terra di Bari*, a province of Naples, deriving its name from its capital. It is bounded on the north and north-eaſt by the ſea, on the eaſt and ſouth-eaſt by the province of Otranto, on the ſouth by the Baſilicata, and on the weſt and north-weſt by the Capitanata. It is about 62 miles long, and its mean breadth is rather more than 20 miles. It produces corn, wine, oil, cotton, ſaffron, and fruits; and the coaſt is guarded againſt the corſairs by ſixteen towers. Its ſea-ports are Barletta, Trani, Bari, and Molfetta; its mountains are Sannazzo, Femina Morta, Lupulo, Franco, and St. Agoſtino; and its rivers are Ofanto and Cane. The extent, according to Swinburne, is 869,097 moggie, 5 moggie being equal to 4 Engliſh acres: and he ſtates the number of its inhabitants to be 281,048. The city of Bari is the ancient Barium; and coins ſtruck by its principal magiſtrates ſtill exiſt. The Lombards, Greeks, and Saracens diſputed the poſſeſſion of this city in the ninth century. In the tenth, it roſe to diſtinction on becoming the reſidence of the Greek catapan or viceroy, and of a metropolitan biſhop. The book of conſtitutions, compiled for the juridical government of the province, and ſtill in uſe, is a reſpectable voucher for the importance and policy of Bari during the middle ages. About the year 1000, Bari became the ſcene of conſpiracies and revolutions. Melo confederated againſt the Grecian emperor in this place; but it retained its ſubjection to the eaſtern emperor, and was one of the laſt and firmeſt ſupports of his dominion. In 1067, Robert Guiſcard inveſted it by ſea and land, and encloſed it by a ſemicircle of ſhips joined together by chains and booms, in order to prevent its obtaining ſuccours. This blockade laſted four years. Earl Roger afterwards joined his brother with a ſtrong fleet, defeated the Imperial ſquadron ſent for the relief of the city, and made its admiral priſoner; upon which Bari opened its gates to the conquerors. A citadel was erected by king Roger for ſecuring the allegiance of this town, but it was hardly finiſhed when Lotharius razed it to the ground. At this time, Bari was a populous and ſtrong place. It was afterwards treated with great ſeverity by William the Bad, who levelled the dwellings of the inhabitants who joined in the grand rebellion againſt him to the ground. The city, however, muſt have riſen ſpeedily out of its ruins, as the emperor Frederick eſtabliſhed an annual fair here in 1233; but in 1248, he ordered the town to be deſtroyed, by way of puniſhing the inhabitants for treaſonable practices. Bari frequently changed its proprietors, till it was ſettled by Alphonſus the ſecond upon the family of Sforza, in conſideration of the marriage of his daughter Iſabella with the duke of Milan. According to treaty, theſe eſtates became the property of Bona, queen of Poland, at whoſe death this duchy returned

to the crown, to which it has ever ſince remained annexed. Swinb. Travels, vol. ii. p. 1. &c.

BARIANA, in *Ancient Geography*, a town of Aſia, in Mefopotamia. Ptolemy.

BARIARED, in *Geography*, a town of Perſia, in the province of Kerman, 19 leagues S. W. of Sirgian.

BARIEL, or BARNACLE POINT, is the ſouth-eaſtern limit of Winthorp's bay on the north-eaſt coaſt of Antigua iſland, and on the weſt ſide of the channel into Parham harbour.

BARILLA, or BARILHA, is the term by which the impure mineral alkali from the coaſts of Spain and ſome other parts of the Levant is known in commerce. That from Alicant and the coaſts of the province of Murcia is the moſt eſteemed. It is brought over in the form of hard brown ſpeckled porous maſſes almoſt without ſmell, and taſting ſtrongly alkaline. It is procured by burning to aſhes ſeveral plants growing on the ſea-ſhore of the ſpecies of *Salſola* and *Kali*. For the particulars of this manufacture, ſee the article SODA. The term *Bringe barilla* is alſo applied ſometimes to KELP, a much more impure ſoda, and ſometimes, though improperly, to *pearlaſh*, or the aſhes of plants containing *potaſh*, the vegetable alkali.

BARILLARIUS, an ancient officer in monaſteries and great houſholds, who had the care of the caſks and veſſels of wine, &c. in the cellars.

BARILLOVITZ, in *Geography*, a town of Croatia, on the river Korana, 10 miles ſouth of Carlſtadt.

BARIN, a town of Aſiatic Turkey, in the province of Natolia, 12 miles ſouth of Amaſiah.

BARING OF TREES, in *Agriculture*. See ABLAQUEATION.

BARJOLS, in *Geography*, a town of France, and principal place of a diſtrict in the department of the Var. The town is populous, and ſituated in a pleaſant country; 9 leagues north of Toulon. N. lat. 43° 35′. E. long. 5° 23′.

BARIQUISEMETO, a river of North America, in the country of Terra Firma, which runs into the Orooноko.

BARISSOGLEBSK, or BORISSOGLEBSK, a town newly erected by Catharine II. in the province of Yaroſlaf, is ſituate on the Volga, 57° 39′ lat. 57° 9′ longit. has 4 brick, and 417 wooden houſes, 2076 inhabitants, and a brick church. The trade of this town conſiſts in the produce of the fiſhery and ſeveral manufactories of hardware, chiefly pots and kettles. The home and foreign trade together amount nearly to 60,000 rubles. There is alſo a ſmall town of the ſame name, ſituate 59° 50′ lat. and 60° longit. on the Khoper, in the government of Tambof, conſiſting of 400 timber-houſes, and 894 male inhabitants, ſeveral of whom are ſhop-keepers. It has two timber churches. The merchants a few years ſince inſcribed themſelves in the regiſters as poſſeſſing a capital of only 13,126 rubles. Here is a conſiderable diſtillery.

BARITONO, in *Muſic*, a voice of low pitch, between a tenor and baſe. The term is formed of two Greek words βαρυς, *grave*, and τονος, *tone*. But thoſe who are not partial to baſe voices, rather chooſe to derive the word from the Italian verb *barire*, to bray.

BARK, in *Vegetable Anatomy*, is a term by which is commonly underſtood the exterior part of vegetable bodies; which is ſeparable from the other parts of the plant without much difficulty, during the ſeaſon of vegetation; but at other periods requires maceration in water, or boiling, and when detached by any of theſe means, the finer connexions which unite it to the wood are neceſſarily deſtroyed.

When bark is thus ſeparated, and ſubjected to microſcopic examination, it exhibits parts differing much in ſtructure and uſe. Theſe have been divided by anatomiſts into the *epidermis* or *cuticle*, the *cellular envelope* or *parenchyma*, and the *cortical layers and liber*.

The *Epidermis* is ſituated moſt externally, and gives a covering to every part of the vegetable body, except the anthers and piſtils of flowers. Its texture is varied not only according to the ſpecies of plant to which it belongs, but by the different parts of the ſame plant; thus, it is ſtrong, dry, and unyielding, upon the roots and trunks of trees; commonly ſmooth, glaſſy, and [illegible]; and ſometimes it is villous, or covered with fine projecting proceſſes like hairs.

The moſt uſual colour exhibited by the epidermis is that of green upon the younger branches, and an aſh colour upon thoſe parts of the plants which are moſt aged; it is however white and ſhining in the birch, red and ſilvery in the cherry-tree, and brown upon the horſe-cheſnut and apple-tree &c. The epidermis is notwithſtanding, in all caſes, a tranſparent membrane, and derives its colour from the ſubſtance which is placed immediately behind it, in the ſame manner as the colour of the ſkin of animals is produced by the exiſtence of the mucous membrane.

In order to examine the epidermis of vegetables with ſucceſs, it is neceſſary to detach it from the cellular tiſſue, upon which it is immediately applied. This is not difficult to perform, when the plant is full of ſap, at which time the epidermis may be removed by a fine knife or lancet; but at other periods it muſt be ſubmitted to a previous maceration in water before it will ſeparate. When a portion of the vegetable cuticle is thus obtained, it ſhould be inſpected under water or ſpirits, and if viewed with a lens of moderate power, it exhibits the appearance of a plexus or net-work, of which the meſhes are not vacant, but filled by a fine pellucid membrane, as may be ſeen in *Fig.* 1. of *Plate* I. in *Vegetable Anatomy*; and the fibres compoſing the reticulation appear more condenſed in ſome places than others, as repreſented by the letters *a a*. Hill deſcribes the cuticle of plants as a triple membrane, or three plexuſes laid the one upon the other. He obſerved, by employing high magnifying powers, that theſe plexuſes were of regular forms; that what appeared as fibres in the perpendicular direction were longitudinal veſſels, and the ſpaces left between theſe veſſels were oblong cells, cloſe at their bottom, but open at the top; and that the junction of the cells occaſioned the appearance of tranſverſe lines; and thus the reticulation was rendered complete. He even profeſſed to have injected thoſe veſſels, by procuring an abſorption of a ſolution of the ceruſſa acetata, or ſugar of lead, and afterwards making it viſible by adding a mixture of lime and orpiment; and in other inſtances he filled the longitudinal veſſels by the abſorption of the tincture of cochineal. The deſcription, which has been given of the epidermis by Hill, does not appear, however, to deſerve much attention, as it differs ſo much from that of other writers. It is indeed true, that Du Hamel and others have obſerved a ſecond epidermis under the firſt, which appeared more green, freſh, and ſucculent; and that on thoſe trees which frequently caſt the cuticle, as the birch, cherry-tree, &c. there is a ſucceſſion of layers; but this does not prove that the epidermis is not a ſingle membrane when firſt formed, and that where there are more layers than one, each is a perfect cuticle, proceeding in its turn to be exfoliated or caſt off. This mode of reparation reſembles what takes place in animals, eſpecially in ſome reptiles, which have the new cuticle perfectly formed, before the old one is parted with. Upon the trunks of moſt trees which are dicotyledons, the ſucceſſive layers of epidermis continue to adhere together; each of theſe cracks and gives way as the tree increaſes in thickneſs, and hence the deep clefts which always appear in the bark of trees of any age. The ſeveral lamina, which

are in this manner left ſurrounded by the cracks, are larger or have more extent, the nearer they approach to the wood, in conſequence of the moſt external epidermis having firſt yielded to the growth of the tree.

No ſubject has occaſioned greater controverſy amongſt vegetable anatomiſts, than the mode in which the cuticle of plants is formed. It was the opinion of Malpighi and Grew, that the epidermis was produced by the laſt veſicles of the cellular envelope, in conſequence of their expoſure to the air; but if the cuticle was formed by the deſiccation of the cellular tiſſue, it would not admit of that extenſion which takes place in all circumſtances to a certain degree, and which is ſo remarkable in the cuticle covering leaves, flowers, and fruits, and all parts of which the growth is rapid.

Several other circumſtances might be mentioned to ſhew that the epidermis can be produced by the drying of the cellular ſubſtance; thus when it is wounded or deſtroyed, and the part perfectly ſecluded from the action of the air, a new epidermis is ſoon produced without any exfoliation. The cuticle is in ſome inſtances formed, and in others continues to grow, under circumſtances entirely beyond the agency of heat and evaporation, as may be obſerved in the fœtal plant, and its appendages, and the internal ſurfaces of buds, &c.; but although the epidermis does not appear to be the cellular tiſſue ſimply dried by expoſure, it is ſufficiently plain that it is the continuation of the ſame membrane which forms the cellular envelope.

According to the lateſt obſervations made on this ſubject by Mirbel, who is one of the moſt ingenious vegetable anatomiſts of the preſent time, the lines which give the reticulated appearance to the epidermis, correſpond in figure with the cells of the parenchyma, and are really the termination of the ſepta of theſe cells in the cuticle. (See *fig.* 2. *Plate* I. *Vegetable Anatomy*.) The tubular tiſſue, which in ſome caſes is perceived upon the ſuperficies of plants, enters alſo into the compoſition of the epidermis, as repreſented in *fig.* 3. *Plate* I. *Vegetable Anatomy*. Theſe ſmall tubes are however, upon cloſe inſpection, found to be compoſed of cells very much elongated, from whence it would appear, that the cellular ſubſtance is alone fitted for producing the epidermis of vegetables. The manner in which the cellular tiſſue is converted into cuticle, is probably beyond the reach of inveſtigation; but that it is not the mere reſult of expoſure to the air, is ſufficiently plain from the facts already noticed. Like many other of the changes and operations of organic matter, we are unable to diſcover its immediate efficient cauſe, and in ſuch caſes, we muſt be content with obſerving the phenomenon, and ſtating it as the effect of a law of the ſyſtem.

The growth of the cuticle is ſubject to conſiderable variety, according to the plant to which it may appertain, or the different parts of the ſame vegetable: thus, on leaves, flowers, fruits, &c. we do not meet with the ſucceſſive layers of dead epidermis that exiſt upon trunks and branches. Some vegetables again have greater accumulations of dead cuticle than others; ſome get rid of theſe by repeated exfoliations; the plantane caſts its cuticle every year; the epidermis of herbaceous plants and thoſe which are not perennial, is always moſt delicate in its ſtructure.

The epidermis preſents no peculiarities in the monocotyledons, or thoſe plants with one ſeminal leaf.

The uſes of the external or cuticular portion of the bark have been much conteſted, although many of theſe are exceedingly obvious: it is evident that it ſerves as a defence to the whole ſurface of the vegetable; and accordingly we find its compoſition and ſtrength dependent upon the functions which each part of the plant performs, and the injuries to which it is liable; on the roots it is tough and flexible; on the trunk rough, thick, and unyielding; on the leaves, flowers, and ſuch parts as are only to poſſeſs temporary exiſtence, and which at the ſame time exerciſe important functions, the cuticle is thin, delicate, and ſoft. The epidermis ſerves to guard the plant againſt the effects of meteors; it likewiſe aſſiſts to moderate the operation of heat and cold, and thereby contributes to the maintenance of the equality and independence of vegetable temperature; it regulates the action of light upon the cellular tiſſue, and thus co-operates in the fixation of that ſubtle matter; but the moſt important, perhaps, of all its uſes is the giving paſſage both to the fluids abſorbed for the nutrition of the plant, and thoſe expelled by tranſpiration, &c. Beſides theſe known offices of the cuticle, others are aſcribed to it. Many authors imagined that it reſtrained the growth of the whole tree; this however is diſproved by the ſimple experiment of removing a portion of the cuticle, when it has been found that no bur or ſwelling took place; thoſe trees alſo which are moſt diſtinguiſhed for the cracks of the cuticle, are not obſerved to grow faſter than others. For a further account of the functions of the cuticle of vegetables, ſee Epidermis, Leaves, Etiolation, Transpiration, Inhalation, and Pores.

The cellular envelope. This was the name given by Du Hamel to the cellular ſubſtance immediately under the cuticle, in conſequence of its extending over every part of the plant; by Grew it was called parenchyma; and Mirbel, whoſe abilities have been already mentioned, has with propriety made a diſtinction between the cellular tiſſue immediately next the cuticle, and that which is continued into the cortical layers; the firſt he terms the *herbaceous tiſſue*, the other the *parenchyma*.

The *herbaceous tiſſue* is a compoſition of cells of an hexagonal figure, ſo applied to each other that each of the ſides aſſiſts in forming the parietes of the adjoining cell, preciſely like the conſtruction of a honey-comb. The membranes compoſing theſe cells are extremely fine and tranſparent. See *fig.* 4. *Plate* I. of *Vegetable Anatomy*, in which the cellular ſtructure is highly magnified, and alſo ſome foramina or pores, which eſtabliſh a communication between the ſeveral apartments. Theſe pores are not above the 300dth part of a line in diameter. In ſome inſtances, the cells are elongated, eſpecially in the parenchyma of the monocotyledons, which is exhibited in *fig.* 5. of *Plate* I.; and it is remarkable, that in proportion as the veſicles become elongated the pores of communication are more frequent and regular. In ſome caſes, where the cells are very much elongated, they are arranged in rows ſucceeding each other by intervals, which are perfectly regular. (See Glands, and Pores.) The cellular tiſſue has been deſcribed, by ſome writers, as compoſed of a number of fibres, interwoven like the texture of felt. Hill ſays it only differs from the epidermis in having its parts more diſtinct; and Malpighi believed the cellular ſubſtance to be made up of diſtinct veſicles, collected together, which he called utricles, but, as we have already ſaid, this is not the caſe; the whole being one continuous membrane, every part of which enters into the conſtruction of two cells. Grew compared the cellular ſubſtance to the bubbles obſerved upon the ſurface of fermenting liquors, which is a very happy ſimilitude, inaſmuch as it conveys a very perfect idea of its appearance when only examined with a ſingle lens; but when the higheſt magnifying powers are employed, the hexagonal figure of the cells becomes evident. The herbaceous tiſſue is the immediate cauſe of the colour of the epidermis, and its own colour, again, depends upon that of the fluid contained in the cells, which is uſually green, but is ſometimes brown, red, yellow, &c. This juice is of a reſinous nature, which circumſtance would appear, as well as the colour, to be the effect of its continual expoſure to the light.

light. It is probable that the ſap is originally depoſited in the cells, in the ſtate in which it is abſorbed, that is, conſiſting of water and carbonic acid gas, and that there, by the agency of light, it undergoes a decompoſition; the oxygen contained in both the water and fixed air being diſcharged by the pores of the cuticle, the carbon of the carbonic acid, and the hydrogen of the water producing the oils and the reſins. A number of conſequences ariſe from this operation, not only to plants themſelves, but to the animal world, which make it the moſt important proceſs carried on in the vegetable ſyſtem. See ETIOLATION, LIGHT, OXYGEN, and TRANSPIRATION.

Parenchyma. This part is compoſed of cells like thoſe deſcribed in the herbaceous tiſſue; indeed, the only difference which exiſts between theſe two parts of the cellular ſubſtance, is in the colour of their contained fluid; the one being uſually green, in conſequence of its expoſure to the light; whilſt the other, not being ſituated ſo ſuperficially, is generally found tranſparent. In other reſpects, they agree in ſtructure, and appear to be formed of the continuation of the ſame membrane.

The parenchyma of Mirbel correſponds with the tiſſue cellulaire of Du Hamel, the utricles of Malpighi, and the parenchymatous ſubſtance of Grew; whilſt the herbaceous tiſſue is more ſtrictly the envelope cellulaire of Du Hamel.

The parenchyma is not confined to the ſuperficies of vegetables; it paſſes between the fibres of the cortical and ligneous layers, and forms the pith or medulla; the pulpineſs of leaves and petals depends upon its exiſtence; fruits, ſeeds, and the embrio plant, are almoſt entirely compoſed of it; bulbous, and other ſucculent roots, owe their bulk to it; no other ſtructure is obſervable in the fungi and fuci: in ſhort, the cellular tiſſue is the firſt and ſimpleſt ſtate of vegetable organization, and ſerves as the connecting medium between all the parts of the plant.

There is, ſtrictly ſpeaking, no circulation of the juices contained in the cellular tiſſue; fluids, however, being admitted into any of the cells, eaſily paſs into the neighbouring ones, by means of the ſmall pores of communication, already deſcribed.

The texture of the cellular ſubſtance is very ſpeedily broken down by maceration, or boiling in water; which circumſtance ſhould be recollected in preparing the parts of plants for examination; otherwiſe the natural connections, which are produced by the cellular tiſſue, may eſcape obſervation.

The Cortical Layers and Liber. When the epidermis and the cellular envelope have been removed, the remainder of the bark appears to be made up of a number of reticulated fibres, containing cellular ſubſtance in their interſpaces; this appearance of the cortical fibres is plain to the naked eye, eſpecially if the cellular tiſſue, which paſſes amongſt them, be at all deſtroyed by maceration, or other means; but if examined by the microſcope, theſe fibres become very diſtinct; their arrangement is then perceived to be ſingular, and difficult to deſcribe. The fibres in their courſe, although longitudinal with reſpect to the plant, are not parallel with each other; each makes a ſlight curve, and thus comes into contact with the one adjoining, with which it uſually becomes incorporated or united, and thus produces a plexus or net-work, which was called by Du Hamel the cortical plexus; ſometimes theſe fibres merely touch each other, and then go off again, to compoſe another meſh in the plexus, ſee *fig.* 6. *Plate* I. of *Vegetable Anatomy; aaa* point out the reticulation produced by the fibres, and *bbb* the meſhes, or ſpaces left between them. The meſhes are not vacant in the recent vegetable, but filled with cellular tiſſue, which admits of the tranſverſe motion of the fluids in plants. Du Hamel ſtates, that upon examining theſe fibres by a high magnifying power, each appeared to be compoſed of ſeveral threads, which could be again reſolved into fibres, and theſe again could be divided into others, until they became too minute for obſervation; he, however, as well as other authors upon the ſubject, ſuppoſe the cortical fibres to be veſſels. See VESSELS.

The cortical layers, as the term implies, are not ſingle, but conſiſt of a number of concentric laminæ, placed upon each other in ſuch a manner that the meſhes of one plexus are ſituated oppoſite to thoſe of another. *Fig.* 7. *Plate* I. exhibits this circumſtance as it has been repreſented by Du Hamel. The cellular tiſſue paſſes through all theſe meſhes, and thus produces a kind of intertexture, which Malpighi compared to cloth, calling the longitudinal fibres the warp, and the tranſverſe the weft.

The meſhes of the ſeveral net-works are ſmaller, the more internally they are ſituated; the gradation in this reſpect is regular from the external layer to the wood, as may be perceived in *fig.* 8, 9, 10. in *Plate* I. of *Vegetable Anatomy*. In the moſt internal plexus, *fig.* 10, the longitudinal faſciculi are nearly parallel, and ſo cloſe to each other that the interſpaces are almoſt obliterated.

The cortical layers, or net works, are found to increaſe in number according to the age of the part which ſuſtains them. Thus Du Hamel reckoned only five or ſix plexuſes upon the upper branch of the linden-tree, and ſeventeen at the baſe of the trunk of the ſame tree.

The ſame diſpoſition of fibres does not exiſt in all plants; in the lagetto, or the lace bark tree, for inſtance, the cortical plexus exhibits a texture like gauze or lace. See *fig.* 11. *Plate* I. of *Vegetable Anatomy*.

Much confuſion may be obſerved in the deſcriptions which authors have given of that part of the bark called *liber*. The name would appear to have taken its origin from the likeneſs which the cortical plexuſes, when partially ſeparated, bear to the leaves of a book; and, conformably to this idea, Grew and others have conſidered all the cortical layers as belonging to the liber; whilſt, on the other hand, Malpighi has given this name to the innermoſt layer only. The liber is, however, generally allowed to be the moſt important part of the bark, and is that ſubſtance from which the cortical layers are formed. When the bark is ſtripped off a tree in a ſtate of full vegetation, in a very ſhort time a gelatinous ſubſtance is obſerved to exude upon the ſurface of the wood; this ſubſtance acquires organization, and is converted into a new bark. It was termed *cambium* by Du Hamel; the manner in which it is produced, and its compoſition, are both unknown, but its high utility in the vegetable economy is proved by ſome beautiful experiments. This formative or organizing ſubſtance is conſtantly renewed during the period of vegetation, and immediately produces the liber, which is inſenſibly converted into the layers of bark, and the alburnum, or white imperfect wood, which is next the bark; and hence the acceſſions of bulk in perennial vegetables, which are made every year, and indicate the age of the tree. That the liber is the immediate ſource of both the wood and the bark, or the central point or fountain of organization, is proved by two very elegant experiments made by Du Hamel. He ſeparated a portion of the bark of a plum-tree, and made ſure that it poſſeſſed the inner cortical layers or liber; he then removed a ſimilar portion of bark from a peach-tree, and replaced it with the piece taken from the plum-tree. The graft perfectly ſucceeded; and upon a future examination he found, that not only the engrafted bark continued to grow, but that a correſponding portion of wood was produced, which was very diſtinguiſhable from the

the reſt of the tree, as it poſſeſſed the red colour of the wood of the plum-tree, from which the bark had been removed. The other experiment is equally deciſive; he paſſed ſeveral ſilver wires through the bark of a tree, in the ſeaſon of full vegetation, ſome of the wires only went through the parenchyma, whilſt others were inſerted into the liber; thoſe which had only penetrated the cellular tiſſue, obeyed the excentric progreſs of the bark, and as the tree grew came near the ſurface; but the wires which had paſſed through the liber, were carried towards the centre, and after ſome years, were found covered with many layers of wood.

The concluſion which Du Hamel drew from theſe experiments was, that the bark produced the liber, the alburnum, and the wood; but it is Mirbel's opinion, that the wood in giving origin to the cambium, produces the liber, which is finally converted into both the bark and wood. For the further diſcuſſion of this ſubject, ſee CAMBIUM, LIBER, and WOOD.

It ſhould be obſerved, that the period of vegetable exiſtence depends upon the power of the plant to produce the cambium, and conſequently, the liber; accordingly, in herbs, moſt of which do not ſurvive one or two years, the ſucceſſive layers which characteriſe the wood of trees, are not to ſeen.

Hitherto we have been deſcribing the arrangement of the cortical layers, in the Dicotyledons; in thoſe plants, however, which are called monocotyledons, or having one ſeminal leaf, the diſpoſition of theſe parts is very different; only the cuticle and cellular ſubſtance are found on the ſurface of theſe vegetables; there are no concentric layers of either bark or wood; the interior of the plant is filled with parenchyma, in which are contained the woody fibres, ſcattered at irregular diſtances; the cambium is depoſited round each fibre, and there produces the tubular and cellular tiſſue; the tubular tiſſue forms firſt the porous wood or alburnum, which contracts in thickneſs, elongates and is inſenſibly converted into the perfect wood, and in contracting is detached from the parenchyma and leaves a vacancy which is preſently filled up by a new cambium; each of theſe fibres, therefore, might with propriety be conſidered as a diſtinct vegetable, inaſmuch as it has the means of an independent growth. See CAMBIUM, WOOD, MONOCOTYLEDON, and DICOTYLEDON. It has already been obſerved, that ſome of the more ſimply organized vegetables, ſuch as the fungi and fuci, do not poſſeſs in any of their ſubſtance either cortical or woody fibres, but are altogether compoſed of the cellular tiſſue.

After the account which we have given of the different parts entering into the ſtructure of the bark, it is unneceſſary to inſiſt upon its uſes in the vegetable ſyſtem; in it reſide almoſt all the powers and energies of the plant; wounds only are healed by it; upon the exact contact of the libers of two trees depends the whole of the ſucceſs in engrafting; and in the bark are prepared not only all the juices and ſecretions which are required for the ſuſtenance and increaſe of the plant, but thoſe peculiar ſubſtances which are applicable to ſo many of the purpoſes of common life and of medicine. See VESSELS, SUCCA PROPRIA, and SECRETION.

BARK, *Peruvian*, *Cortex Peruvianus*. The high importance in medicine of the peruvian bark has appropriated to it excluſively the term of the bark. We ſhall deſcribe it under the botanical and now officinal name of CINCHONA.

BARK, in *Agriculture*, a ſubſtance frequently employed by cultivators as a manure to particular kinds of land.

The bark of trees in general, and particularly that of the oak, becomes an uſeful manure after it has been employed by the tanner in the preparation of leather. One load of oak bark laid in a heap and rotted after having been thus uſed, it is ſaid, will do more ſervice to ſtiff cold land, and its effects will laſt longer, than two loads of the richeſt dung. Mr. Miller in his Dictionary obſerves, that it is much better for cold ſtrong land than for light hot ground, if it be uſed alone as taken from the tan-yard; becauſe it is of a warm nature, and it will looſen and ſeparate the earth ſo effectually, that, by only employing it two or three times, a ſtrong ſoil, not eaſy to be wrought, may be rendered perfectly light and looſe; but by mixing it with earth of a nature contrary to that which it is intended to correct, and in a proportion fitted to the nature of the ſoil on which it is to be laid, it will prove a good manure for almoſt any ſort of land.

Mr. Mortimer has even aſſerted that it will alter and change the very nature of the ſoil, and turn it into a rich black mould. As it abounds with vegetable matter derived from the tree to which it belonged, and is ſtrongly impregnated with animal materials by the length of time which it has remained in the tan vats, in contact with the ſkins and hides of animals, it muſt neceſſarily prove beneficial as a manure where judiciouſly applied.

When laid on graſs-land it has been recommended to be ſpread out over it ſoon after Michaelmas, that the winter rains may waſh it into the ground to the roots of the graſſes, as when laid on in the ſpring, it is apt to burn the graſs, and, inſtead of improving it, to do conſiderable injury for that ſeaſon. But when employed on arable land it ſhould be applied and ſpread before the laſt ploughing, in order that it may be turned down lightly into the ſoil ſo as the fibres of the corn may eaſily reach it in the ſpring; when it lies too near the ſurface, it has however been ſuppoſed to forward the growth of the crop at too early a period, and to be nearly conſumed in the ſpring, when the nouriſhment is chiefly wanted for its ſupport.

In his work on gardening and agriculture, Mr. Bradley ſays, he adviſed a gentleman to whom a conſiderable quantity of bark was left, upon the expiration of the leaſe of a tan yard, to lay ſome of it upon a piece of ſtubborn four land; which he did with ſuch ſucceſs, that his product was admired by all the gardeners and farmers in the neighbourhood. For ſuch ſoils, he thinks it ſhould be mixed with a ſandy mould or earth; and that one third of bark to two thirds of ſuch materials will be a ſufficient proportion for clays in general, laying on about one hundred and fifty cart loads upon the acre.

Worlidge remarks, that the barks or rinds of other trees, though not of ſo high a value as that of the oak, which is the ſort principally uſed by tanners, muſt of neceſſity enrich either corn or paſture grounds, if broken into ſmall pieces, and laid upon them.

It has been found from experience, that by mixing cauſtic lime with tanners bark, in the proportion of about two parts of the latter to one of the former, the converſion of the bark into vegetable mould may be greatly promoted, and that the compoſition when employed as a top dreſſing for either turnips or graſs proves an excellent manure, promoting the growth of the crops in a rapid manner.

BARK, in *Gardening*, comprehends the exterior parts or coverings of trees, plants, and vegetables, and alſo ſuch ſubſtances in their dead ſtate after being ſeparated from them, and employed for different purpoſes.

The bark of trees, &c. is in itſelf of a hard porous texture, and adheres looſely to the *liber*, or inner bark. It is ſtated by Dr. Darwin, in his Philoſophy of Gardening and Agriculture, that the barks of the trunks of trees are ſimilar to thoſe of their roots, and may be eſteemed a part of them, as they conſiſt of an intertexture of the veſſels which deſcend from the plume of each individual bud to the radicle of it, and conſtitute its *caudex*. The bark of the root

is nevertheleſs, he ſays, furniſhed with lymphatics to abſorb water and nutritious juices from the earth, and is covered with a moiſtened cuticle, while the bark of the ſtem is furniſhed with lymphatics to abſorb moiſture from the air, and is covered with a drier cuticle; the latter reſembling the external ſkin of animals and the lymphatics which open upon it; and the former, the mucous membrane of the ſtomach, and its lacteals.

The interior barks of ſome trees, like the alburnum or roots deſcribed above, contain, he thinks, much mucilaginous or nutritious matter; as the bark of elm (*ulmus*), and of holly (*ilex*), and probably of all thoſe trees or ſhrubs which are armed with thorns or prickles, which are deſigned to prevent the depredations of animals on them, as the hawthorn, gooſeberry, and gorſe, *crataegus*, *ribes*, *graſſularia*, *ulex*. The internal barks of theſe vegetables may, he thinks, be conceived to be their alburnum leſs indurated, and might probably all be uſed as food for ourſelves or other animals in years of ſcarcity, or for the purpoſe of fermentation; as he doubts not but the inner bark of elm-trees, detracted in the ſpring by being boiled in water, might be converted by the addition of yeaſt into ſmall beer, as well as the alburnum of the maple and birch (*acer* and *betula*), all which are now ſuffered to be eaten by inſects, when thoſe trees are felled. For the ſugar, which is extracted from the vernal ſap-juice of the maple and birch, as well as that found in the manna aſh (*fraxinus ornus*), ſeems, he obſerves, to reſide during the winter months in the root or alburnum, rather than in the bark properly ſo called, and to become liqueſied by the warmth of the ſpring, or diſſolved by the moiſture abſorbed from the earth and conveyed to the opening buds; but reſides ſolely in the roots of perennial herbaceous plants: and in the economy of graſſes, and he ſuppoſes of the ſugar-cane, it is depoſited at the bottom of each joint, which is properly at the root of the ſtem above it.

Of the above plants, continues he, the bark of the holly not only yields a nutritious mucilage, and thus ſupplies much provender to the deer and cattle in Needwood foreſt, by the branches cut off and ſtrewed upon the ground in ſevere ſeaſons of froſt and ſnow, but contains a reſinous material, which is obtained by boiling the bark and waſhing away the other parts of it. This reſinous material poſſeſſes a great adheſiveneſs to feathers and other dry porous bodies, and has hence obtained the name of *bird-lime*, and much reſembles the *caoutchouc* or elaſtic reſin brought from South America, and alſo a foſſil elaſtic bitumen found near Matlock in Derbyſhire, both in its elaſticity and inflammability. Hollies may, he therefore ſuppoſes, be worth cultivating for this material beſides the uſes of their wood; as the doctor was informed, that thirty years ago a perſon who purchaſed a wood in Yorkſhire, ſold to a Dutch merchant the bird-lime, prepared from the bark of the numerous hollies, for nearly the whole ſum given for the wood; which, if it could be hardened, might probably, he ſays, be ſold for the elaſtic reſin above mentioned. Whether this reſembles the nutritive reſinous material found in wheat flower, when the mucilage and ſtarch are waſhed from it, might, he thinks, be alſo worth inquiry.

Other barks contain bitter, reſinous, aromatic, or acid materials, which ſupply the ſhops of medicine, as Peruvian bark, caſcarilla, cinnamon, and were deſigned by nature, he ſuppoſes, to protect thoſe vegetables from the depredations of quadrupeds or inſects. Hence, ſays he, many trees, and even the wood of them, after it is dried and made into domeſtic furniture, is never devoured by worms, as the mahogany, cedar, cypreſs; and [illegible] many plants, as the foxglove (*digitalis*), hemlock (*conium*), henbane (*hyoſcyamus*), and many trees, are not devoured by any animals, as their juices would be poiſonous to them, or much diſagree with their ſtomachs, if their diſguſting flavours to the noſe or palate did not prevent their eating them. The ſame defence of the vegetable kingdom [illegible] human digeſtion, except thoſe which have, in long proceſs of time, been ſelected and cultivated, appears, he remarks, from the relation of ſome unfortunate ſhipwrecked travellers, who have paſſed ſome hundreds of miles along uninhabited countries almoſt without finding an eſculent vegetable production.

Other barks contain reſtringent or colouring particles, employed in the arts of dying and tanning, as that of the barberry, oak, and aſh (*berberis*, *quercus*, *fraxinus*). The art of tanning conſiſts in filling the pores of the animal mucous membrane with theſe reſtringent particles found in ſome vegetables, which are believed to poſſeſs a quality of ſhortening animal fibres. Thus, when a long hair is immerſed ſome time in a ſolution of the bark of oak, or of the galls produced on its leaves by the punctures of inſects, the hair is ſaid to be ſhortened. Whether this proceſs be occaſioned by the chemical coagulation of the mucus, of which theſe fibres totally or in part conſiſt, or by capillary attraction tending to diſtend theſe fibres in breadth, and thus to ſhorten them, as a twiſted ſtring is ſhortened by moiſture, has, he ſays, not yet been well inveſtigated. By thus impregnating the pores of animal ſkins with vegetable particles they become leſs liable to putrefaction, as conſiſting of a mixture of animal and vegetable matter, as well as much better adapted to many domeſtic or mechanical purpoſes.

The art of dying conſiſts likewiſe in impregnating the pores of dry ſubſtances with a ſolution of the colouring matter extracted from vegetables by the capillary attraction of theſe pores to the coloured ſolution; and, ſecondly, by a chemical change of thoſe colouring particles after they have been imbibed, and the water of the ſolution exhaled, by again ſteeping them in another ſolution, which may chemically affect the former. Thus, ſays he, as green conſiſts of a mixture of blue and yellow, it may be beſt produced by boiling the material deſigned to be dyed, firſt in a decoction of one of theſe colours, as of indigo, and then in that of another, as of the bark of barberry. And as a ſolution of iron becomes black when mixed with a decoction of oak-galls, by being in part precipitated; it is probable that the particles of this combination, of a ſolution of iron with reſtringent matter, may be larger than either of theſe particles ſeparately; and, therefore, that if a dry porous ſubſtance be immerſed, firſt in a decoction of oak-galls, and, after being ſuffered to dry, is then immerſed in a ſolution of iron, the black tinge will penetrate into minuter pores, and thus become more intenſe than if the ſubſtance had been immerſed in the black dye already prepared.

Other barks are, he adds, uſed for apparel, paper, cordage, and for many mechanical purpoſes, owing to the ſtrength and tenacity of their fibres, or to the fineneſs of them; as hemp (*cannabis*), flax (*linum*), for the purpoſes of ſpinning and weaving. The bark or leaves of the papyrus, a flag of the Nile, was, he ſays, firſt uſed for paper; and the bark of the mulberry tree is ſtill made into cloth at Otaheite, and other ſouthern iſlands.

The art of ſeparating the fibres of the bark of plants, as they conſiſt of the caudexes of buds, or the connecting veſſels between the plumules and the radicles of them, is, he obſerves, performed by ſoaking them ſome weeks in ſtagnant water, till the mucous membranes, which connect their

theſe fibres, are deſtroyed by putrefaction: and afterwards by drying them, and beating off with hammers what may ſtill adhere.

Theſe fibrous parts of the barks of trees, as they contain no ſaccharine matter, like the alburnum, are, he obſerves, much leſs liable to decay than the ſap-wood, or perhaps than any part of the timber. Maupertuis, he adds, who went to Lapland to meaſure a degree of the meridian, ſays, that among the numerous trees which lay upon the ground, deſtroyed by age, or blown down by the winds, many birch trees appeared whole, owing to the undecayed ſtate of their bark, but crumbled into powder on being trod upon; and that the Swedes took the practice from this of covering their houſes with this unperiſhable bark, on which they ſometimes lay ſoil, and thus poſſeſs aerial gardens.

To increaſe the quantity of bark, it muſt, the doctor remarks, be remembered, that the leaf-buds, or viviparous offſpring of trees, as they form new buds, acquire new caudexes extending down into the ground, and thus increaſe the bark of the ſtem in thickneſs; but the flower-buds acquire no new caudexes, but die as ſoon as they have ripened their ſeed, and conſequently do not increaſe the thickneſs of the bark. Whence one method of increaſing the quantity of the bark is to increaſe the number or vigour of the leaf-buds, in contradiction to the flower-buds, which may be done by pinching off the flowers as ſoon as they appear; and as the bark becomes gradually changed into wood, this may be one method, alſo, he thinks, of forwarding the growth of timber-trees.

It is added, that the method of preſerving the bark of trees from moſs conſiſts in rubbing off that paraſite vegetable in wet weather, by means of a hardiſh bruſh; which is ſaid to be uſed with advantage on the apple-trees in the cyder countries; and may, at the ſame time, give motion to the vegetable circulation, or forward the aſcent of their juices abſorbed by the radical or cortical abſorbents. In dry weather, the bruſh ſhould be frequently dipped in water. Waſhing the barks of wall-trees by a water-engine, may alſo facilitate the protruſion of their buds in dry ſeaſons; and might poſſibly prevent the canker, if applied to dwarfs or eſpalier apple-trees. Other paraſite vegetables muſt be occaſionally deſtroyed where they occur; as the lichens, fungi, miſletoe, with the ivies and other climbers, as ſome kinds of *lonicera*, *clematis*, and *fumaria*, woodbine, virgins-bower, and fumitory.

It is further remarked, that when a wound is made in the bark of a tree, ſo as to expoſe the alburnum to the air, the upper lip of the wound is liable to grow faſter downwards than the lower one is to grow upwards, owing to the former being ſupplied directly with nutritive juices ſecreted from the vegetable blood after its ventilation, and conſequent oxygenation in the leaves; whereas, the lower lip only receives thoſe juices laterally by the inoſculation of veſſels. Over theſe wounds the cuticle is liable to project, and to ſupply a convenient hiding-place for inſects, which either eat the new fibres of the growing bark, and perforate the alburnum; or by their moiſture, their warmth, and their excrements, contribute to the decay of the alburnum, and prevent the healing of the wound. Theſe dead edges of the projecting bark or cuticle ſhould therefore, it is ſaid, be nicely cut off, but not ſo as to wound the living bark.

It is remarked, that plaſters of lime or of tar with ſublimate of mercury, have been recommended to preſerve the wounded parts from the air, and from moiſture, and from inſects; but as all theſe materials are injurious to the fibres of the living bark, they ſhould be uſed with caution, ſo as not to touch the edges of the wound, but only to cover the alburnum; for this purpoſe, white lead and boiled oil, mixed into a thick paint, or with the addition of ſublimate of mercury, or of arſenic, or of ſpirit of turpentine, may probably anſwer the purpoſe; and may be of real utility on the wounds of thoſe trees whoſe wood contains leſs acrimony, and is therefore more liable to be bored into and eaten by a large worm or maggot, almoſt as thick as a gooſe-quill; which the doctor has ſeen happen to a pear-tree, ſo as to conſume the whole internal wood, till the tree was blown down.

In reſpect to the caution neceſſary to be obſerved in not touching the living edges of the wounded bark with ſuch materials as may injure the tree by their abſorption, he remembers ſeeing ſeveral young elm-trees which died by their holes having been covered, as he was informed, by quicklime, mixed with cow-dung, to prevent their being injured by horſes; and he has ſeen branches of peach and nectarine trees deſtroyed by ſprinkling them, when in leaf, with a light ſolution of arſenic, and others with ſpirit of turpentine.

The compoſition recommended by Mr. Forſyth, in his "Treatiſe on the Culture and Management of Fruit Trees," which is conſtituted of cow-dung, effete lime, wood-aſhes, and river ſand, ſeems however to have been made uſe of in thoſe caſes with much advantage, and without any inconvenience having been experienced in this way.

It is further ſtated, by the author of Phytologia, that a more curious method of cure is ſaid to have ſucceeded, where the bark of a tree has recently been torn off, even to great extent; and this is, by binding the ſame piece of bark on again, or another piece from the ſame tree, or from one of a ſimilar nature, nicely adapting the edges of the bark to be applied to the edges of that which ſurrounds the wound of the tree, which, it is ſaid, will coaleſce, in the ſame manner as the veſſels of the bark of an ingrafted ſcion, unite with thoſe of the bark of the ſtock ingrafted on; which is ſtrictly analogous to the union of inflamed or wounded parts of animal bodies, as in the cure of the hare-lip, or the inſertion of the living tooth from one perſon into the jaw of another.

If the bark, over the cankered parts of apple-trees, adds the doctor, could be thus renewed by paring the edges of the mortified bark to the quick, and then nicely applying a piece of healthy bark, from an apple-tree of inferior value, and ſecuring it with an elaſtic bandage, as a ſhred of flannel, it would be a very valuable diſcovery. Another method, where a branch of a valuable tree is in the progreſs of being deſtroyed by canker, might, he obſerves, be by incloſing the cankered part, and ſome inches above it, in a garden pot of earth previouſly divided, and ſupported by ſtakes, and tied together round the branch; which might then ſtrike roots in the earth of the garden-pot, and, after ſome months, be cut off, and planted on the ground, and might thus be preſerved, and produce a new tree; which experiment (the doctor ſays) he has tried on two apple-trees, and believes it will ſucceed.

Bark, in its dead ſtate, after having been employed in the vat of the tanner, is found to be a material of great utility for the purpoſe of conſtituting thoſe hot-beds in ſtoves and pits conſtructed for them, that are uſually denominated *bark-beds*, and which from their being much more regular and durable in the temperature of their heat, than thoſe formed from dung, become a great deal more convenient and uſeful for different purpoſes of the gardener; and are of courſe employed with much advantage in the growth and culture of various tender and curious exotic

exotics that require the aid of an uniform degree of artificial heat in this climate. See Bark-Bed, and Bark-Pit.

Barks *of Trees, (Chemical Analysis of).* Since the time that chemists have introduced a considerable degree of minuteness and comparative accuracy in the analysis of vegetable matter, many of the general classifications of medical chemistry have been found inconvenient and liable to error. This is particularly the case when vegetable substances designed for chemical examination, are called *officinal*, or according to the uses which they fulfil in the economy of the plant, rather than the properties which they exhibit under the hands of the chemist. Thus, in the instance of the *barks of trees*, scarcely any common chemical character can be assigned to them, as their composition varies in almost every order of plants, and as they partake largely of the qualities of the common juice which circulates in the vegetable. If there is any principle common to all barks, it is (besides water, an invariable ingredient in vegetable matter), the ligneous fibre or insoluble woody part, but even in this respect some very important differences occur in the several species which cannot be neglected by the chemist. The substances which render many barks peculiarly interesting in the arts and in medicine are, Tannin, or the principle which causes several of them to be employed in the art of tanning; Extract, a substance varying considerably in properties, and much used in medicine; and the Gallic Acid, the basis of many of the black dyes and pigments when in conjunction with iron. These principles, however, are not peculiar to barks, but they are all found in other parts of vegetables. We have an example of an excellent analysis of the bark of the Cinchona, by M. Fourcroy, to which article we shall refer the reader who may wish to have a good specimen of the chemical analysis of vegetables.

Barks, *general observations relating to.* From the experiments of M. Buffon, it appears, that trees stripped of their bark through the whole length of their stems, die in about three or four years. But it is remarkable, that trees stripped in the time of the sap, and suffered to die, afford timber heavier, more uniformly dense, stronger, and fitter for service, than if the tree had been cut down in its healthy state. Some thing of a like nature has been observed by Vitruvius and Evelyn. Mem. Acad. Scienc. 1738.

As animals are furnished with a panniculus adiposus, usually replete with fat, which invests and covers all the fleshy parts, and screens them from external colds, plants are encompassed with a bark replete with fatty juices, by means whereof the cold is kept out, and, in winter-time, the spiculæ of ice prevented from fixing and freezing the juices in the vessels: whence it is, that some sort of trees remain ever green the year round; because their barks contain more oil than can be spent and exhaled by the sun, &c. Ray's Wisd. of God, &c. part i. p. 103.

The bark has its peculiar diseases, and is infected with insects peculiar to it. Wounds of the bark often prove mortal. See Canker.

There are a great many kinds of barks in use in the several arts: some in medicine, as the quinquina, or jesuit's bark, macer, chacarilla, &c. others in dying, as the bark of the alder, ; others in spicery, as cinnamon, cassia lignea, &c. the bark of oak in tanning; others on other occasions, as that of cork; that of a kind of birch is used by the Indians for canoes capable of holding twenty-four persons.

Of the bark of willows and linden trees is ordinarily made a kind of ropes. The Siamese make their cordage of the bark of the cocoa tree, which is also the case in most of the Asiatic and African nations. In reality, flax and hemp, with all their tenuity, are only the sap-vessels, or ligneous fibres of the bark of those plants.

The ancients wrote their books on barks, especially those of the ash, and tilia or lime-tree; not on the exterior or outer bark, but on the inner and finer, called philyra; which are of so durable a texture, that there are manuscripts on it, still extant, a thousand years old.

In the East Indies they manufacture the barks of a certain tree into a kind of stuff or cloth. It is spun and dressed much after the manner of hemp. The long fibres separated from it, upon beating and steeping it in water, compose a thread, of a middle kind between silk and common thread: neither so soft nor bright as silk, nor so hard or flat as hemp. See Neuman's Works, p. 428. note. Some of these stuffs are pure bark, and are called pinasses, biambonnes, &c. In others they mix silk with the bark, and call them ginghams and nillas: the fountalungees too are part silk, part bark, and are only distinguished by being striped. The Japanese make their paper of a species of mulberry tree. (See Morus.) In the island of Otaheite, the natives make their cloth, which is of three different sorts, from three different kinds of bark; that of the mulberry tree, that of the bread-fruit tree, and that of the cocoa tree. That made of the mulberry is the finest and whitest, and worn chiefly by the principal people. It is manufactured in the following manner. When the trees are of a proper size, they are drawn up and stripped of their branches; after which, the roots and tops are cut off; the bark of these rods being then slit up longitudinally is easily drawn off; and when a proper quantity has been procured, it is deposited in some running water to soak, and kept down by heavy stones; when it is supposed to be sufficiently soaked, the women go down to the brook, and, stripping themselves, sit down in the water to separate the inner bark from the green part on the out side; for this purpose, they place the under side upon a flat smooth board, and with a kind of shell scrape it very carefully, dipping it continually in the water, till nothing remains but the fine fibres of the inner coat. Being thus prepared in the afternoon, they are spread out upon plantain leaves in the evening, and placed in lengths of about eleven or twelve yards, one by the side of another, till they are about a foot abroad, and two or three layers are also laid one upon the other; care is taken that the cloth shall be in all parts of an equal thickness, so that if the bark happens to be thinner in a particular part of one layer than the rest, a piece that is somewhat thicker is selected to be laid over in the next. In this state it remains till the morning, when a great part of the water which it contained, when it was laid out, is either drained off or evaporated, and the several fibres adhere together, so that the whole may be raised from the ground in one piece. It is then taken away and laid upon the smooth side of a long piece of wood, prepared for the purpose, and beaten by the women. The instrument used for this purpose is a square wooden club, having each of its four sides or faces marked, lengthwise, with small grooves or furrows of different degrees of fineness; those on one side being of a width and depth sufficient to receive a small packthread, and the others finer in a regular gradation, so that the last are not more than equal to sewing silk. They beat it first with the coarsest side of this mallet, keeping time like our smiths; it spreads fast under the strokes, chiefly, however, in the breadth, and the grooves in the mallet mark it with the appearance of threads; it is successively beaten with the other sides, and last of all with the finest, and it is then fit for use. Of this cloth there are several sorts, of different degrees of fineness, in proportion as it is more or less beaten; and the other cloth

alſo differs in proportion as it is beaten, and the ſeveral cloths differ alſo from one another in conſequence of the different materials of which they are made. The bark of the bread-fruit is not taken till the trees are conſiderably longer and thicker than thoſe of the mulberry; the process afterwards is the ſame. Of the bark of a tree which they call "*poerou*," the "*hibiscus tiliaceus*" of Linnæus, they manufacture excellent matting; both a coarſe ſort on which they ſleep, and a finer which they wear in wet weather. Of the ſame bark they alſo make ropes and lines, from the thickneſs of an inch to the ſize of a ſmall packthread.

Bark *Indian*, *Winteri cortex*, a medical bark, brought from the Eaſt, rolled up like cinnamon, of a ruſty colour, a warm aromatic, bitter taſte, and pleaſant ſmell; ſometimes uſed in fomentation against fits of the mother.

Bark-*Mills*. See Mill.

Bark, *Grafting in*. See Engrafting.

Bark, in *Navigation*, denotes a little veſſel for the ſea, uſually with pointed or triangular ſails, in number two, or three at the moſt. The term is uſually appropriated by ſeamen to theſe ſmall ſhips which carry three maſts without a mizen top-ſail. Our northern mariners in the coal-trade, apply the term to a broad-ſterned ſhip, which carries no ornamental figure on the ſtern or prow. Bark is alſo a Mediterranean veſſel, with three maſts and no bowſprit; the foremoſt rakes much forward and carries a latteen ſail; the main-maſt is a pole-maſt, and carries three ſquare ſails, like the polacre; the mizen-maſt is ſmall and carries a mizen and a top-ſail. Fiſhing-barks are ſmall veſſels with one maſt, uſed for fiſhing, &c. by the Spaniards: on the maſt they carry a ſquare main-ſail, with a jib upon the bowſprit. Japaneſe barks are veſſels ſimilar to junks, 80 or 90 feet long on one deck, which have only one maſt, that carries a ſquare-ſail, and forward one or two jibs made of cotton. They only uſe ſails, when the wind is large. Barks of Cracalon and Prahts of Sunda are veſſels with ſluſh-decks, high ſheer, and ſharp forward. They have one maſt, and the ſail is ſimilar to the Caracores, being long and narrow. Theſe veſſels are kept from upſetting by a ſort of beams croſſing the veſſel and bending downwards at the ends, which faſten to a long round or flat piece of timber. Bombay-barks are called Dingas. See Plates of Ships.

The word *Bark* is derived by ſome from the Latin *barca*; by Fournier, from *Barce*, a city in Africa; and by Tolenatus, from *Barcelona*.

Some authors uſe the word bark for any veſſel that has no maſts.

Bark, *Armed*, a kind of fire-ſhip filled with ſoldiers, uſed both for making ſallies, and to attack galleries, and bar the paſſage over them.

Bark, *Long*, is a ſmall veſſel without deck, longer and lower than the common barks, being ſharp before, and commonly going both with ſails and oars. It is built after the manner of a ſloop, and in many places is called a *double ſloop*.

Barks, *Water*, are little veſſels uſed in Holland for the carriage of freſh-water to places where it is wanting, as well as for the fetching ſea-water to make ſalt of. They have a deck, and are filled with water up to the deck.

Bark-*Bed*, in *Gardening*, that ſort of hot-bed which is either wholly or principally conſtituted of tanner's bark. This ſort of bed, from its preſerving the moſt uniform and regular degrees of heat, is found by much the moſt uſeful in the propagation and culture of all kinds of tender exotic plants that are brought from warm climates, and which ſtand in need of the continued aſſiſtance of artificial heat in this part of the world. Beds of this nature, with a little trouble in the management of them, are found fo continue to ſupport a pretty uniform and regular temperature for a conſiderable length of time.

Theſe are the kind of hot-beds that are generally employed in hot-houſes, being formed in pits or cavities conſtructed for the purpoſe in them, frequently the whole length of the houſes, ſix or ſeven feet in width, and three in depth, being incloſed by means of brick work. See Bark-Pit.

In theſe beds, the pots of ſuch tender exotics as have been mentioned, are plunged and ſupported; and they at the ſame time afford aſſiſtance in ſupplying ſuch houſes or flowers with thoſe degrees of heat that may be proper for the growth and ſupport of various other plants that do not require to be plunged into the beds, the heat of the ſurounding air, produced in this way, being ſufficient for their growth and preſervation. Thus, by the aid of bark-heat, and that of fire during the ſeverity of the winter ſeaſon, the gardener is enabled to imitate, within the hot-houſe, the temperature of diſtant climates, and not only to cultivate and bring to perfection the *Ananas*, or pine-apple, but alſo various other tender plants from different quarters of the globe, both of the herbaceous and woody kinds, and to exhibit them in their moſt healthy and beautiful ſtates in this country.

Bark hot-beds are likewiſe occaſionally formed in pits conſtructed for them, in the open ground, ſeparately and detached from the hot-houſe. Theſe are walled round with bricks chiefly above the ſurface of the ground, having a frame or coping of wood upon the top on which glaſs lights are fixed ſo as to ſlide with facility. See Bark-Pit.

In theſe pits the bark-beds are made to the depth of three feet or more, in order to afford an uniform and laſting heat, for the purpoſe of raiſing and propagating different ſorts of tender plants from ſeeds, ſuckers, layers, cuttings, &c. both of the ſtove and green-houſe kinds, as well as thoſe of the natural ground. Such beds are of courſe of great utility where there are large collections of tender exotic plants, and as nurſery-pits for young pine-apple plants to ſupply the ſtove or pinery annually. See Stove.

Beds formed of bark are alſo employed with ſucceſs in raiſing various ſorts of early productions of other kinds, as early ſtrawberries, melons, peas, French beans, &c. which by the regular and moderate heat which they afford are moſtly brought forward in the greateſt perfection. They are likewiſe made uſe of in forcing different ſorts of curious flowers, both of the bulboſe, tuberoſe, and and fibrous rooted kinds, into early bloom; as hyacinths, dwarf tulips, narciſſus, jonquils, anemones, ranunculuſes, pinks, &c. alſo many flowering plants of the ſmall ſhrubby kind, as roſes, hypericums, &c.

Bark-beds are alſo employed with great advantage in forcing frames for the purpoſe of producing early fruit of the apricot, peach and grape kinds. See Forcing Frames, and Hot-Walls.

Hot-beds conſtituted of bark from the ſlow and regular manner in which the heat is in common evolved, are not ſo liable, as thoſe of dung, to injure the plants by their ſteam; they are therefore to be preferred for all the more important purpoſes of forcing where the material can be obtained.

The heat of them may be perpetuated for a great length of time, by having recourſe occaſionally to the practice of forking or turning them over, adding in ſuch operations about a third part of new tan or bark. The beds are how-

ever

ever to be wholly, or in a great part, renovated every autumn or ſpring.

There are different ſorts or ſizes of bark made uſe of for the conſtruction of their beds, as coarſe, middling, and ſmall. The firſt kind is the longeſt in taking on heat, and is apt to heat violently at the beginning, but is of the longeſt duration. The ſecond ſort heats ſooner, is more regular, and pretty durable in its effects. But the laſt kind heats the quickeſt, yet it is the weakeſt, and ſooneſt becomes earthy, conſequently the leaſt proper for this purpoſe. Where there is a choice of the two laſt, the middle ſort, or a mixture of it and the coarſe, ſhould conſtantly be preferred, admitting as little of the ſmall as poſſible, and care ſhould be taken that it be perfectly freſh from the vat of the tanner. When the bark is wet after being brought home, it is a good practice to throw it up into heaps or ridges for a few days, in order that it may be drained and rendered more dry, as without ſuch precaution the proceſs of fermentation may be too much retarded.

The periods of making beds of this nature muſt be regulated by circumſtances; but where they are intended for pine-apple plants, they ſhould be prepared about the latter end of September or beginning of October, in order that they may afford a good heat during the winter ſeaſon: but when the raiſing of plants from ſeeds, cuttings, &c. or the forcing of culinary vegetables, and fruits or flowers, are the principal objects, the ſpring may be the moſt ſuitable time, as in January or March. For particular uſes they may, however, be made at any period.

In forming the beds, the tan or bark, prepared as above, is thrown into the pits that are conſtructed for it; and where there is old, the new bark well mixed and blended with it, by means of the tan-fork, quite to the bottom; then it is the practice to begin at one end and carry them on to the full breadth and depth, without treading upon them, as that would render the bark too ſolid for the proceſs of fermentation. It is neceſſary to raiſe the ſurfaces of the beds about three or four inches higher than the tops or copings of the beds or pits, in order to allow for the ſettling that may take place. In the making of this ſort of hot-beds for the purpoſe of raiſing pine-apples, the author of the "Scotch Forcing Gardener," in order to avoid the danger of too much bottom heat, never admits of the tan being ſifted, or of more than one eighth part of new tan being added, which is introduced by ſkimming off a portion of the old tan from the ſurface; by this means the new tan is not ſuffered to come within a foot of the ſurface of the bed, and of courſe the pots are entirely plunged in the old tan. It is his general practice to depoſit half of the quantity of new tan that may be added, in the bottom of the trench, and blend the other half equally with the old, till within a foot of the top of the bed. And in trenching over the beds, it is his cuſtom to throw the ſides to the middle, and the middle to the ſides, in order that the old tan may be incorporated in an equal manner with the new.

It is contended, that in this manner of preparing the beds, they will be "of a mild and equal temperature from the firſt, and continue much in the ſame ſtate for three or four months;" and that after the firſt filling, they will be attended with but little expence for new tan. It is obvious that the filling the pits of new pineries, in the above intention, ſhould either be performed ſome time before the plants are to be introduced, or the tan be well ſweated down and reduced by frequent turning over in an open ſhed or other convenient place; and in theſe caſes it is even adviſed not to plunge the pots more than half their depths into the beds for the firſt two or three months after they have been filled.

The new bark or tan that is to be added to old conſtantly be thrown up into heaps for a ſhort time before it is employed, in order that it may ferment and heat; and when uſed while wet from the tan-pit, it is not only to cake in the beds, but is ſubject to become mouldy.

It is [illegible], at times, to [illegible] beds, to [illegible] plunge the pots into the bark at different periods, in order that they may be drawn up ſucceſſively to obtain the heat in its [illegible].

The beds, in the firſt month or two of making them, will in general be of a proper temperature for the reception of plants in about ten days or a fortnight, as the ſenſation of the hands will ſhow. If they be intended for pines or other plants that require much, they muſt be plunged immediately into the bark, and earth in pots; but in other ſorts of hot-beds; and in performing this buſineſs, it is of utility to have a board placed across the beds or pits to ſtand or kneel upon, and thereby prevent the bark from being trodden too cloſe. The pots containing the plants muſt be placed to ſuitable depths, according to the differences in the degrees of heat in the beds, in order to be ultimately let down to their rims. When the heat of the beds is ſhown by the trying ſticks to be on the decline, it will be proper to reſtore it by ſtirring up or turning over the bark, which, when of the large or middle ſort, will ſeldom require any increaſe of new tan.

In accompliſhing this buſineſs, it may be performed either in the manner directed above, or, after removing the pots, by beginning at one of the ends, and forking up the whole of the bark to the bottom, afterwards breaking the lumps and turning all the bark over, the pots with the plants being directly reſtored. The ſame operation is to be repeated as often as the decline of heat may render it neceſſary, and ſuch additions of freſh bark be made as may be required, but in common, not more than two or three turnings are requiſite. The additions of freſh tan ſhould moſtly be made about the beginning of March or April, the crumbly earthy parts of the old bark being cleared away.

The making of new beds is moſtly performed as has been ſeen above in the autumn, about September or October, as after they have remained ten or twelve months, the bark is much exhauſted both in heat and ſubſtance, and becomes earthy. This earthy part is to be now ſeparated by means of the ſcreen, and new bark added, the whole being well blended together with the fork. When the whole of the old tan appears earthy, it is the beſt method to clear the pit out entirely, and make the bed up altogether of new bark. See HOT-HOUSE.

BARK-*Bound*, a diſeaſe which has been ſuppoſed common to fruit and other trees, and to be capable of being cured by making a ſlit or opening through the bark, in a longitudinal direction, from the top of the tree or bough to the bottom, about February or March; and if the gaping be pretty conſiderable, to fill it up with cow-dung, or ſome other ſimilar compoſition. This is probably not ſo frequently a diſeaſe as has been believed by gardeners, as the imperfect growth of trees often cauſes ſuch appearances.

BARK-*galling*, is when trees are galled by thorns or by being bound to ſtakes, &c. It is cured by clay laid on the galled place, and bound on with hay ropes.

BARK-*Pit*, a pit or cavity of a long, ſquare, or other form, a yard or more in depth, appertaining to a hot-houſe or ſtove, &c. and being formed internally, or detached externally, in which to make tan or bark hot-beds, commonly called bark-beds. The dimenſions are four, five, or ſix feet in width, or more, having length in proportion to that of the hot-houſe, &c. and when in detached pits, ſuch as may be required. In

both methods they are formed by a low furrounding brick wall, about a yard in height in the internal pits, and in the external ones three or four feet in front, by four or five in the back wall. Thefe different forts of pits are indifpenfably neceffary, where bark-beds are intended, to make the beds in, as the fhort loofe nature of the tan will not admit of being formed into compact regular beds, without the aid of fuch kinds of inclofed pits to confine it clofe together within the limits that are requifite in the formation of the beds.

For various purpofes, bark-pits are neceffary in all hot-houfes or ftoves, and occafionally in forcing houfes, &c. And detached bark-pits, diftinct from the hot-houfe, are likewife very ufeful in all extenfive gardens on many occafions, being of great fervice in the culture of many forts of tender exotics, and in raifing various kinds under different methods of propagation; as well as for raifing and nurfing thofe of fimilar kinds in their young and tender growth; alfo occafionally for forcing and raifing early productions of feveral forts of hardy plants in the greateft perfection.

The bark-pit of a hot-houfe, &c. is an effentially neceffary interior compartment, and which, as before obferved, is the internal cavity wherein the tan or bark hot bed is made, extending lengthways, and occupying almoft the whole bottom fpace of the houfe, except about two feet on each fide and ends, which is referved for an alley or walk round, between the outward wall and that of the pit, which fhould be but very little funk below the general furface of the floor of the furrounding walk, and formed by a thin wall of brick-work, generally raifed, the greater part, three feet high above the furface, the bottom being paved with brick or ftone, &c. and in which the bark-bed being made to the whole width, length and depth, ferves both to plunge the pots of the more tender exotics in, fuch as the pine-apple, &c. in order that they may receive the kindly moift heat thereof immediately about their roots; and, at the fame time, to diffufe a peculiar beneficial warm vapour for heating the internal air, affifted by fire-heat in the flues in winter; but fufficient alone in fummer and autumn; producing, from May till October, an effectual temperature of internal heat, for the prefervation and growth of various tender exotic plants of the ftove kind, natives of different parts of the hot regions of South America, Afia, and Africa. See BARK-BED, HOT-HOUSE, and STOVE.

Hot-houfes, or ftoves of the common width, have in general only one pit, extending lengthways of them as defcribed above; but if they are of confiderable extent in length, the pit is fometimes divided in the middle by an intervening paffage, to render it more convenient in performing the neceffary culture of the plants.

Some hot-houfes, however, of very great width, have two internal bark-pits ranging parallel lengthways with an alley or paffage extending between them, which renders them more commodious in giving the requifite culture to the plants that are plunged in the beds, than if the whole was in one extremely wide pit, in which it would often be very inconvenient to come at the plants placed towards the middle of them; fo that two parallel pits, four or five feet wide each, become more eligible than one of eight or ten feet, and by having an intervening paffage, give a larger fcope and afford a better current of air, for the growth of the plants in the beds, as well as admit of viewing them to greater advantage and effect.

Detached or external bark-pits are exterior erections, feparate and diftinct from the hot-houfe or ftove, but in fome manner connected with, or appertaining to them, being, on many occafions, employed for fimilar ufes, as well as for various other purpofes, where occafional artificial heat is wanted. They are, as has been obferved, four, five, or fix feet wide, having fuch length as may be required; formed by a furrounding wall of brick-work, three or four feet high in the front, by four, five, or fix behind, where fometimes flues for winter fire-heat are erected in the upper part; the whole being covered at top with moveable glafs frames, floping fouthward to the full fun, and in which, a bark-bed being made to the whole width, length, and depth, becomes an ufeful appendage to the ftove; affifting in the culture of various tender exotics of that repofitory, efpecially in the way of a nurfery-pit, for raifing and preferving them to fome advanced ftate of growth; alfo occafionally in the propagation and protection of the more tender kinds of greenhoufe plants, or any particular, curious, or tender exotic plant, of the full ground, as being always ready, and prepared with a continuing growing heat, wherein to plunge the pots, where artificial heat is required, or effentially neceffary in raifing fuch tender plants more effectually and expeditioufly.

Thefe kinds of bark-pits alfo prove exceedingly ufeful in raifing many forts of tender exotics from feed, fuckers, cuttings, flips, &c. and in retaining and forwarding them in their growth for fome time. Bark-pits of the fame kind are likewife particularly ufeful and neceffary in the culture of young *ananas* or pine-apple plants, in rearing and nurfing them till of a proper age and fize, to be placed in the fucceffion-houfe, fruiting-ftove, or pinery. See BROMELIA ANANAS, and STOVE.

A fimilar kind of detached bark-pit is likewife occafionally ufed with advantage in the work of planting or tranfplanting, or fhifting tender or curious plants in pots, for plunging the pots which contain them, as foon as re-planted, into, which much expedites their taking freth root, and brings them up at full into a free and vigorous growth.

Bark-pits, of the fame kind, are alfo fucceffully employed in the work of forcing and raifing early productions, fuch as melons, kidney-beans, peas, ftrawberries, &c. and for many forts of flowers, both of the bulbous, rooted, and herbaceous kinds, as well as for fmall flowering fhrubs. And if the dimenfions of them were increafed, efpecially in height, in the back parts they might have feveral forts of dwarf-fruit trees in pots for the production of early fruit, placed in them. See FORCING-FRAME.

Detached bark-pits fhould always be erected in warm dry fituations, in a foutherly afpect, and be conftantly ranged lengthways in the direction of eaft and weft, or nearly fo, in order to have the whole front incline fully to the fouth fun, in a floping manner, on which to place the glaffes in the fame pofition, being generally ftationed either contiguous to the hot-houfe or ftove, but at a proper diftance in front of it, as the fituation and convenience of the place may admit. Or they may be erected at one or at both ends, extending in a line with it, but feparated by a paffage between them.

But detached bark-pits are fometimes formed with ridged tops, like the roofs of houfes, the glaffes floping to both fides, being ranged lengthways north and fouth, in order to have the benefit of the fun equally on both fides, and ufed for the fame purpofes as the others; though the common fouth-fronting pits, extending eaft and weft, are more generally adopted, being lefs expenfive in glafs-work, &c. and, in general, more convenient for different purpofes of the forcing kind.

They fhould be conftructed, as has been obferved, with walls of brick work, forming the upright fides and ends nine inches thick; and where fire-flues are intended, the back wall fhould be of a proper thicknefs from the bottom, to admit of having flues in the upper parts, a fire-place being contrived externally at the bottom at one end; or, in con-

fiderably

ſiderably extended pits, a double fire-place may be formed in the middle, behind, or one at each end, either endways, or in the back part, as may be thought the moſt convenient.

Some detached pits are formed of wood-work only, by means of poſt and planking, ſerving for particular occaſions, where no fire heat is required, as flues for that purpoſe cannot be admitted in ſuch kinds of pits; where additional heat is occaſionally neceſſary, in ſuch pits, it is effected by applying a ſtrong lining of hot dung to the outſides; by which a good conſtant heat may be ſupported. In theſe bark-pits, ſometimes the younger pine-apple plants are depoſited and nurſed for the firſt year; they are likewiſe occaſionally uſed for the purpoſes of propagating, raiſing, and nurſing tender plants in ſpring and ſummer, &c.; alſo for forcing early eſculent crops, flowers, &c.

The principal detached bark-pits ſhould, however, be formed with brick-work walls; as being the moſt effectual for general uſe, and of the greateſt duration.

At *fig.* 1. *Plate* I. in *Gardening*, is the repreſentation of a bed or pit of the moſt common kind, which may be made uſe of either with bark or dung.

Fig. 2. exhibits a view of a bark pit upon a larger ſcale.

Fig. 3. is the plan and ſection of two nurſing pits, as given by Mr. Nicol in the "Scotch Forcing Gardener," adapted equally to the purpoſe of ſtriking young pine plants, and the forcing of aſparagus, cucumbers, melons, ſtrawberries, French-beans, ſallads, flowers, &c. In the plan they appear conſiderably ſunk below the ground level for the convenience of ſhifting. But in wet ſituations this ſhould not be the caſe, but a bank of earth raiſed againſt them in a ſloping direction all round, as by this contrivance the front flues may be uſeful in raiſing early ſallads, by having the front borders properly prepared. The furnaces are placed behind communicating firſt with the front flues, but returning in the back ſingly. The ſurface of the bark-bed is level with the bottom of the flues all round, to prevent the danger of burning; and at the diſtance of two feet from the wall of the pit. The inner wall of the flue is formed a brick on edge, and the outer one a brick in bed, for the purpoſe of ſtrength. The diviſions of the plan are only each thirty feet in length, but they may be extended to forty, and be wrought by the ſame furnaces.

One length of ſaſh is ſufficient, as they are worked in the manner of the common hot-bed, having faſtenings at top to prevent their ſlipping down.

Fig. 4. is the plan and ſection of a ſingle pitted pine ſtove, on an improved conſtruction, as furniſhed by the ſame author, for a fruiting or ſucceſſion houſe. It is wrought by two fires, having a ſhed behind it which may be converted to various uſes.

The bottom of the bark-bed is level with the ſurface of the ground, but the ſurface much elevated, that the ſun and light may be admitted more freely to the plants.

Trelliſes for vines may be placed againſt the brick-wall and upright ſaſhes in front.

Two lengths of ſaſhes are here neceſſary in the roof. The under ones ſhould be made to move either up or down.

Fig. 5. is a bark-pit for ſucceſſion pine-apple plants.

BARKARY denotes a tan-houſe, or place to keep bark in, eſpecially for tanners.

It is otherwiſe called a *heath-houſe* in old writers.

BARKING *of Trees*, in *Rural Economy*, the operation of ſtripping off the bark or rind, which, when taken from ſome kinds of trees, as the oak, elm, &c. is made uſe of by the tanners, and of courſe becomes an article of profit to the proprietor.

It is the moſt uſual in this climate to perform the operation in the month of May, as, at that ſeaſon, the bark, by the riſing of the ſap in great quantity, is the moſt eaſily ſeparated from the wood. This, however, renders it neceſſary to fell the trees in that month; by which the timber is of much leſs value than it would be if they were cut down after the falling of the leaf.

It is remarked by Dr. Darwin, in his "Phytologia," that as the ſap-juice riſes in all deciduous trees during the vernal months to expand their foliage, though probably in greater quantity in ſome trees than in others; it muſt conſiſt, not only of ſugar and mucilage, as in the maple and birch, but of various other ingredients in different trees, which have not been attended to; as appears from the taſte of their young leaves, as of oak or aſh. And as ſome of theſe materials reſide in the roots and ſap-wood, or alburnum, ſo others of them may perhaps reſide in the bark, where they have been depoſited during the preceding ſummer, and become liquefied by the warmth of the ſpring, or diſſolved by the moiſture abſorbed from the earth and air, and conveyed upwards to the opening buds; whence it is evident, he thinks, that the barks of trees ſhould be taken off for uſe in winter, or in early ſpring, before their buds begin to expand; as then a part of theſe nutritious juices, or of the other materials which are required for medicines, or in the arts of dyeing and tanning, are in part expended on the young leaves, which generally poſſeſs the taſte and qualities of the bark, though in a leſs degree. It may nevertheleſs be obſerved, he ſays, that all theſe aſtringent or other materials may reſide in the alburnum of the trunk or roots of all perennial vegetables, as well as in their barks; becauſe the young leaves, which pullulate on decorticated oaks, have the ſame bitter flavour as the leaves on thoſe which have not been decorticated; which may in part be derived from the bark of the root, which is ſtill in the ground, and be carried up the veſſels of the ſap-wood to the new buds. Hence the bark of oak-trees ſhould be taken off during the winter; but when the ſap juice, reſiding or aſcending in the veſſels of the alburnum, becomes more liquefied by the warmth of the ſpring, or is mixed with moiſture, and puſhed up with great force by the abſorbent veſſels of the roots, it oozes out in ſome degree between the alburnum and the bark; and thus the bark becomes ſo much more readily ſeparated from the ſap-wood; whence this buſineſs, as has been already obſerved, is generally done early in the ſpring, and ſhould always be performed before [illegible] the bark appears; becauſe this proceſs of the germination of the buds continues to injure the bark, whether the tree be cut down or not; as the buds expand their foliage on new felled trees, as they lie on the ground.

It is obſerved by Mr. Marſhall, in his "Rural Economy of Yorkſhire," that the peeling of oak timber in that country is generally done by the day, the labourers being, he believes, invariably employed by the timber-merchant, not by the tanner; practices which are, he conceives, productive of a conſiderable ſaving of bark. Men, ſays he, working by the ton or quarter, or tanners paying by weight or meaſure, will not induce them to peel the boughs ſufficiently near; as it is againſt their intereſt to do it. But it is the intereſt of the timber-merchant, or of the tanner, if he purchaſes by the groſs, or by the ton of timber, to peel ſo far or ſo long as the bark will pay for the labour. This, he thinks, accounts for the ſmallneſs of the twigs which are peeled in that county; if the bark run freely, twigs not much thicker than the finger are frequently [illegible] the bark.

The tool commonly made uſe of for this purpoſe [illegible]

[illegible]

countries, is made either of bone or iron. If of the former, the thigh or the shoulder bone of an ass is preferred, which is formed into a two-handed instrument for the flender and larger boughs, with a handle of wood fixed at the end. The edge of ice given by the grinding-ſtone, or rasp, keeps itself ſharp by the wear that afterwards takes place in the operation.

The method of drying bark in the above country is generally the common one of ſetting it in a leaning poſture againſt poles lying horizontally on forked ſtakes. But in a wet ſeaſon, or when the ground is naturally moiſt, it is laid acroſs a line of top-wood, formed into a kind of hurdlet, raiſing the bark about a foot from the ground. By this practice no part of the bark is ſuffered to touch the earth, and it is perhaps, upon the whole, the beſt practice in all ſeaſons and ſituations. The bark is then put in ſtacks or houſes, and generally ſhaved or chopped ready for the tan-pit, and afterwards ſold to the tanner at ſo much the quarter. This cuſtom, however, appears to be founded on a falſe baſis; the tanner is the beſt judge of the mode of preparation, and the operation ought, therefore, to paſs under his immediate inſpection.

The practice of grinding bark does not ſeem to have yet got ſufficient footing in the diſtrict mentioned above; whenever it does, Mr. Marſhall obſerves, it will of courſe bring the preparation of it into its proper channel.

The price of chopped bark varies conſiderably, according to the quality and the circumſtances under which it is placed.

Maliciouſly barking of apple-trees, or other fruit trees, is made felony by 37 Hen. VIII. c. 6.

By the French laws, all dealers are forbid to bark their wood while growing, on the penalty of 500 livres. This law was the reſult of ignorance; it being now found, that barking of trees, and letting them die, increaſes the force of timber.

Barking is alſo a name given to the cry of dogs and foxes.

The term is alſo applied to certain quaint noiſes, made by ſick perſons in ſome diſeaſes.

In cynic ſpaſms, and epileptic fits, the patient ſometimes ſnarls, howls, and barks, with all the notes of a dog. But it is in the *hydrophobia* that barking has been oſteneſt obſerved; perſons ſeized with this, are apt to rave, bite, ſnarl, and make a harſh noiſe in their throats, which is called barking.—Vide Phil. Tranſ. N° 280. N° 323. N° 207. and N° 242.

Barking, in *Geography*, a market town in the county of Eſſex, ſeven miles from London, is ſo called from a creek on which it is ſituated. The town is of conſiderable extent, and chiefly inhabited by fiſhermen, from whom the fiſh-markets of London are frequently ſupplied. The pariſh is divided into the four wards of Barking, Great Ilford, Chadwell, and Rippleward, abounding with fertile lands and beautiful proſpects. It was to this place that William the Conqueror retired, ſhortly after his coronation, till he had erected ſuch caſtles in London as might awe the people whom he governed; and here the great barons Edwin and Morcar came and ſwore fealty. Very lately the remains of an intrenchment were viſible at this place; but the plough has nearly obliterated the whole. Much land in the pariſh has been recovered from the rivers Thames and Roding. The ſecond nunnery of the Saxons was founded at Barking by Erkinwald, fourth biſhop of London, in 666, for Benedictines; the biſhop placing his ſiſter Ethelburga (afterwards canonized) as the firſt abbeſs. She was conſtituted lady paramount in all the manors within the half hundred of Becontice, and held of the king an entire barony, a privilege granted to only three other religious foundations in England, *viz.* Shaftſbury, Wilton, and Wincheſter. At the diſſolution, the revenues of Barking abbey were eſtimated at 877*l.* 19*s.* 5½*d.* A gateway and a great part of the wall of this magnificent ſtructure ſtill remain adjoining the church-yard. In the townſhip of Great Ilford is an ancient hoſpital for lepers. The pariſh church is a handſome ſtructure, which formerly belonged to the abbey, but is now in the gift of the warden and fellows of All Souls college, Oxford.

The market is held on Saturday, and a fair on October 2nd for horſes; another fair is held yearly on and round a famous oak denominated *Fairlop*, concerning which the following ſummary may be acceptable. Many years ſince, Mr. John Day, a worthy but whimſical character in Wapping, used annually to dine with his friends on beans and bacon under the ſhade of this ſpreading oak; hence arose the fair. *Fairlop oak* has ſuſtained its dignity in the foreſt of Hainault for many centuries, and though it has very materially ſuffered, ſtill maintains a majeſtic appearance peculiar to itſelf. About a yard from the ground, where its rough fluted ſtem is thirty-six feet in circumference, it divides into eleven vaſt arms, not in the horizontal manner of the oak, but rather in that of the beech. The fair held beneath its ſhade, which overſpreads an area of 300 feet in circuit, has been injurious to the parent ſtem, by means of fires which the viſitors have occaſionally kindled in the cavities formed by the decayed roots of the tree. Mr. Forſyth's compoſition, however, has in ſome degree remedied the decay; and a cloſe fence five feet high, with a board on which is painted, "All good foreſters are requeſted not to hurt this old tree, a plaiſter having been lately applied to his wounds," will, it is hoped, preſerve *Fairlop oak* from further deſtruction.

BARKOW, a town of Poland, in the palatinate of Braclaw; 48 miles W. N. W. from Braclaw.

BARKU, a village of Africa, in the country of Agonna, where the Dutch have a fort. See Agonna. *Little Barku* lies about a league and a half from the former.

BARKWAY, a populous and flouriſhing village of Hertfordſhire, in England, is ſituated in the hundred of Edwinſtree, 3 miles from Royſton, 19 from Cambridge, and 34 north from London. This is a conſiderable thoroughfare in the road to Lynn, and has ſeveral good inns. At the time of the conqueſt, the lands here were divided between four great lords into as many manors.

Barkway was anciently a market town, privileged by Edw. I. to keep a market on Tueſday, and an annual fair for ſix days. The market was altered in the reign of Elizabeth to Friday, and at laſt diſcontinued on account of its proximity to Royſton. The church is a handſome ſpacious building, and the vicarage is in the gift of the Cheſter family; within the building are ſeveral fine monuments and ſome curious painted glaſs. This village was greatly damaged by fire in 1748. Its houſes amount to 147, and its inhabitants to 699.

BARLAAM, in *Biography*, a learned monk of St. Baſil, flouriſhed in the fourteenth century, and was born at Seminara in Calabria. Having in his youth viſited Greece for the purpoſe of learning the Greek language, he ſettled at Conſtantinople in 1327, where he obtained by his extenſive erudition the favour of the emperor Andronicus the younger, and alſo that of his confidential domeſtic John Cantacuzene, in whoſe houſe he reſided. He was employed in teaching the languages and belles lettres; and in 1331, was made abbot of the monaſtery of the Holy Ghoſt. Barlaam is deſcribed by Petrarch and Boccace as a man of a diminutive ſtature, though eminent for his learning and genius; of a piercing diſcernment, though of a flow and painful elocution.

elocution. Having visited the monks of mount Athos, he engaged with them in a controversy concerning the place of the soul and the essence of God. These fanatical sects, in their mental ecstasies, pretended to see the light of mount Thabor, which had been manifested to the disciples in the transfiguration of Christ, and likened to the navel, conceived by them to be the seat of the soul; and this light was adored by them as the pure and perfect essence of God himself. Nor were they inquisitive, how the divine essence could be a material substance, or how an *invisible* object could be perceived by the eyes of the body. Barlaam ridiculed these monks, and accused them of heresy and blasphemy. He introduced the more learned of the monks to his acquaintance, while the simple devotion of their brethren; and Gregory Palamas, who took a lead in this dispute on the part of the monks, introduced a scholastic distinction between the essence and operation of God. This distinction, however, did not escape the reproach of polytheism; and Barlaam charged the Athonites with holding two eternal substances, a visible and an invisible God. The dispute was violent, and Palamas's life was in danger. However he secured himself by a timely retreat; and Andronicus, who, with a view of obtaining the aid of the western princes against the Turks, wished to reconcile the Greek church with the see of Rome, sent Barlaam in 1339 to conduct this negotiation at the court of pope Benedict XII. at Avignon. Here he formed an intimate connection with Petrarch, whom he instructed in the Greek language; and Barlaam is said to have been the first who revived, beyond the Alps, the memory, or at least the writings of Homer. Being compelled, however, to relinquish a fruitless embassy, he returned to Constantinople, and his dispute with the monks of Athos was renewed; and the censure of a council, held in 1341, obliged him to quit the east. After a separation of three years, he renewed his acquaintance with Petrarch in the court of Naples; and by his recommendation Barlaam was finally settled in a small bishopric of his native Calabria at Hieracium, now Gerace, where he died about the year 1348. He deservedly incurred the charge of inconstancy in religion; because, when he was a Greek monk, he wrote against the Latin communion, which he vindicated after having been made a Latin bishop. Having adopted the sentiments and precepts of the stoics with respect to the obligations of morality and the duties of life, he digested them into a work intitled "Ethica ex Stoicis." He also wrote a work on arithmetic, and some letters and orations. Moreri. Gibbon's Hist. vol. xi. p. 388. vol. xii. p. 66. 120. Mosheim's Eccl. Hist. vol. iii. p. 305. 368.

BARLAAMITES, in *Church History*, the followers of the Calabrian monk mentioned in the preceding article. They are the same with those otherwise denominated *Acindynites*.

BARLÆUS, Gaspar, in *Biography*, an eminent Latin poet of the 16th century, was born at Antwerp in 1584, and educated for the ministry at Leyden, where he afterwards settled in the exercise of his profession, and also as sub-principal and professor of logic. But in consequence of having joined the Arminian party, he was deprived of all his employments, and devoted himself to the study of medicine, for which purpose he took a doctor's degree at Caen. In the practice of physic he made no great progress; but resuming the office of a teacher, delivered lectures in philosophy and the belles lettres to young persons at Leyden. From hence he was invited in 1631 to be professor of philosophy in the public school founded at Amsterdam, where, on account of his attachment to Arminian principles, he was the object of jealousy to the orthodox, by whom he was unkindly treated, and unjustly charged with Socinianism. At length he fell into the hypochondriac malady incident to learned men, and died in 1648. Barlæus was a man of erudition as well as genius; and he principally distinguished himself by his Latin poetry, in which he has been thought to rival the ancients, and at least to set upon a par with Claudian. His "Poems," printed at Leyden in 1628 and 1631, contain three books of heroic pieces, two of elegies, and other miscellaneous pieces, consisting of satires, epitaphs, &c. His Latin harangues, on various subjects, were admired. Every great event that occurred in his time he celebrated; and he celebrated most of the greatest men of his age. His "Relation of the Transactions in Brasil under the government of Count Maurice" was published in 1647; and his "Letters" were collected after his death, and printed in two volumes. He also published several controversial pieces against the adherents of Arminius. Gen. Dict.

Barlæus, *Lambert*, the brother of the preceding, was born at Bommel in Gueldreland in 1595, and became professor of Greek in the university of Leyden. His inaugural oration "De Græcarum Literarum Præstantia ac Utilitate" was pronounced in 1641. In 1652, he published the "Timon of Lucian," with notes; and after his death, which happened in 1655, his "Commentary upon the Theogony of Hesiod" was printed in 1658. Gen. Dict.

BARLAIMONT, or Barlemont, in *Geography*, a town of the Netherlands, in the county of Hainaut; 4 leagues south-east of Le Quesnoy.

BARLAND, Adrian, in *Biography*, a writer of the sixteenth century, was born about the year 1480 at Borland, a village of Zealand, whence he took his name. Having studied at Ghent and Louvain, he became first a private teacher at the latter place, and afterwards professor of eloquence in the university; in which station he continued till his death in 1642. His works, which were all written in Latin, were numerous. Some of the principal are "Notes on Terence, Virgil, Menander, and Pliny the younger;" "An Abridgment of Universal History, from the birth of Christ to 1532;" "On the Doges of Venice;" "Chronicle of the Dukes of Brabant;" "History of the Counts of Holland;" "Life of Charles, Duke of Burgundy;" "Catalogue of the chief Towns of Lower Germany;" "De literatis Urbis Romæ Principibus." Several of his historical works were published together at Cologne, in 1603, 8vo. Moreri.

BARLENGA, in *Geography*, a small island, is the principal of a cluster in the Atlantic ocean, about 3 leagues from the west coast of Portugal, with a fortress. These islands are called "Berlings" by the English seamen, and most of them are merely rocks. N. lat. 39° 20'. W. long. 8° 41'.

BARLERIA, in *Botany*, a genus of plants intermediate between *Ruellia* and *Justicia*, named by Plumier in honour of James Barrelier, a Parisian physician and botanist. Lin. g. 785. Schreb. 1051. Plum. 31. Juss. 103. Gærtn. t. 54. Class, *didynamia angiospermia*. Nat. Ord. *Personatæ—Acanthi* Juss. Gen. Char. *Cal.* perianth four-parted, permanent: two opposite leaflets larger. *Cor.* monopetalous, funnel-form, quinquefid, subequal, the fifth division deeper than the others. *Stam.* filaments four, filiform, two very short, capillary; anthers oblong, two lower withered. *Pist.* germ ovate; style filiform, the length of the stamens; stigma bifid. *Per.* capsule acute, flat-quadrangular, two-celled, two-valved, gaping elastically at the claws; partition contrary. *Seeds* two, compressed, roundish.

Eff. Gen. Char. *Cal.* four-parted. *Stam.* two far less than the others. *Caps.* quadrangular, bilocular? bivalvular, elastic without the claws. *Seeds* two.

Species,

Species, 1. B. *longifolia*. Anchuſa. Pluk. Alm. 30. t. 133. f. 4. Morr. 3. t. 11. t. 27. f. 5. "Spines of the whorls ſix-fold; leaves oblong, very long, ſcabrous." The ſtem is erect, rough, obtuſely quadrangular; leaves oppoſite, lanceolate-ſword-ſhaped, entire, thrice the length of the internodes; flowers in whorls, axillary; three ſpines on each ſide of the ſtem of the length of the whorls. A native of the Eaſt Indies. Introduced here by ſir J. Banks in 1781. 2. B. *ſpinifolia*. Plum. g. 31. 43. f. 2. "Spines axillary; leaves lanceolate, tooth-letted." Stems erect, ſquare, three feet high, with two oblong entire leaves at every joint, above which the flowers ſtand in whorls, ſurrounding the ſtalks, and under each whorl are ſix ſharp ſpines as long as the calyx; the flowers are blue, and more completely labiated than the other ſpecies of the genus. 3. B. *hyſtrix*, hyſtrix frutex. Rumph. 7. 22. 13. "Spines axillary, twin, ſimple; leaves entire, lanceolate-ovate." Stem wand-like, not firm; branches ſcarcely angular; leaves ſmooth on both ſides; axillary ſpines twin, ſimple, ſtiff, horizontal. A native of the Eaſt Indies. 4. B. *Prionitis*. Coletta-Veetla. Rheed. Mal. 9. 77. 41. "Spines axillary, pedate, fourfold; leaves entire, lanceolate-ovate." Stem herbaceous, round, ſmooth; leaves oppoſite, running down the petioles, pubeſcent underneath; between the branch and leaf a ſpine, with four ſharp rays from the centre; calyxes acuminate-ſpiny. A native of the Eaſt Indies. 5. B. *buxifolia*. Caraſchulli. Rheed. Mal. 2. 91. 47. "Spines axillary, oppoſite, ſolitary; leaves roundiſh, entire." Stalks ſhrubby, five or ſix feet high, with ſtrong ſpines under the leaves; flowers in whorls towards the upper part of the ſtalk; ſeed-veſſels ſhort, containing three or four flat ſeeds. A native of Jamaica and the Eaſt Indies. 6. B. *noctiflora*. "Spines axillary, branching; leaves lanceolate, entire, cuſpidated; bractes ovate, ſcarioſe; tube elongated." Flowers blue, reſembling thoſe of B. buxifolia, but longer, and expanding during the night; bractes ſmooth. Obſerved near Tanjour by Koenig. 7. B. *criſtata*. Melampyro cognata, &c. Morr. Hiſt. 3. 429. f. 11. t. 23. f. 7. "Leaves oblong, entire; two leaflets of the calyx broader, ciliated, and two linear, acute." Stem round; leaves oblong-ovate, ſharp at both ends; flowers axillary, ſeſſile; two leaflets of the calyx ovate, acuminate, ſerrate-ſpiny; two alternate, ſhorter, linear, acute, entire, ſpreading; corolla blue, with ovate lobes. 8. B. *coccinea*. Plum. g. 31. 43. f. 1. "Unarmed; leaves ovate, tooth-letted, petioled." Stems ſmooth, four feet high; flowers ſcarlet, in whorls at the joints, and appearing from July till September. A native of South America. 9 B. *pungens*. "Unarmed; leaves ovate, acute, pungent; bractes ciliated." Found at the cape of Good Hope by Thunberg. 10. B. *longiflora*. Gærtn. Fruct. 253. "Unarmed; leaves ovate, ſilky; bractes cordate, ſcarioſe; corollas very long." An underſhrub, with oppoſite ſilky branches; leaves oppoſite, entire, on ſtalks; flowers terminal; bractes two or bivalve, ſeſſile, nearly as large as the leaves, and below theſe four other bractes diſpoſed croſs-wiſe, linear, ſpreading, ſilky, as long as the leaves; capſule pointed at each end, quadrangular; ſeeds much flatted, covered with waved bundles of appreſſed hairs. Found on the mountain of St. Thomas in Malabar by Koenig. 11. B. *procumbens*. Lour. Cochinch. 377. "Unarmed; leaves lanceolate, crenate, hiſpid; heads terminal." This is a procumbent twiſted rough underſhrub; leaves oppoſite, broad-lanceolate; flowers yellow; bractes acuminate, ciliate; ſegments of the calyx ſubulate, hairy; capſule oblong, angular, with orbicular ſeeds. A native of China, near Canton.

Propagation and Culture. All the ſpecies of this genus require the protection of a bark-ſtove. The ſecond, fourth, fifth, and eighth were cultivated by Miller, but the others have not yet been introduced here. The ſecond is to be propagated by ſeeds, which will ſow themſelves in the pots which are near them in the ſtove, when the plants are once obtained; but where the ſeeds are received from abroad, they muſt be ſown on a hot-bed on the ſpring; and when the plants are fit to remove, they muſt be each planted in a ſeparate pot, plunged into a hot-bed of tanners' bark, where they muſt conſtantly remain, and be managed in the ſame manner as other tender exotics from the ſame countries; giving them water frequently in ſummer, and allowing them freſh air every day in warm weather. They flower from June till November. The fourth has flexible perennial ſtalks, which, if cut off during the ſummer months and made into lengths of ſix or eight inches, and planted in pots, plunging them into hot-beds, and duly watered and ſhaded from the ſun, will ſoon put forth roots, when they may be each planted in a ſmall pot and plunged into the tan-bed in the ſtove, where they are found to grow better than in the dry ſtove. This ſpecies rarely produces flowers in England. The fifth and eighth ſorts will produce ſeeds which are to be treated in the ſame manner as the former. See Martyn's Miller's Dict.

BARLETTA, in *Geography*, a ſea-port town of Italy, in the kingdom of Naples and country of Bari, on the Adriatic, 4 miles weſt of Trani. The inſide of this city is magnificently built, though it has from without a ruinous aſpect, and is thinly peopled. Frequent changes of maſters, bad adminiſtration, and decay of commerce, have blaſted its proſperity. Its ſtreets are wide and well paved, and its houſes large and lofty. The ſtyle of building fixes their date at the firſt emergence of the arts out of the chaos of barbariſm; many of the houſes ſtill retaining pointed arches, ſhort twiſted columns, and other remains of Saracenic taſte; while others are decorated with pillars, entablatures, and members characteriſtic of the ancient Grecian architecture. The city owes its embelliſhments to the policy of the Arragonian kings, who reſided here to ſecure the allegiance of the Pugliеſe. In the cathedral, which is remarkable for its antique granite columns, Ferdinand I. was crowned. In the market-place ſtands a coloſſal bronze ſtatue, ſeventeen feet three inches high, repreſenting, as it is ſuppoſed, the emperor Heraclius, who began his reign in 1610. The citadel is ſpacious, and commands the port, conſiſting of ſeveral irregular piers, but without any ſhelter from the north wind, which ſweeps the whole baſon. The exports from this place are ſalt, corn, almonds, and liquorice, which latter grows ſpontaneouſly in the ſwamps. During the hot months the air is accounted unwholeſome. Barletta is ſaid to have derived its name from a tower, or drinking-houſe, ſituate on the road to Cannæ, having for its ſign a barrel, "barilletta;" and when the cities of Cannæ and Canoſa fell to decay, and the advantages of trade drew people to the coaſt, a numerous colony gathered round this tower, and in 484, pope Gelaſius conſecrated a church for the ſettlers, which became the cathedral of the united ſees of Nazareth, Cannæ, and Monteverde. The emperor Frederick added greatly to Barletta, and has been by ſome called its founder. Others ſuppoſe it to have been the Barduli of the Itineraries. In the fifteenth century, Barletta was eſteemed one of the four ſtrongeſt fortreſſes in Italy; the other three being Fabriano in the Marca, Prato in Tuſcany, and Crema in Lombardy. Swinb. Trav. vol. i. p. 275. N. lat. 41° 30'. E. long. 16° 32'.

BARLEY, in *Botany*, a gramineous, frumentaceous herb, whoſe ſeeds are of the larger ſort, being covered with a huſk, growing in a ſpike, and the grains bearded. See HORDEUM.

Pearl

Pearl BARLEY, and *French* BARLEY, are barley freed from the huſk, and rounded by a mill; the diſtinction between the two being, that the pearl barley is reduced to the ſize of ſmall ſhot, all but the very heart of the grain being ground away. In mills appropriate to this purpoſe, the mill-ſtone is rough-hewn round its circumference; and inſtead of an under ſtone, has below it a wooden caſe, in which it revolves, and which, on the inſide, is lined with a plate of iron pierced like a grater, with holes having their ſharp edges turned upwards. The barley is thrown upon the ſtone, which, as it runs round, draws it in, frees it from the huſk, and rounds it; after which, it is put into ſieves, and ſifted. The firſt kind of barley-mills is a German invention. In Holland, the firſt was erected at Saardam, not earlier than the year 1680. The mill, which was at firſt called the Pelikaan, ſcarcely produced to the owner more profit ſufficient to maintain a family; but in the beginning of the laſt century, there were at Saardam fifty barley-mills, which brought conſiderable profit to their proprietors.

BARLEY, in *Agriculture*, a well-known kind of grain, from which malt is made. Miller enumerates four different ſorts of this uſeful plant: *ſpring barley*, *long-eared barley*, *ſprat-barley*, and *winter barley*.

The *ſpring barley* has a double row of beards or awns ſtanding erect. This is the firſt principally cultivated in the ſouthern and eaſtern diſtricts of both England and Scotland, and which the farmers diſtinguiſh into two different kinds, the *common* and the *rath-ripe* barley; but the two ſorts are in reality the ſame, as the rath-ripe is only an alteration of the common barley, occaſioned by being long cultivated upon warm gravelly ſoils. The ſeed of this, when ſown on cold or ſtrong land, will, the firſt year, ripen nearly a fortnight earlier than that taken from ſtrong land, and therefore the farmers in the low diſtricts generally purchaſe their ſeed barley from the warm or gravelly lands; for when cultivated in the vales two or three years, it becomes full as late in ripening as the common barley of their own produce: on the other hand, the farmers on warm gravelly lands are obliged to procure their ſeed barley from the ſtrong lands, otherwiſe their grain would degenerate in bulk or fulneſs, which by this change is prevented. This ſort of barley is eaſily diſtinguiſhed as above, and beſides the rind is much thinner, and of courſe it is eſteemed better for making malt.

The *long-eared barley* is likewiſe cultivated in many parts of England, and is a good ſort; but ſome cultivators object to it, becauſe from the ears being long and heavy they think it more apt to lodge. In this ſort of barley, the grains are regularly ranged in a double row, lying over each other, like the tiles of a houſe, or the ſcales of fiſh. It has no beards or awns; and its rind is very thin, and therefore it is eſteemed for making malt.

The *ſprat-barley*, which is ſometimes alſo called *Battle-dore*, *Fulham*, and *Putney* barley, from great quantities being cultivated in the neighbourhoods of thoſe places, has ſhorter and broader ears than either of the former ſorts; the awns or beards are longer, which tend greatly to preſerve it from the birds, and the grains are placed together. It ſeldom, however, grows ſo tall as the other kinds; the ſtraw is generally coarſer, and therefore not ſo good as fodder for cattle.

The *winter barley*, which is called alſo *ſquare barley*, *bear barley*, and *big*, is ſeldom cultivated in the ſouthern parts of England; but in the northern counties, and in Scotland, it is the ſort generally ſown, as being much hardier than the others. There are two kinds of this barley, the one with four rows of grains, and the other with ſix, the latter of which is commonly diſtinguiſhed by the name of *battle-dig*. The grain is large and plump; but the rind and chaff of it being thicker than that of either of the preceding ſorts, it is leſs eſteemed for making malt.

Barley, from its being that ſort of grain which is conſidered next in value to wheat, is very generally cultivated. On dry, light, mellow ſoils, the thinneſt-rinded and largeſt-bodied barley, which is always eſteemed the beſt in quality, is produced. Even light poor ſoils, when dry, and from nature and ſituation warm, yield barley which is ſuperior in quality to that which is commonly reaped from the ſtrongeſt land when cold or of a moiſt nature.

In the corrected report of Middleſex it is obſerved, that the tender nature of this plant, in its infant ſtate, unfits it for cold and compact ſoils. It thrives beſt in a ſoil that is moderately dry and light, as a loamy ſand, and is eſteemed rather a clean crop. As, for this crop, the ſoil is generally well tilled late in the ſpring, it reduces the weeds very much; and from its occupying the ground only four months, they have not time to recover themſelves and perfect their ſeed. This grain may and frequently is, the writer ſays, ſown after every kind of crop, but always ſucceeds beſt after turnips, peaſe, beans, or others of an ameliorating quality.

In the preparation for this grain, the ſoil ſhould invariably be well pulverized and rendered light firſt by a thin ploughing and then by harrowing, which ſhould be followed at as great a diſtance as the ſeaſon will admit by a more deep croſs ploughing, harrowing, and rolling. The ſeed ſhould then be ploughed in with a very ſmall furrow, and immediately afterwards clover ſeed harrowed in with ſhort-tined harrows, which leaves the land as light as poſſible. The next thing to be done is, with one horſe to draw a very light roll over the land, in order to preſs the mould gently on the ſeeds. Theſe operations promote a more certain, ſpeedy and equal vegetation than can be procured by harrowing in the ſeed. Harrowing in the ſeed is, however, the more uſual method, and is, he thinks, the cauſe of much grain being loſt, and alſo of the crop being often of two or three growths. Many farmers poſtpone the laſt rolling until the firſt leaves of the ſeeds are up, but, it is believed, more from the hurry of the ſeaſon than from choice. This perfect tillage ſeldom fails to ſecure a good crop of barley, and a plant of clover.

In the event of land-ſprings, or exceſſive rains, it may be adviſable not to plough the land flat, but into ridgelets of about eighteen inches wide. Theſe will drain themſelves dry in any weather, at leaſt ſo much ſo, that two or three dry days will prepare the ſoil for harrowing previous to the ſecond ploughing; and if the ſeaſon ſhould ſtill continue favourable, the land on ſuch ſecond ploughing might be laid up in a ſimilar manner till ſowing-time; when two or three days more of fine weather would render it fit to be harrowed or ſcuffled down, and for ploughing in the ſeed; otherwiſe a third ploughing may be given, and the ſeed be harrowed in; which laſt is conſidered the better practice, where the ſoil is not quite ſo dry as could be wiſhed. Scuffling the land, inſtead of the ſecond ploughing, would in fine ſeaſons diſpatch the work, and be a ſaving of expence. In the cleaneſt ſoil it would be equal to croſs ploughing, and in ſoils not quite free from root-weeds it would be much more uſeful by bringing them within reach of the harrows. It will perform more than double the quantity of work with the ſame number of men and horſes, and leave the land equally ready for the harrow and roller before ſowing the ſeed.

The author of the Synopſis of Huſbandry obſerves, how-

ever, that it is improper to ſow clover among barley on rich land, becauſe the natural fertility of the ſoil haſtens on the vegetation of the graſs, which will before harveſt have advanced to a conſiderable height among the corn, and will occaſion a longer time to be neceſſary for drying the ſwath; and thus, by lying abroad longer than would otherwiſe have been required, a total deſtruction of the crop may enſue; but in thoſe lands, where there is not the danger of ſo luxuriant an increaſe, clover, trefoil, and other graſs-ſeeds may, he thinks, often be ſown among barley; and if a favourable time can be procured for harvelting it, the ſtraw may be greatly improved by the mixture of the clover or other graſſes, and become then a valuable fodder in the winter; but barley-ſtraw ſimply is, he ſays, the moſt ordinary cattle-food of any.

Where barley ſucceeds turnips, the land is ſometimes only once ploughed; but the author of modern agriculture ſays that it is a much better method to plough it twice, firſt early in the ſpring, and again before ſowing the ſeed. This laſt is the practice in Norfolk, where that ſpecies of grain is cultivated in a more perfect manner and to a greater extent after turnips, than perhaps in any other diſtrict. But when barley is ſown after peaſe, beans, or oats, the land is commonly firſt ploughed in autumn; and the attentive farmer always takes care on this occaſion to plough in ſuch a manner as to expoſe as great an extent of ſurface to the influence of the air and froſt as poſſible, and at the ſame time to form the ridges in ſuch a way as to prevent the field from receiving any damage from exceſſive rains during winter. The ſecond ploughing is given immediately after the oat-ſeeding is finiſhed. This ploughing is intended to anſwer two purpoſes; in the firſt place, to looſen the couch-graſs and other root-weeds where they abound, ſo that they may be eaſily taken out by the harrows, which are immediately afterwards applied; and in the ſecond place, to reduce the ſoil to a finer tilth, whereby the ſeed-weeds are encouraged to vegetate, and which the ſubſequent ploughing and harrowing at ſeed-time effectually deſtroy.

This ſort of grain is alſo frequently ſown after wheat, when the ſame mode of culture as juſt mentioned is adopted. But however common this rotation of cropping may be in ſome diſtricts, there is no good reaſon, he ſays, why it ſhould be recommended to the general notice of farmers. For two white corn crops ſucceeding each other is undoubtedly an erroneous method, both for profit and improvement. Beſides, it moſtly happens, that where barley ſucceeds wheat, the crop is in ſome meaſure blighted, many of the ſtalks becoming white about the month of July; and where there are any grains in the ears, they are ſhrivelled and never come to maturity, though the ſoil may be well ſuited to the production of this ſort of grain.

The author of the Survey of Middleſex indeed thinks, from the nature of corn crops, that barley ought not on any account to be ſown after either wheat, rye, or oats; a much better practice being to ſow it after turnips, potatoes, carrots, tares, &c. and in ſome caſes, after hemp, flax, and rape. The land ſhould not receive any further manure than what was laid on for the preceding crop, together with the dung and urine depoſited by cattle during the time they are eating the green crops off the lands.

The ſeed ſeaſon for barley begins, in moſt of the ſouthern counties, about the firſt week of March, and terminates in the more northern ones, towards the middle of June. But from the middle of March to the end of April may be reckoned the chief barley ſeed ſeaſon, as within theſe periods by much the greateſt proportion of that ſpecies of grain is put into the ground.

The writer juſt mentioned obſerves, that barley, though uſually ſown during the months of March, April, and May, has ſucceeded when put in the firſt week in June; but it ought to be ſown as early as the ſoil is ſufficiently dry and in condition to receive it, and the prior attention which is due to the oat, tare, and other crops will permit. Let it always be kept in mind, ſays he, that barley will bear late ſowing much better than thoſe crops. Both the four and ſix-rowed kinds of barley are frequently ſown in the autumn nearly at the ſame time with wheat, not only in temperate climates, but alſo in very cold countries; their hardineſs being ſuch as to bear the ſeverity of the winter ſeaſon even in the mountainous parts of the northern countries. In hot countries they are moſtly ſown in January, February, and March.

All the other ſorts are ſown in the ſpring of the year in a dry time, as has been already ſeen; when this ſort of grain is ſown late on ſtrong clayey ſoils, if the ſeaſon does not prove very favourable, it is very late in autumn before it is fit to reap or mow, unleſs it be the early or rath-ripe ſort, which is often ripe in nine weeks from the time of ſowing.

In the ſeventh volume of the Annals of Agriculture, Mr. Young gives the following experiments by Mr. Macro, on early and late ſowing of barley; on Nov. 16, 1785, he began his experiments by ſowing two buſhels of barley, which he harrowed in on clover land that had been folded the ſame as for wheat; this firſt ſowing, therefore, had only one earth. The barley came up about a week ſooner than the wheat by the ſide of it, which was ſown the ſame day, and was exceedingly flouriſhing till the firſt ſharp froſt ſet in, which damaged the blade, but did not ſeem to affect the root. As near the middle of December as the weather would permit, he ſowed two buſhels more, on exactly the ſame quantity of ground, and ſome about the middle of every month, till the month of May 1786. This and every ſowing after, it had two earths; one caſt, or half the ſeed, was ploughed in, and the other half harrowed in; all the land was folded alike in the month of November. The ſecond ſharp froſt killed ſome of this ſowing, and a good deal of that ſown in November; but they both, with that ſown in January, ſeemed to ſuffer ſtill more by the ſharp cutting winds in the month of March, when there was no ſnow to cover the blade, and it was injured by the froſt. The ſowings in February and March loſt few, if any, of their plants, and, what was ſomewhat remarkable, were both forward enough to be harveſted on the ſame day with the three preceding ſowings. That ſown in April was full a fortnight later; and that ſown in May, there not being any ſo late ſown in the neighbourhood, was entirely deſtroyed by vermin.

As he ſome years before intended trying the ſame experiment, but was diſappointed of knowing the event by the ſtupidity of his workmen, he determined this time to prevent any miſtakes by mixing the different parcels in the barn, to threſh enough of the different ſowings in the field to ſatisfy himſelf which was the moſt profitable crop, and accordingly attended the threſher the whole day himſelf. As it was not at all neceſſary for the experiment to threſh the whole crop, he took three ſwaths of each ſowing twelve yards in length, on the loweſt part of the land, where he thought the ſoil was the moſt equal for the purpoſe of the experiment, which, he ſhould have obſerved before, were by the ſide of each other on the ſame piece of land. He had every parcel dreſſed and put into a ſack by itſelf as ſoon as threſhed, and the account ſtood thus:

From

	Pecks.	Qrs. P.	Pints.		Combs.	Bushls.	Pecks.	Qrs.
From that sown in November 72 sq. yards.	3			or pieces.	12	2	1	
December	3		1		12	3	1 1/2	1 1/2
January	3	1			13			
February	2	3	2		11	2	2 1/2	
March	2	2	2		10	3	3 3/4	1
April	2		2		8	3	2 1/4	1
May	0	0	0		0	0	0	0

The laſt ſowing, as obſerved above, was entirely deſtroyed by the rooks; he believes it had not been ſown more than three days before they began to ſcrape and pick it up, and completely devoured it. It was the ſame with the very early ſowings, but that he expected, and was guarded againſt. It may however ſerve he thinks, as a leſſon to young farmers, that although early ſowing may in moſt caſes be profitable, yet it will not anſwer in large open fields, where the lands are intermixed, unleſs neighbours ſow at the ſame time; for, if only one farmer ſows early, he muſt have as many keepers as he has pieces of land. The barley of all the ſowings was of the Zealand ſtock. On the ſame piece of land on which he tried the above experiments, which was a deep ſand, value about ſix or ſeven ſhillings per acre, he tried two others, one about ten years ſince, with chalk from different pits, ſome of which was a dry chalk, and others greaſy; he carried only one load of each ſort, and laid it about the thickneſs of ſeventy loads to an acre. Neither of them did the leaſt good, for he could not tell by any of the crops ſince, without looking at the ſoil, where they were laid. The other was by deep ploughing, in the autumn of 1785, when he ſowed part of the piece with wheat, by going with a ſecond plough after the firſt for one ſteatch only, and raiſing about three or four inches of ſoil that had never been turned up before; on viewing it about midſummer he could not find where it was by any apparent difference in the crop, nor could he ſee that the barley ſown in January was the beſt crop. By the ſame rule, when he began to try the experiment before, that ſown in February was the beſt, and it appeared ſo on view, he remembers, all the ſummer.

The quantity of ſeed barley allowed to the acre varies very much; and depends not only on the quality of the land and the ſeaſon, but on what was the preceding crop, and alſo on the condition of the land for receiving the ſeed. When barley ſucceeds turnips, the land being then in the beſt ſtate for the ſeed, a leſs quantity is neceſſary than if it were to be ſown after two or three ſucceſſive white corn crops. The uſual allowance to the acre is from three buſhels and a half to five; but four buſhels and a peck may be conſidered as the general average, ſo large a quantity as five buſhels being never ſown but on lands exhauſted and worn out by improper cropping.

Mr. Middleton remarks (in his Survey of Middleſex) that early ſowing requires leſs ſeed than late; but on a medium ſoil in proper condition, ſown broad-caſt, in March three and a half, in April four, and in May four and a half buſhels per acre are ſufficient. A rich ſoil makes ſuch a great difference, that it can hardly be ſown too thin; even one buſhel and a half early ſown, has produced as much as could ſtand; whereas had three or four buſhels been ſown, the crop would have been lodged, and of a very reduced value.

It is obſerved by Mr. Donaldſon, that if a ſtatement of the average returns of barley by the acre was confined to England and the ſouth of Scotland, it might be rated at thirty-two buſhels; but when Wales and the north of Scotland are included, where, owing to the imperfect modes of culture ſtill practiſed, the crops are very indifferent, the general average over the whole will not probably exceed twenty-eight buſhels the acre. The author of the Agricultural Report of Middleſex ſtates it as varying in England from fifteen to ſeventy-five buſhels per acre. The average produce of the county of Middleſex, he ſays, is about four quarters of corn and two loads of ſtraw per acre. The ſtraw uſually ſells at about a guinea a load delivered in, which, with chaff and thin grain, is equal to one ſhilling and ſixpence per buſhel on the corn; and as the corn has averaged three ſhillings, together they produce four ſhillings and ſix-pence per buſhel, or ſeven pounds four ſhillings per acre.

The ultimate deſtination of barley to be converted into beer and ſpirits, he ſays, raiſes the value of this crop to more money per acre than that of any other grain. For after the farmer has diſpoſed of it, the maltſter, brewer, diſtiller, rectifier, and victualler, ſucceſſively draw the wages of labour and profit from it before it comes to the conſumer. Including a revenue of five millions and one quarter a year, which it nets to government, but which coſts the ſubject between ſix and ſeven millions, its entire expence to the conſumer at this time is not leſs than thirty pounds an acre. He underſtands that porter is brewed in the ratio of 162 gallons from one quarter of malt; and is ſold by the retailer after the rate of one ſhilling and two-pence per gallon, which produces nine pounds nine ſhillings; deduct the value of the hops, and there remains upwards of a guinea a buſhel for the malt, or full thirty pounds an acre. In the article of ſpirits, he thinks, it muſt neceſſarily yield much more. According to Mr. Donaldſon, barley is applied to various uſes. In Wales, Weſtmoreland, Cumberland, and in the north, as well as in ſeveral parts of the weſt of Scotland, the bread uſed by the great body of the inhabitants is made chiefly from barley. Large quantities of the barley cultivated in England are converted into beer, ale, porter, and what is called Britiſh ſpirits, as Engliſh gin, Engliſh brandy, &c. The remainder, beyond what is neceſſary for ſeed, is made into meal, and partly conſumed in bread by the inhabitants of the above diſtricts, and partly employed for the purpoſe of fattening black-cattle, hogs, and poultry. There is a much greater ſhare of the Scotch barley conſumed in diſtillation in proportion to the quantity cultivated, than there is in England. Excluſive of what is uſed for ſeed, the Scotch barley is either converted into beer or ale; or made into pot barley, or into meal, for the uſe of the inhabitants in the more remote and leſs cultivated parts of the kingdom; or, laſtly, into whiſkey.

In the Report of Middleſex it is alſo ſtated, that much of the moſt ordinary barley is given to poultry; the reſt is ſold to the maltſters, except ſo much as is reſerved for ſeed.

In reſpect to pearl barley it is obſerved, that a mill to manufacture it coſts about twenty pounds. A ton, or 160 ſtone, of pearl barley ſells for twenty three pounds, which is rather under three ſhillings a ſtone, or thirteen ſhillings and four-pence a buſhel. Twenty-three ſtone and a half of common barley produces five ſtone and a half of pearl barley by the common method of manufacturing it; but by an addition to the mill, which would only coſt two pounds, the barley corn would be ſplit, and then the ſame quantity would yield nine ſtone of pearl barley. This is ſtated on

the authority of evidence before a committee of the London Society of Arts.

With regard to the choice of feed barley, it is neceſſary to obſerve that the beſt grain for ſowing is that which is free from blackneſs at the tail, and is of a pale lively yellow colour, intermixed with a bright white; and if the tail be a little ſhrivelled, it is ſo much the better, as it ſhows that it has ſweated in the mow, and is a ſure token that its coat is thin. The huſk of this ſort of barley being alſo ſtiff to ſhrink, will be found thick and mellow even when the inſide flour has ſhrunk from it.

The neceſſity of a change of feed from time to time, by ſowing that of the growth of a different ſoil, as has been obſerved, is in no inſtance more evident than in the culture of this grain, which otherwiſe becomes coarſer and coarſer every year. But in this, as well as in all other grain, the utmoſt care ſhould be taken that the feed be full bodied.

It is eaſy to ſuppoſe that barley, like wheat, may be benefited by being ſteeped before it is ſown. For as rain cannot always be depended upon ſoon after the ſowing of ſpring corn, there is ſurely an equal reaſon for extending the practice to theſe ſorts of grain as well as thoſe which are ſown in autumn. Liming indeed may hurt barley in ſome caſes, but a little ſprinkling of ſoot bids fair for improving it, at leaſt it may prevent inſects from preying upon the ſeed.

Mr. Middleton indeed remarks, that the ſeed is never ſteeped, and yet the farmers are continually complaining of its coming up at different periods, thus producing two crops which do not become ripe at the ſame time, and are injurious to the ſample. Steeping the ſeed a proper number of hours, which might be aſcertained by experiment, ſeems (he ſays) to be as well calculated to ſecure an uniform vegetation and prevent this complaint, as poiſoning the ſeed appears to be to keep it from vermin.

According to Miller, the common method is to ſow the barley-ſeed with a broad-caſt at two ſowings; the firſt being harrowed in at once, but the ſecond not until the ſeed is buried. The common allowance of ſeed is four buſhels to an acre: but (ſays he) if the farmers could be prevailed upon to alter this practice, they would ſoon find their account in it; for if a third part of that quantity be ſown, there will be a much greater produce, and the corn will be much leſs liable to lodge, as he has many times experienced; for when corn or any other vegetable ſtands very cloſe, the ſtalks are drawn up weak, and thence incapable of reſiſting the force of the winds, or ſupporting themſelves under heavy rains; but when they are at a proper diſtance, their ſtalks will be more than twice the ſize of the other, and therefore are ſeldom laid. He ſays he has frequently obſerved in fields where there has been a foot-path through their middle, that the corn which has ſtood thin on each ſide of the path has ſtood upright, when all the reſt on both ſides has been laid flat on the ground; and whoever will give himſelf the trouble to examine theſe roots near the path, will find them tiller out, that is, have a greater number of ſtalks, to more than four times the quantity of the other parts of the field. He has ſeen experiments made by ſowing barley in rows acroſs divers parts of the ſame field, and the grains ſown thin in the rows, ſo that the roots were three or four inches aſunder in the rows, and the rows a foot diſtant; the intermediate ſpaces of the ſame field were at the ſame time ſown broad-caſt in the uſual way. The ſucceſs was this: the roots which ſtood thin in the rows, tillered out from ten or twelve to upwards of thirty ſtalks on each root; the ſtalks were ſtronger, the ears longer, and the grains larger, than any of thoſe ſown in the common way; and when thoſe parts of the field where the corn was ſown in the uſual way have been hedged, theſe parts ſown thin have ſupported their upright poſition againſt wind and rain, though the rows [illegible] lengthways but across the [illegible], ſo that there could be no diſtinction to be made to the gentleſt eye of the land, or the direction of the wind. [illegible] ſuch experiments have been made, and always attended with equal ſucceſs, there can be no room to doubt which of the two methods is [illegible], if the crops were only ſuppoſed to be equal [illegible] the ſaving two buſhels of the corn ſown is a very great conſideration, and the ſcarcer and conſiderable, as [illegible] times might be of very great benefit to the public. The ſowing of [illegible] corn (ſays he) muſt be underſtood [illegible] ſuch as is ſown broad caſt; for if it be ſown in drills, an eighth part of the ſeed uſually ſown will be ſufficient for an acre of land, and the produce be greater; for all ſorts of corn are naturally inclined to ſend out ſeveral ſtalks from each root, which they rarely fail to do where the roots are at a proper diſtance and have room; nor do the ſtalks grow ſo tall or near ſo tall, but are much ſtronger than when they are near together, when they rarely have more than two or three ſtalks, whereas thoſe roots which have proper room ſeldom have leſs than ten or twelve. He has had eighty ſtalks upon one root of barley, which were ſtrong, produced long ears, and the grain was better filled than any he ever ſaw grow in the common method of huſbandry, and the land on which this grew was not very rich; but he has frequently obſerved on the ſides of hot-beds in the kitchen gardens, where barley ſtraw has been uſed for covering the beds, that ſome of the grains left in the ears have dropped out and grown, the roots have produced from thirty to ſixty ſtalks each, and thoſe have been four or five times larger in ſize than the ſtalks ever arrive at in the common way. But to this, he knows, it may be objected, that although upon rich ground in a garden theſe roots of corn may probably have ſo many ſtalks, yet in poor land they will not have ſuch produce; therefore, unleſs a greater quantity of ſeeds be ſown, the crop will not be worth ſtanding; which is (he ſays) one of the greateſt fallacies that can be imagined; for to ſuppoſe that poor land can nouriſh more than twice the number of roots in the ſame ſpace as rich land, is ſuch an abſurdity as one could hardly ſuppoſe any perſon of common underſtanding guilty of: and yet ſo it is; for the general practice is to allow a greater quantity of ſeed to poor land than for richer ground; not conſidering that where the roots ſtand ſo cloſe, they will deprive each other of their nouriſhment, and conſequently ſtarve themſelves, as is always the caſe when the roots ſtand cloſe, which any perſon may at firſt ſight obſerve in any part of the fields where the corn happens to ſcatter when they are ſowing it; or in places where by harrowing the ſeed is drawn in heaps, theſe patches will ſtarve, and never grow to a third part of the ſize as the other parts of the ſame field; and yet, common as this is, it is little noticed by farmers, otherwiſe (ſays he) they ſurely would not continue their old cuſtom of ſowing. He has made many experiments for ſeveral years in the pooreſt land, and has always found that all crops which were ſown or planted at a greater diſtance than uſual, have ſucceeded beſt upon ſuch land; and he is convinced, if farmers would be prevailed upon to quit their prejudices and make trial of the method of ſowing their corn thin, they would ſoon ſee the advantage of this huſbandry.

The experiments of Mr. Young, however, lead us to a different concluſion. On April 25th, 1791, upon a land of moiſt loam on a wet marl bottom, worth about ſixteen ſhillings an acre, he marked four beds, each eight feet

long

long by three feet broad, and dibbled them with four-rowed barley.

No. 1, 91 holes, and four ſeeds in each hole.
2, 198 ditto, three ſeeds in each.
3, 198 ditto, one ſeed in each.
4, 198 ditto, two ſeeds in each.

No hoeing given; but before they ripened a net was ſuſpended over the whole, to guard the barley from the ravages of birds.

On Sept. 9th he reaped them, and clipping off the ears, weighed them.

No. 1, 28½ ounces.
2, 31.
3, 20¾.
4, 24.

In No. 1, 13 grains of ſeed give one ounce produce.
2, 19 grains of ſeed, one ounce produce.
3, 9½ ditto, ditto.
4, 16½ ditto, ditto.

In No. 1, 15 grains of ſeed per ſquare foot.
2, 24 ditto, ditto.
3, 8 ditto, ditto.
4, 16 ditto, ditto.

It ſeems (ſays he) remarkable, that comparing No. 1 and 4, the ſeed are nearly the ſame, yet the crop is different, and very conſiderably in favour of the ſeed being crowded together in cluſters, rather than ſpread much more equally over the ground. This (continues he) is a moſt ſingular circumſtance; it coincides very much with the modern practice of dibbling wheat, which has been changed gradually from one grain in a hole, to two, three, and even four, and this cluſter-ſowing has been found to anſwer beſt. But upon what principles? and owing to what cauſe? Theory would ſeem to tell us, that plants ſtanding ſingle would have regular ſpaces for the roots to feed in, without ſtruggling with each other for nouriſhment: but there muſt be ſome other circumſtance which more than balances this advantage. The farmers ſay that the plants aſſiſt each other: but how? Is it by ſhelter? is it by an accelerated fermentative motion from additional warmth? Very obſcure all this, but highly deſerving further repeated and varied experiments. Mere quantity of ſeed appears to have much effect; No. 2, the moſt ſeed, has of all the greateſt crop.

It is a common practice in ſome parts, to ſcatter the dung of pigeons, poultry, &c. over barley and other grain after they are ſown; but if this method be purſued, care ſhould be taken to ſcatter ſuch dungs on immediately, becauſe then the ſhoot will eaſily make its way through; but when laid on later, it is apt to burn up and deſtroy the blades of the young plants.

It often happens, on the more ſtiff ſoils, from unfavourable weather and an extremely dry ſpring, that it is impoſſible, by the common method, to break the clods and prepare the ground ſufficiently for ſowing barley; in which caſe it has been the uſual method to break the clods with a large beetle, called from its uſe a *clotting-beetle*: but this being a very expenſive and tedious method of preparing land, induced the ingenious Mr. Randall of York to conſtruct an inſtrument, which he calls a *ſpiky roller*, by the aſſiſtance of which a large quantity of land may, in ſuch a dry ſeaſon, be ſoon reduced to an exceeding fine tilth, with very little trouble. See SPIKE ROLLER.

After the barley is ſown and harrowed in, the ground ſhould be rolled after the firſt ſhower of rain, to break the clods and lay the earth ſmooth, which will render it eaſier to mow the crop, and alſo cauſe the earth to lie cloſer to the roots of the corn, which may be of great ſervice to it in dry weather: and alſo when the barley has been up three weeks or a month, it may be a good method ſometimes to roll it over with a weighty roller, which will again preſs the earth cloſe to the roots of the corn, and thereby prevent the ſun and air from penetrating the ground in dry ſeaſons; and this rolling of it before it ſtalks, may likewiſe cauſe it to tiller out into a greater number of ſtalks; ſo that if the plants ſhould be thin, it may cauſe them to ſpread ſo as to fill the ground, and likewiſe ſtrengthen the ſtems.

If the corn ſhould grow too rank, as is ſometimes the caſe in a wet ſpring, mowing is then much better than feeding it, becauſe the ſcythe takes off only the rank tops, but the ſheep feed upon all indifferently; nor ſhould they even in any caſe be left upon it too long, becauſe, being particularly fond of the ſweet end of the ſtalk next the root, they bite ſo cloſely as to injure the future growth of the plant.

Barley is ripe when the *red roan*, as the farmers term it (a reddiſh colour on the ear), is gone off, or when the ears droop and fall as it were double againſt the ſtraw, and the ſtalks have loſt their verdure. If it be full of weeds, it muſt lie in the ſwath till they are dry. It is not apt to ſhed, but in wet weather it will be apt to ſprout or grow muſty; and, therefore, every fair day after rain it ſhould be ſhook up and turned; and when it is tolerably dry, let it be made up into ſhocks: but be careful never to houſe it till thoroughly dry, leſt it mow-burn, which will make it malt worſe than if it had ſpired in the field.

BARLEY, *Cauſtic Indian*. See VERBASCUM *Sevadilla*.

BARLEY *Water* (*Decoctum Hordei P. Lond & Ed.*). It is of ſome conſequence that the preparations which generally fall under the care of the nurſe, ſhould be made with as much attention as thoſe of the apothecary. Barley water, either by itſelf or with a variety of additions, forms an agreeable and valuable drink for the ſick room. When prepared in the following manner, it is ſmooth, uniform, and palatable. Take of pearl-barley two ounces, water five pounds: firſt waſh the barley from the mealy matter that adheres to it, with ſome cold water; then boil it a little with about half a pound of water to extract the colouring matter; throw this away, and put the barley thus purified into five pounds of boiling water, which is to be boiled down to one half, and ſtrained.

Barley Water Compound. (*Decoctum Hordei Compoſitum P. Lond.*) Take of the preceding barley water two pints; ſliced figs two ounces; liquorice root, ſliced and bruiſed, half an ounce; raiſins, ſtoned, two ounces; water one pint; boil to two pints, and ſtrain. This decoction is more taſteful than the former, and is very palatable; it forms a good demulcent liquor in ſore throats of every kind, and is very conſiderably nouriſhing. It is apt, however, to cloy the ſtomach if taken in large quantity; lemon juice, or any other acid, may be added to it with advantage.

BARLEY-*bird*, in *Ornithology*, a name given in Suſſex to the *Siſkin*.

BARLEY-*corn* is uſed to denote a long meaſure, containing in length the third part of an inch, and in breadth the eighth.

The French carpenters alſo uſe barley-corn, *grain d'orge*, as equivalent to the line or the twelfth part of an inch.

BARLEY-*corn*, *grain d'orge*, is alſo uſed, in *Building*, for a little cavity between the mouldings of joiners' work, ſerving to ſeparate or keep them aſunder; thus called becauſe made with a kind of plane of the ſame name.

BARLEY-*ſugar*. See SUGAR.

BARLEY-*cove*, in *Geography*, a creek on the ſouth-weſt coaſt

coaſt of Ireland, between Mizen-head, the *Notium* of Ptolemy, and Browhead in the county of Cork. N. lat. 51° 24'. W. long. 9 40'.

BARLOWE, William, in *Biography*, was a deſcendant of the ancient family of the Barlows in Wales, and born in the county of Eſſex. He was at firſt a monk in the Auguſtine monaſtery of St. Oſith in Eſſex; and having commenced his education in this place he finiſhed it at Oxford, where he obtained the degree of doctor in divinity. He afterwards became prior of the canons of his order at Bilham in Berkſhire, and at the diſſolution of the monaſteries he reſigned his houſe, and prevailed on many abbots and priors to follow his example. In 1535 he was appointed biſhop of St. Aſaph, and in 1536 tranſlated to St. David's, where he formed the unſucceſsful project of removing the epiſcopal ſee to Caermarthen, as being ſituated more in the centre of the dioceſe. He was a favourite of king Henry VIII., and was employed by him in the matter of his divorce; and he was alſo much eſteemed by lady Ann Boleyn. In 1547, he was tranſlated to Bath and Wells; but as he was attached to the proteſtant religion, he was deprived of his biſhoprick in 1553, upon queen Mary's acceſſion, on pretence of his being married, and committed to the Fleet priſon. Having made his eſcape from confinement, he retired with many others to Germany; where he remained in a poor and diſtreſſed condition till the happy inauguration of queen Elizabeth. On this occaſion he returned to his native country, and in 1559 was promoted to the ſee of Chicheſter, where he died in 1568. He was reckoned a learned prelate; but appears, notwithſtanding his profeſſion of the proteſtant religion, not to have poſſeſſed the ſpirit of a martyr. Beſides other pieces which he wrote, he was concerned in the compilation of the treatiſe entitled "The Godly and Pious Inſtitution of a Chriſtian Man," commonly called the "Biſhop's Book," printed at London in 1537; and in the reign of Edward VI. he is ſaid to have tranſlated into Engliſh the "Apocrypha" as far as the book of Wiſdom. He had five daughters, all of whom were married to biſhops. Biog. Brit.

Barlowe, William, ſon of the former, was born in Pembrokeſhire, and in 1560 entered at Baliol college. He afterwards travelled, and became ſkilful in navigation. On his return he took orders in 1573, and obtained ſeveral preferments in the church, the laſt of which was that of the archdeaconry of Saliſbury, to which he was promoted in 1614. He died at Eaſton near Wincheſter in 1625. In his acquaintance with the nature and properties of the loadſtone, he ſeems to have preceded Dr. William Gilbert, and wrote upon this ſubject twenty years before Gilbert's book was publiſhed. He was the firſt that made the inclinatory inſtrument tranſparent, and to be uſed hanging with a glaſs on both ſides and a ring at the top; and he alſo contrived to hang it in a compaſs box, and to adapt it for uſe at ſea. He was alſo the firſt perſon that diſcovered the difference between iron and ſteel, and their reſpective tempers, for magnetical purpoſes. He alſo ſhewed the right method of touching magnetical needles, and ſhewed how to piece and cement load-ſtones. Moreover he explained the reaſon why a load-ſtone being double capped, takes up ſo great a weight. On theſe ſubjects he wrote the following books, viz. "The Navigator's Supply, &c." 4to. Lond. 1597; "Magnetical Advertiſements, &c." 4to. Lond. 1616; and "An Anſwer to Dr. Ridley's Animadverſions on this work." Biog. Brit.

BARLOW, Thomas, a learned Engliſh biſhop of the 17th century, was born at Langhill in the pariſh of Orton in Weſtmoreland in 1607, and educated at Queen's college in Oxford. In 1635, he was appointed reader of metaphyſics in the univerſity, and his lectures were publiſhed. On the ſurrender of Oxford to the parliament in 1646, he retained his fellowſhip, and in 1652 was appointed keeper of the Bodleian library. In 1657, he was choſen provoſt of his college. Upon the reſtoration he contrived to be choſen one of the commiſſioners for reſtoring the members that had been wrongfully ejected in 1648, and in 1660 was created doctor of divinity and Margaret profeſſor in that department. In this year he wrote "The Caſe of a Toleration in Matters of Religion," which he extended farther than any divines of that age. As he was diſtinguiſhed for his ſkill in the civil and canon law, he was often applied to as a caſuiſt; and in 1671, he wrote Mr. "Cottington's Caſe of Divorce." In 1675, he was promoted, notwithſtanding the oppoſition of archbiſhop Sheldon, to the biſhoprick of Lincoln; and after his advancement wrote ſeveral pieces particularly againſt popery, which ſerved to ſound the alarm with reſpect to the danger of a popiſh ſucceſſor. However on the acceſſion of James II., he was one of the moſt forward in procuring thanks to the king for his declaration in favour of liberty of conſcience, and he vindicated the regal power of diſpenſing with penal laws; which conduct ſome have cenſured as manifeſting an unwarrantable accommodation to the times, and others have aſcribed to his love of toleration. With the revolution he adopted its principles, and avowed his allegiance to the ſucceſſors of James. As to his ſentiments, he was in theology a rigid Calviniſt; and in philoſophy a ſtrict Ariſtotelian, and an enemy to the new mode of experiment encouraged by the Royal Society. As a biſhop he neglected his duties in his cathedral and dioceſe, and reſided conſtantly at his manor ſeat at Bugden; nevertheleſs his tolerating ſpirit and oppoſition to popery ſeem to have produced in the author of the "Confeſſional" a ſingular predilection in his favour. He died at Bugden in 1691, in the 85th year of his age; and he was eminently diſtinguiſhed by his learning and liberality. The works of this biſhop, printed after his death, were a volume of "Caſes of Conſcience," reſolved by him, 8vo. 1692; and his "Genuine Remains," 8vo. 1639. Biog. Brit.

Barlow, Francis, a painter of birds, beaſt, and fiſh, was born in Lincolnſhire, and excelled in drawing every ſpecies of animals with great correctneſs; but his knowledge of colouring was very imperfect. This artiſt died in 1702. Pilkington.

BARM, otherwiſe called yeaſt; the head or workings producing by the fermentation of ale or beer. It is the froth that forms on the ſurface of beer or wine of grains during their fermentation; which, mixing with dough, raiſes it more quickly and better than leaven, and makes the lighteſt bread. See Leaven, and Yeast.

BARMACH, in *Geography*, a lofty mountain of Perſia, in the province of Schirvan near the Caſpian ſea.

BARMANCOTTY, a town of Aſia, in the country of Thibet, five miles ſouth of Sirinagur, and thirteen north of Deuprag.

BARMEA, *Heaven*, is a large bay, ſituated about four miles S.W. by W. from cape Machicaco, two leagues N.E. by N. from Placentia, and four from Bilboa.

BARMEN, a town of Germany, in the circle of Weſtphalia and duchy of Berg, ſituate in a fertile valley to which it gives name, five miles north of Launep.

BARMINE denotes ſuch mine or ore as is adjudged at a court of barghmote.

BARMOUTH, in *Geography*, is a ſmall watering place in the pariſh of Llanaber, Merionethſhire, North Wales. The houſes

houſes are ſingularly placed at the bottom and on the ſide of a ſteep hill which overlooks a narrow winding valley to the ſouth, and the bay with St. George's channel on the weſt. The ſituation of the houſes affords matter of aſtoniſhment to moſt travellers; ſome being placed on the ſands cloſe to the beach, and others at ſuch varied heights on the rocks, that in ſome of the winding paths a perſon may look into the door of one houſe on his right hand, and down the chimney of another on his left. This place is at the mouth of the river Mawddach, which at high tide forms a bay of about one mile over; but the entrance is rather unſafe on account of the ſand banks. The Welſh call it Aber-maw, i. e. the mouth or confluence of the river Maw. Barmouth is much frequented as a convenient bathing place during the ſummer by many genteel families. Here are a few bathing machines for the uſe of ladies, but the gentlemen commonly bathe from the coaſt. This place is the port of Merionethſhire, and great quantities of flannels and hoſe are annually exported hence. Mr. Pennant ſtates that forty thouſand pounds' worth of the former and ten thouſand pounds' worth of the latter have been ſhipped from this port in one year. About one hundred veſſels belong to this place, ſome of which ſail up the river nearly to Dolgelly.

Not far from Barmouth, the river Mawddach divides into two arms, and forms a ſmall iſland called Ynys y Brawd, or the friar's iſland. The number of houſes in this pariſh is 317, and its inhabitants amount to 1463. Bingley's Tour round North Wales.

BARN, in *Rural Economy*, a covered building conſtructed for the purpoſe of laying up and preſerving all ſorts of grain, hay, ſtraw, &c. Arable as well as hay farms ſhould in general be provided with barns proportioned to the quantity of grain or hay they produce; though ſince the practice of ſtacking hay and grain and of threſhing by mills has become more general, there ſeems to be much leſs need of large barns.

Buildings of this ſort ſhould have a dry, rather elevated ſituation; and be placed on the north or north-eaſt ſide of the farm yard, but not by any means contiguous to the houſe or ſuch offices as are connected with it.

Barns may either be conſtructed on wooden frames and covered on the outſides with weather boarding, or built of brick or ſtone, which ever the country affords in the greateſt plenty; but in either caſe, there ſhould be ſuch vent-holes or openings in their ſides or walls as may be ſufficient to afford free admiſſion to the air, in order to prevent the mouldineſs that would otherwiſe from the leaſt damp lodge in the grain. The gable ends of ſuch buildings are probably always beſt formed of brick or ſtone, on account of their greater ſolidity; the whole may be roofed with either thatch or tiles as can be moſt conveniently procured. They ſhould have two large folding doors facing each other, one on each ſide of the building, for the convenience of carrying in or out a cart or waggon load of corn in ſheaves or any other ſort of bulky produce: and theſe doors ſhould be of the ſame breadth with the threſhing floor, to afford the more light and air; the former for the threſhers, and the latter for the purpoſe of winnowing the grain. Over the threſhing floor, and a little above the reach of the flail, poles are often laid acroſs from one beam to another, to form a kind of upper floor, upon which the threſher may throw the ſtraw or haulm, to make an immediate clearing till he has time to ſtow it properly elſewhere; and on the outſide over the great doors, it is ſometimes convenient to have a large pent houſe, made to project ſufficiently to cover a load of corn or hay, in caſe a ſudden ſtorm ſhould come on before it can be houſed, and alſo to ſhelter the poultry in the farm yard from too great heat or bad weather of any kind.

It was formerly much the cuſtom in countries that abounded in corn to have ſeparate barns for wheat, for ſpring-corn, ſuch as barley and oats, and for peas, tares, clover, ſaintfoins, &c. but where the grain, hay, and other ſimilar produce can be ſtacked, the heavy expence of ſo many buildings of this kind may be avoided, and at the ſame time the different articles be preſerved with equal ſafety and convenience. In the corn barns it was formerly alſo much the cuſtom to have bays or large ſeparate chambers formed in their ſides or ends for the purpoſe of containing the grain when threſhed out, ſtraw, and other articles; but theſe at preſent are not ſo much in uſe. The hay barns ſhould conſtantly be conſtructed of wood and not made too cloſe. They are ſometimes formed in ſuch a manner as to be capable of being moved to different places by having low wheels or rollers fixed on the bottom frame. In grazing farms that do not afford a ſupply of ſtraw for thatching the ſtacks with, moveable [illegible] upright poſts of wood, or what are ſometimes termed Dutch barns, may be uſeful; as they may be raiſed or lowered at pleaſure by ſcrews or levers ſo as to accommodate themſelves to the quantity of hay, either in proportion to the crop or its conſumptions; while at the ſame time they are cheaper, more airy, and leſs troubleſome in caſe of heating, than cloſe barns.

It is obſerved in the ſixteenth volume of the Annals of Agriculture, in ſpeaking of the conſtruction of barns, that the underpinning ſhould be of brick or ſtone, two feet high above ground, and the ſides boarded; the roof of the barn is beſt covered with reed or ſtraw, and thoſe of the ſtables on its ſides with ſlate or glazed tile; becauſe they muſt be more flat, and the water which runs from the roof of the barn would injure moſt other coverings. At each end of the barn, and over the back door, ſmall doors four feet ſquare ſhould be fixed at the height of twelve feet from the ground; the two former for putting corn in at the ends, and the latter for filling the middle of the barn after the bays are full. All the bays ſhould have a floor of clay or marl, and the threſhing floor be made with hard bricks, which will be ſufficient for all ſorts of grain except wheat and rye; and for threſhing them it will be good economy to have planks of oak or red deal well fitted together and numbered, to be laid down occaſionally and confined by a frame at their ends. A barn built on ſuch a plan would hold a great deal of corn and be filled moſt conveniently; and if the ſtacks of corn were built at each end, they might be taken in without any carting. If more buildings are requiſite, two may be added on the back ſide like the ſtables in front; otherwiſe if doors are made under the eaves on the back ſide, as directed at the ends, and ſtacks be placed oppoſite to them juſt far enough to avoid the eaves' dropping, by placing a waggon between them and the barn by way of a ſtage, theſe ſtacks may be taken in without carting; which method ſpares a great waſte of corn and much trouble. The ſpars of the roofs of the ſtables reſt upon the upper cills of the ſides of the barn, and the outſide wall of the ſtables is eight feet high; the barn ſupplying the higheſt ſide and one end of each ſtable, and the ſtables in return are buttreſſes to the barn and ſtrengthen it greatly.

It is remarked by the author of the Agricultural Survey of the county of Somerſet, that the practice lately introduced of placing barns on a declivity cannot be too much recommended; as a warm commodious range of ſtalls for cattle, covered by the ſame roof, is by that means obtained. Beſides,

Beſides, the barn-floor, by being thus elevated, is rendered more durable, and leſs ſubject to vermin; the grain is kept more dry and ſweet than on a ground floor, and cannot dip through it without diſcovery. The plan is indeed, in his opinion, almoſt unexceptionable. Barns, when built in this way, ſhould have a ſouthern aſpect, the arches of the cattle-ſtalls facing that way. Mr. Marſhall, in the "Rural Economy of Yorkſhire," alſo ſpeaks highly of the advantages of barns formed in this manner.

In reſpect to the ſize of barns, the ſame writer has obſerved, that in Glouceſterſhire fifty-two by twenty feet in the clear, and from ſixteen to twenty feet in height to the plate, is conſidered a good barn: theſe dimenſions admitting of four bays of ten feet each, with a floor in the middle.

The advantage of having buildings of this ſort conveniently ſituated, is extremely great both in regard to the feeding of cattle, ſheep, and hogs, and likewiſe in the economy of labour, and the preventing of waſte in different kinds of fodder.

The invention of threſhing machines has, in ſome meaſure, varied the conſtruction of barns, as where they are made uſe of they ſhould be contrived chiefly with a view to the diſtribution of the ſtraw; the machines being built in the centre, with the grain ſtacks adjoining them, in ſuch a manner as that they may be ſupplied without the aſſiſtance of carts or horſes. The barns in theſe caſes need not be ſo large, but they ſhould have granaries provided in them, which may probably be moſt conveniently placed over the floors. In moſt old barns, threſhing machines may be erected without much inconvenience or trouble.

But, notwithſtanding the ſuperiority of ſtacking grain in the open air has been fully ſhewn by different writers, and of courſe the neceſſity of large barns in a great meaſure obviated, there are ſtill many agricultors attached to the method of houſing corn in the ſtraw; it may therefore be proper to give a few plans and deſcriptions of ſuch as appear to be the beſt calculated for that purpoſe.

At *fig.* 1. *Plate* I. of *Agriculture*, are given the elevation and ground plan of a ſmall common barn uſed in moſt parts of the kingdom for the ſmaller kinds of farms. The threſhing-floor is in the middle; on one ſide of which a croſs wall is ſometimes raiſed to the height of about three feet, in order to keep the threſhed corn from being mixed with that which is unthreſhed: *e* is a place for containing the threſhed grain till it be cleaned, or a large quantity be accumulated for that purpoſe. It is about three feet in height, being covered over with boards, and only open on the ſide next the threſhing-floor of the barn.

At *fig.* 2, the elevation and ground plan of a double barn with two threſhing floors are ſeen. In this ſort of barn a wall is ſometimes raiſed acroſs in the middle. Theſe barns are often built of large dimenſions, but poſſeſs few conveniencies, except for piling up the grain while in the ſtraw.

At *fig.* 3, the elevation and ground plan of an improved barn are given, in the middle of which is the threſhing floor, and on one ſide near the end a place for depoſiting the threſhed corn, with ſtairs up to a ſmall granary, below which is a place for putting potatoes, &c.; and on the other a diviſion that may be made uſe of for different purpoſes, ſuch as the rearing of calves, preſerving implements, &c.

And at *fig.* 4, the elevation and ground plan of an open improved barn are ſhown, the threſhing floor of which is placed towards one end. And on each ſide of it below are diviſions for a great variety of different purpoſes; the corn being kept above in the ſtraw till threſhed out. In this barn much expence is ſaved in maſonry by the great number and largeneſs of the openings in the upper part, and at the ſame time the air is admitted more freely.

Fig. 5 is the repreſentation of a Dutch moveable barn which has many conveniencies, and at the ſame time is capable of being made to cover the parts of ſuch hay ſtacks as are cutting. It moves on ſix wheels each two feet in diameter, and coſts, when complete, about ſixty pounds.

Some degree of art, which muſt be the reſult of practice, is neceſſary in placing and piling up the ſheaves in barns; and it may not be uſeleſs to obſerve, that it is always neceſſary to preſs them as cloſe to the walls of the barn as poſſible, ſo as not to afford the leaſt room for rats or other vermin to creep in between them, for if they once get admittance, they will ſoon penetrate farther, lodge themſelves in the mow, and do prodigious damage to the grain. Where this misfortune happens, the only remedy is to take down the mow, deſtroy the vermin, and pile it up anew in a more careful manner.

As the introduction of threſhing machines has made conſiderable alteration in the conſtruction of barns, it may not be improper to give a few plans or repreſentations by which the manner of their attachment to them may be rendered more clear and comprehenſible. Theſe machines may be wrought by different powers, as water, wind, or animals; but the firſt, when it can be obtained, is by much the beſt and moſt regular.

At *fig.* 1, *Plate* II. of *Agriculture*, are given a front and end elevation, with the plan, of a ſmall barn adapted for a two-horſe threſhing machine. The barn is only fifty feet in length within the walls, and ſixteen in width. The walls are ten feet in height, which admits of a granary or room thirty feet long above the machine, as is ſhown by the dotted line in the elevation, which denotes the extent of the granary as well as the height of the floor from the ground. The floor is not continued the whole length, in order that there may be more room left in the other end for containing the unthreſhed grain, which is introduced at *a*, *figs.* 2 and 3. At *b*, *fig.* 2, is ſeen the ſpace occupied by the machine within the barn, which is only ten feet by ſeven, including the diſtance from the wall; *c*, *d*, *figs.* 2, and 3, ſhew the horſe beam or lever; which is twenty four feet in length, and which gives motion by a laying ſhaft through the wall, to the machine within. In this there is no ſhed or cover over the horſe path and parts on the outſide of the barn, as is uſual, except *g*, *h*, *fig.* 2. which is cloſely boarded to protect the wheels of the firſt movement from the effects of weather, a part of one ſide being fixed with hinges for the purpoſe of opening to apply greaſe. The expence of a machine on this plan will be from thirty to forty pounds, according to the ſtrength and manner of its being put together.

And at *fig.* 4, are ſeen the front and end elevations, with the plan, of a barn and horſe threſhing machine upon a much larger ſcale, being intended for three or four horſes or other ſorts of cattle; and deſigned to winnow or clear the grain at the ſame time that it is threſhed out. It may likewiſe be ſo contrived as to hoiſt it up to the granary above, to ſplit beans, cut ſtraw, and perform ſeveral other operations, ſuch as churning, pumping, grinding, &c. Such a barn and machine will ſuit a farm of almoſt any extent. The ſhed over the horſe-path and firſt movements is moſtly made with a conical roof merely for the purpoſe of covering them; but as the expence is conſiderable, it is here made to anſwer other uſes. It is ſquare, as ſhewn at *fig.* 5, by *a*, *b*, *c*, *d*; the dotted circle is the horſe-path, in the corner of which ſtands the upright axle *e*, *fig.* 6. Above this, by raiſing the pillars to a proper height, may be obtained a convenient place

place either for putting corn in the ſtraw till threſhed out, or for keeping ſtraw or hay, or as a granary. But in either caſe the floor muſt be ſo conſtructed as to ſupport the weight upon it without ſinking in the middle. A communication with the barn may be made near the threſhing machine at *f*, *fig.* 5, which will afford an eaſy acceſs to the machine in caſe grain be depoſited there to be threſhed. In this barn, the machine is erected on a floor raiſed ſeven or eight feet above the ground-floor, in order that there may be ſufficient room for the fanner or winnowing machine below. This floor may be extended the whole breadth of the barn and fifteen feet or more towards *i*, from the back part of the machine at *f*, by which, and being properly partitioned below, a very neceſſary and uſeful diviſion *f*, *i*, will be obtained for containing the grain till hoiſted up to the granary. The doors of this place may be locked by the farmer, if thought neceſſary, during the time of threſhing. The ſpace *k* will contain the chaff blown by the fanners. There is a door through at *g* to render the communication more eaſy and expeditious from the part *i*, where the unthreſhed grain is depoſited; as it may be proper to look often below while the machine is at work: there might likewiſe be a door in the partition at *h*; but this is not ſo very neceſſary, as the farmer can eaſily ſee what his ſervants are about at *m* where the ſtraw goes, by ſtanding on the threſhing floor, to which there ſhould be ſteps up at *n*. This machine may alſo be ſo conſtructed as to rake away the ſtraw, and throw it down to *m*; which ſaves the labour of a perſon in raking from the machine.

The expence of a machine on this plan, when made to clean the grain and rake away the ſtraw only, will amount to about fifty pounds excluſive of flooring, &c.; and when made ſo as to hoiſt up the grain, ſplit peas or beans, and cut ſtraw, from ſix to ten pounds in addition for each.

Other more powerful machines of this kind will be deſcribed under the article THRESHING *Machine*.

BARN *Floor*, in *Rural Economy*, the ſpace or floor on which the grain is threſhed out by the flail. It is for the moſt part made in the middle of the barn, and ſhould be ſo formed as to be perfectly cloſe, firm, and ſtrong. It is ſometimes termed threſhing-floor. In conſtructing theſe floors, various ſorts of materials are employed; ſuch as compoſitions of earthy kinds, ſtones, bricks, and wood. The laſt, when properly laid and put together, is probably the beſt and moſt ſecure from ſuch cauſes as are liable to injure grain. The floors of barns, when made of wood, are ſometimes ſo contrived as to be moveable at pleaſure, which is a great convenience in many caſes. Barn floors are made of different dimenſions, but from twelve to fourteen by eighteen or twenty feet may be conſidered as good ſizes.

As the floor, or threſhing-place, is the principal part of every barn, the greateſt care ought to be taken in making it. In order to this, in ſome places the ſurface of the intended threſhing-place is dug away to the depth of about ſix inches; and the earth thus taken out, when of a proper kind, after being well cleared of ſtones, is mixed with the ſtrongeſt clay that can be procured, and with the dung of cattle. This mixture is then worked together with water till it is of the conſiſtence of ſtiff mortar, and the compoſt thus made is ſpread as ſmooth and even as poſſible with a trowel upon the ſpot from whence the earth was taken. As it cracks in drying, it muſt frequently be beaten down with great force, or rolled with a heavy roller, until all the crevices are filled up; and this muſt be continued till it is quite ſolid, hard, and firm. Earthen floors are not however to be recommended, except where the materials are extremely good, and the method of forming them well underſtood, which is but ſeldom the caſe.

The beſt barn floor, both for threſhing upon and for keeping corn, is that which is the drieſt, ſmootheſt, moſt completely ſolid, and conſequently the moſt free from cracks and holes in which inſects and vermin may ſhelter themſelves and breed. The ancients were remarkably careful in this laſt reſpect, as is evident from the writings of Cato, Varro, and Columella. The laſt of theſe relates particularly the great pains they took, firſt to dig up the ground to ſome depth, in order to moiſten it with freſh lees of oil, but not with any that had ſaline matters in them; then to mix it thoroughly with chaff, and ram it down as cloſe as poſſible; afterwards, as it dried, to ſtop all the cracks and crevices that appeared; to continue beating it down with great force to render it quite level; and, laſtly, to ſtrew it again with chaff, which they trod in, and then left it to be completely dried by the ſun. All of them agree, that the lees of oil thus uſed prevent the growth of weeds in the floors, and contribute to preſerve the corn from being plundered by the mice and ants. In this they were, however, probably miſtaken. Their barns were always ſeated high, and as dry as poſſible. A floor made in the above manner, though not good, was probably preferable to either ſtone or the earthen floors formerly common in many parts of this country, from which ſuch dampneſs has been communicated to the corn, as has rendered wheat, for example, ſixpence or a ſhilling a buſhel worſe either for keeping or exportation. Bricks, when hard and well laid, may form a tolerable floor for many purpoſes; but, from their attracting moiſture, are not by any means to be recommended where grain is to remain much upon them. And moſt ſorts of ſtone are liable to the ſame objection.

Wood is by much the beſt for this uſe. Boarded threſhing floors, made of ſound, thick, well-ſeaſoned planks of oak, are excellent for threſhing upon, will laſt a long time, and may be converted into good floorings for rooms, by planing them down after they are become too uneven for the purpoſe originally intended.

There are various ways of laying and conſtructing barn floors, when made of wood. The moſt common method is that of nailing the planks, after their edges have been ſhot true and well joined, down to wooden ſleepers firmly placed on the ground. But in the midland counties another method is followed, which, Mr. Marſhall ſays, is that of firſt having the floors laid with bricks, and then covering them over with the planks, without any other confinement than that of their being doweled together, or ploughed and tongued, and their ends let into ſills or walls placed in the uſual manner on each ſide of the floors. The advantages of this method of making the floors are, that when the brick work is well executed and made perfectly level, vermin cannot be concealed underneath them, nor damp air be communicated; beſides, floors formed in this way are found to wear better than thoſe laid ſimply upon ſleepers. The planks employed in this way ſhould, however, always be well ſeaſoned. It is evident, notwithſtanding, that where barn floors can be made hollow, they muſt be much better for the purpoſe of threſhing upon than ſuch as are either placed on brick work or the ground, from their greater elaſticity; the grain is of courſe threſhed out with more eaſe and certainty. But in whatever manner theſe floors are conſtructed, they become expenſive, and do not laſt any great length of time. Such as are laid on the common ground, upon three ſills, with two-inch oak planks, will in general coſt from eighteen to twenty pounds, and only laſt fifteen or twenty years; and ſuch as are made hollow, and placed wholly on brick work,

Beſides, the barn-floor, by being thus elevated, is rendered more durable, and leſs ſubject to vermin; the grain is kept more dry and ſweet than on a ground floor, and cannot ſlip through it without diſcovery. The plan is in itſelf, in his opinion, almoſt unexceptionable. Barns, when built in this way, ſhould have a ſouthern aſpect, the arches of the cattle-ſtalls facing that way. Mr. Marſhall, in the "Rural Economy of Yorkſhire," alſo ſpeaks highly of the advantages of barns formed in this manner.

In reſpect to the ſize of barns, the ſame writer has obſerved, that in Glouceſterſhire fifty-two by twenty feet in the clear, and from ſixteen to twenty feet in height to the plate, is conſidered a good barn: theſe dimenſions admit of four bays of ten feet each, with a floor in the middle.

The advantage of having buildings of this ſort conveniently ſituated, is extremely great both in regard to the feeding of cattle, ſheep, and hogs, and likewiſe in the economy of labour, and the preventing of waſte in different kinds of fodder.

The invention of threſhing machines has, in ſome meaſure, varied the conſtruction of barns, as where they are made uſe of they ſhould be contrived chiefly with a view to the diſtribution of the ſtraw; the machines being built in the centre, with the grain ſtacks adjoining them, in ſuch a manner as that they may be ſupplied without the aſſiſtance of carts or horſes. The barns in theſe caſes need not be ſo large, but they ſhould have granaries provided in them, which may probably be moſt conveniently placed over the floors. In moſt old barns, threſhing machines may be erected without much inconvenience or trouble.

But, notwithſtanding the ſuperiority of ſtacking grain in the open air has been fully ſhewn by different writers, and of courſe the neceſſity of large barns in a great meaſure obviated, there are ſtill many agricultors attached to the method of houſing corn in the ſtraw; it may therefore be proper to give a few plans and deſcriptions of ſuch as appear to be the beſt calculated for that purpoſe.

At *fig.* 1. *Plate* I. of *Agriculture*, are given the elevation and ground plan of a ſmall common barn uſed in moſt parts of the kingdom for the ſmaller kinds of farms. The threſhing-floor is in the middle; on one ſide of which a croſs wall is ſometimes raiſed to the height of about three feet, in order to keep the threſhed corn from being mixed with that which is unthreſhed: *e* is a place for containing the threſhed grain till it be cleaned, or a large quantity be accumulated for that purpoſe. It is about three feet in height, being covered over with boards, and only open on the ſide next the threſhing-floor of the barn.

At *fig.* 2, the elevation and ground plan of a double barn with two threſhing floors are ſeen. In this ſort of barn a wall is ſometimes raiſed acroſs in the middle. Theſe barns are often built of large dimenſions, but poſſeſs few conveniencies, except for piling up the grain while in the ſtraw.

At *fig.* 3, the elevation and ground plan of an improved barn are given, in the middle of which is the threſhing floor, and on one ſide near the end a place for depoſiting the threſhed corn, with ſtairs up to a ſmall granary, below which is a place for putting potatoes, &c.; and on the other a diviſion that may be made uſe of for different purpoſes, ſuch as the rearing of calves, preſerving implements, &c.

And at *fig.* 4, the elevation and ground plan of an open improved barn are ſhown, the threſhing floor of which is placed towards one end. And on each ſide of it below are diviſions for a great variety of different purpoſes; the corn being kept above in the ſtraw till threſhed out. In this barn much expence is ſaved in maſonry by the great number and largeneſs of the openings in the upper part, and at the ſame time the air is admitted more freely.

Fig. 5 is the repreſentation of a Dutch moveable barn which has many conveniencies, and at the ſame time is capable of being made to cover the parts of ſuch hay ſtacks as are cutting. It moves on ſix wheels each two feet in diameter, and coſts, when complete, about ſixty pounds.

Some degree of art, which muſt be the reſult of practice, is neceſſary in placing and piling up the ſheaves in barns; and it may not be uſeleſs to obſerve, that it is always neceſſary to preſs them as cloſe to the walls of the barn as poſſible, ſo as not to afford the leaſt room for rats or other vermin to creep in between them, for if they once get admittance, they will ſoon penetrate farther, lodge themſelves in the mow, and do prodigious damage to the grain. Where this misfortune happens, the only remedy is to take down the mow, deſtroy the vermin, and pile it up anew in a more careful manner.

As the introduction of threſhing machines has made conſiderable alteration in the conſtruction of barns, it may not be improper to give a few plans or repreſentations by which the manner of their attachment to them may be rendered more clear and comprehenſible. Theſe machines may be wrought by different powers, as water, wind, or animals; but the firſt, when it can be obtained, is by much the beſt and moſt regular.

At *fig.* 1, *Plate* II. of *Agriculture*, are given a front and end elevation, with the plan, of a ſmall barn adapted for a two-horſe threſhing machine. The barn is only fifty feet in length within the walls, and ſixteen in width. The walls are ten feet in height, which admits of a granary or room thirty feet long above the machine, as is ſhown by the dotted line in the elevation, which denotes the extent of the granary as well as the height of the floor from the ground. The floor is not continued the whole length, in order that there may be more room left in the other end for containing the unthreſhed grain, which is introduced at *a*, *figs.* 2 and 3. At *b*, *fig.* 2, is ſeen the ſpace occupied by the machine within the barn, which is only ten feet by ſeven, including the diſtance from the wall; *c*, *d*, *figs.* 2, and 3, ſhew the horſe beam or lever; which is twenty four feet in length, and which gives motion by a laying ſhaft through the wall, to the machine within. In this there is no ſhed or cover over the horſe path and parts on the outſide of the barn, as is uſual, except *g*, *h*, *fig.* 2. which is cloſely boarded to protect the wheels of the firſt movement from the effects of weather, a part of one ſide being fixed with hinges for the purpoſe of opening to apply greaſe. The expence of a machine on this plan will be from thirty to forty pounds, according to the ſtrength and manner of its being put together.

And at *fig.* 4, are ſeen the front and end elevations, with the plan, of a barn and horſe threſhing machine upon a much larger ſcale, being intended for three or four horſes or other ſorts of cattle; and deſigned to winnow or clear the grain at the ſame time that it is threſhed out. It may likewiſe be ſo contrived as to hoiſt it up to the granary above, to ſplit beans, cut ſtraw, and perform ſeveral other operations, ſuch as churning, pumping, grinding, &c. Such a barn and machine will ſuit a farm of almoſt any extent. The ſhed over the horſe-path and firſt movements is moſtly made with a conical roof merely for the purpoſe of covering them; but as the expence is conſiderable, it is here made to anſwer other uſes. It is ſquare, as ſhewn at *fig.* 5, by *a*, *b*, *c*, *d*; the dotted circle is the horſe-path, in the corner of which ſtands the upright axle *e*, *fig.* 6. Above this, by raiſing the pillars to a proper height, may be obtained a convenient

place

place either for putting corn in the straw till threshed out, or for keeping straw or hay, or as a granary. But in either case the floor must be so constructed as to support the weight upon it without sinking in the middle. A communication with the barn may be made near the threshing machine at *f*, *fig.* 5, which will afford an easy access to the machine in case grain be deposited there to be threshed. In this barn, the machine is erected on a floor raised seven or eight feet above the ground-floor, in order that there may be sufficient room for the fanner or winnowing machine below. This floor may be extended the whole breadth of the barn and fifteen feet or more towards *i*, from the back part of the machine at *f*, by which, and being properly partitioned below, a very necessary and useful [illegible] *i*, will be obtained for containing the grain till hoisted up to the granary. The doors of this place may be locked by the farmer, if thought necessary, during the time of threshing. The space *k* will contain the chaff blown by the fanners. There is a door through at *g* to render the communication more easy and expeditious from the part *i*, where the unthreshed grain is deposited; as it may be proper to look often below while the machine is at work: there might likewise be a door in the partition at *h*; but this is not so very necessary, as the farmer can easily see what his servants are about at *m* where the straw goes, by standing on the threshing floor, to which there should be steps up at *n*. This machine may also be so constructed as to rake away the straw, and throw it down to *m*; which saves the labour of a person in raking from the machine.

The expence of a machine on this plan, when made to clean the grain and rake away the straw only, will amount to about fifty pounds exclusive of flooring, &c.; and when made so as to hoist up the grain, split peas or beans, and cut straw, from six to ten pounds in addition for each.

Other more powerful machines of this kind will be described under the article THRESHING *Machine*.

BARN *Floor*, in *Rural Economy*, the space or floor on which the grain is threshed out by the flail. It is for the most part made in the middle of the barn, and should be so formed as to be perfectly close, firm, and strong. It is sometimes termed threshing-floor. In constructing these floors, various sorts of materials are employed; such as compositions of earthy kinds, stones, bricks, and wood. The last, when properly laid and put together, is probably the best and most secure from such causes as are liable to injure grain. The floors of barns, when made of wood, are sometimes so contrived as to be moveable at pleasure, which is a great convenience in many cases. Barn floors are made of different dimensions, but from twelve to fourteen by eighteen or twenty feet may be considered as good sizes.

As the floor, or threshing-place, is the principal part of every barn, the greatest care ought to be taken in making it. In order to this, in some places the surface of the intended threshing-place is dug away to the depth of about six inches; and the earth thus taken out, when of a proper kind, after being well cleared of stones, is mixed with the strongest clay that can be procured, and with the dung of cattle. This mixture is then worked together with water till it is of the consistence of stiff mortar, and the compost thus made is spread as smooth and even as possible with a trowel upon the spot from whence the earth was taken. As it cracks in drying, it must frequently be beaten down with great force, or rolled with a heavy roller, until all the crevices are filled up; and this must be continued till it is quite solid, hard, and firm. Earthen floors are not however to be recommended, except where the materials are extremely good, and the method of forming them well understood, which is but seldom the case.

The best barn floor, both for threshing upon and for keeping corn, is that which is the driest, smoothest, most completely solid, and consequently the most free from cracks and holes in which insects and vermin may shelter themselves and breed. The ancients were remarkably careful in this last respect, as is evident from the writings of Cato, Varro, and Columella. The last of these relates particularly the great pains they took, first to dig up the ground to some depth, in order to moisten it with fresh lees of oil, but not with any that had saline matters in them; then to mix it thoroughly with chaff, and ram it down as close as possible; afterwards, as it dried, to stop all the cracks and crevices that appeared; to continue beating it down with great force to render it quite level; and, lastly, to strew it again with chaff, which they trod in, and then left it to be completely dried by the sun. All of them agree, that the lees of oil thus used prevent the growth of weeds in the floors, and contribute to preserve the corn from being plundered by the mice and ants. In this they were, however, probably mistaken. Their barns were always seated high, and as dry as possible. A floor made in the above manner, though not good, was probably preferable to either stone or the earthen floors formerly common in many parts of this country, from which such dampness has been communicated to the corn, as has rendered wheat, for example, sixpence or a shilling a bushel worse either for keeping or exportation. Bricks, when hard and well laid, may form a tolerable floor for many purposes; but, from their attracting moisture, are not by any means to be recommended where grain is to remain much upon them. And most sorts of stone are liable to the same objection.

Wood is by much the best for this use. Boarded threshing floors, made of sound, thick, well-seasoned planks of oak, are excellent for threshing upon, will last a long time, and may be converted into good floorings for rooms, by planing them down after they are become too uneven for the purpose originally intended.

There are various ways of laying and constructing barn floors, when made of wood. The most common method is that of nailing the planks, after their edges have been shot true and well joined, down to wooden sleepers firmly placed on the ground. But in the midland counties another method is followed, which, Mr. Marshall says, is that of first having the floors laid with bricks, and then covering them over with the planks, without any other confinement than that of their being doweled together, or ploughed and tongued, and their ends let into sills or walls placed in the usual manner on each side of the floors. The advantages of this method of making the floors are, that when the brick work is well executed and made perfectly level, vermin cannot be concealed underneath them, nor damp air be communicated; besides, floors formed in this way are found to wear better than those laid simply upon sleepers. The planks employed in this way should, however, always be well seasoned. It is evident, notwithstanding, that where barn floors can be made hollow, they must be much better for the purpose of threshing upon than such as are either placed on brick work or the ground, from their greater elasticity; the grain is of course threshed out with more ease and certainty. But in whatever manner these floors are constructed, they become expensive, and do not last any great length of time. Such as are laid on the common ground, upon three sills, with two-inch oak planks, will in general cost from eighteen to twenty pounds, and only last fifteen or twenty years; and such as are made hollow, and placed wholly on brick work,

or only on brick quoins, with two-inch and half oak planks, are ſtill conſiderably higher, being often from twenty-five to thirty-five pounds or more, and not much more durable. Beech floors, which were lately introduced inſtead of oak, have been found not to laſt more than ſeven or eight years; conſequently to be by no means advantageous.

In order therefore to obviate the continued heavy expences of theſe floors, as well as the great conſumption of timber in the conſtruction of them, and alſo to guard againſt the great waſte of grain in threſhing upon them after they begin to decay, another kind of barn floor has been invented by Mr. Upton of Petworth in Suſſex, which has been found on trial to prevent theſe inconveniences in a great meaſure, and at the ſame time to afford other great advantages, ſuch as thoſe of being more eaſily drawn upon by loaded waggons or carts; providing, when down, comfortable ſhelter for hogs; and, when turned up, being capable of being employed as a ſtable, ox-ſtall, hovel, or cart-houſe. This is the *moveable barn floor*, which, it is ſaid, can be placed or diſplaced in a few minutes by two perſons.

This new-conſtructed hollow floor is compoſed of oak planks five feet eight inches in length, and one inch and an half in thickneſs, and coſts from twenty-three to twenty-four pounds. By theſe dimenſions being conſiderably leſs than thoſe uſed in common barn floors, much advantage is gained in reſpect to timber; beſides, planks of deal, beech, or elm, may be made uſe of, as they will not be liable to decay, from there being little or no dampneſs, and in this way the expence be leſſened: and when timber from the eſtate is employed, it may be ſtill farther diminiſhed, as theſe floors may be compoſed of ſtuff of ſmall ſcantlings, which may be had from ſhort timbers of but little value in compariſon to thoſe made uſe of in other kinds of barn floors. It is ſuppoſed that floors conſtructed in this method will laſt an hundred years, or as long as the barns; as they are perfectly free from damps, from their being ſo much raiſed from the ground when down; alſo from their being moveable, when there are more barns than one in the ſame yard, they may be conveyed from one to another, and by that means ſave the expence of having different floors.

At *fig.* 7. *Plate* II. of *Agriculture*, may be ſeen the repreſentation of a barn floor of this kind; one part of which affords a view of the floor as laid down for threſhing upon, and the other part is raiſed up, with racks for feeding cattle, &c.: *a* rack boards, *b* ſlip boards for admitting air, *c* wooden floor ſills for the ſlip boards *b* to reſt upon, *d* moveable floors, to one part of which are wooden legs ſerving to ſupport it when it is neceſſary to put the diſplaced timbers into the receſs *e*; *e* a receſs for receiving the threſhed grain before it is winnowed, or for containing the moveable timbers; *f* an iron hook to lift the floor up with when not uſed for threſhing upon; there are two of theſe hooks employed in the barn; *g* the moveable timbers that ſupport the floor, having grooves along their ſurfaces to prevent the loſs of grain; two of theſe timbers are repreſented larger at *gg*; one being the croſs piece with a leg and tenon for fixing in the ſtone mortiſes, the other intended to lie lengthwiſe, and level with the floor of the barn; in the ground are fixed ſtones with mortiſes in them to receive the tenons of the timbers deſcribed above: *h* the ground, which ſhould be made of materials ſufficiently hard to prevent the horſes, carts, or waggons from making depreſſions in it; *ii* poſts with iron haſps, to ſupport the floors when out of uſe; *k* racks for feeding cattle at, when the barn is applied to other purpoſes than threſhing upon. When the floor is not wanted for threſhing upon, the floors may be firſt turned up and fixed with the iron pins, bolts, and haſps; then the middle timbers be taken out and placed on the ground, on the ſide oppoſite to the receſs where they were to be depoſited when out of employ; afterwards that part of the floor which has legs to ſupport it muſt be let down, putting the timbers into the receſs, and turning the floor up again.

Though floors of this kind may be highly convenient and uſeful in particular inſtances of large barns, where much threſhing by the flail is required, yet from their complexity, and their requiring much room when out of uſe as floors, they do not ſeem well calculated for thoſe of the ſmaller kinds.

BARN, or *White Owl*, in *Ornithology*, is in England the common name of that ſpecies of STRIX, which is found about barns and out-houſes, and which is ſpecifically called *flammea* by Gmelin, and ſome other naturaliſts.

BARNABAS, SAINT, in *Biography*, a teacher of Chriſtianity cotemporary with the apoſtles, was a Levite of the country of Cyprus. His original name ſeems to have been "Joſeph;" and the appellation of "Barnabas," ſignifying "Son of Conſolation or of Exhortation," was conferred upon him by the apoſtles. He was one of thoſe Chriſtians who, ſoon after the reſurrection of Chriſt, ſold their property and laid the money at the apoſtles' feet. Acts, iv. 36, 37. By him St. Paul was preſented to the other apoſtles three years after his converſion, or about the year 37 of the vulgar æra; and he was appointed a miſſionary to Antioch, in order to confirm the diſciples. From thence he went to meet Paul at Tarſus, and they reſided together a year at Antioch; and were afterwards entruſted with the conveyance of alms to the Chriſtian brethren at Jeruſalem. A. D. 44. Here he was declared joint apoſtle of the Gentiles with Paul, whom he accompanied to various places and with whom he co-operated in preaching the goſpel. At length a diſſenſion occurring between them with reſpect to Mark, whom Paul refuſed to accept as a companion, they ſeparated, probably in friendſhip and mutual good will, and Barnabas with Mark as his aſſociate went to Cyprus. St. Luke bears this honourable teſtimony to Barnabas, that he "was a good man, and full of the Holy Ghoſt, and of faith." Such is the ſubſtance of the account given of him in the New Teſtament. Some of the ancients, however, have ſuppoſed that he was one of Chriſt's ſeventy diſciples, whom he employed during his miniſtry as a preacher in the land of Judæa. It has been ſaid that he ſuffered martyrdom, being ſtoned to death by the Jews of Cyprus at Salamis; that he was buried by Mark in a cave near that city, and that his body was diſcovered in this iſland in the reign of the emperor Zeno about A. D. 488, with the goſpel of St. Matthew written in Greek with his own hand, upon his breaſt. Lardner's works, vol. ii. p. 11, &c.

BARNABAS, *Epiſtle of*, in *Eccleſiaſtical Hiſtory*, an epiſtle ſtill extant, aſcribed to St. Barnabas. It conſiſts of two parts; the firſt being an exhortation to conſtancy in the belief and profeſſion of the Chriſtian doctrine, particularly as to its ſimplicity without the rites of the Jewiſh law, and the ſecond part containing moral inſtructions. Learned men have differed with regard to the genuineneſs of this epiſtle. It is cited by St. Clement of Alexandria and by Origen. Euſebius reckons it among thoſe books that are ſpurious, meaning probably by the term, contradicted. St. Jerom ſays, that it was read for edification among the apocryphal ſcriptures. Amongſt the moderns, Pearſon, Cave, Du Pin, Wake, Dr. Clarke, and many other learned men, ſuppoſe it to be a genuine epiſtle of Barnabas the companion of Paul. Some are doubtful, as Cotelerius, who inclines to think that it was not written by Barnabas. The objections againſt the genuineneſs of it are ſtrongly urged by

Baſnage,

Baſnage, and alſo by Mr. Jeremiah Jones. To this purpoſe he alleges that it is not in any of the ancient catalogues of ſacred books; that it is not cited in ſcripture by any of the fathers; that it was not read in the aſſemblies of the primitive Chriſtians; that it contains contradictions, notorious falſehoods, and groſs miſtakes; and alſo many things that are trifling and ſilly.

Moſheim ſays that it was the production of ſome ſuperſtitious Jew whoſe attachment to Jewiſh fables, as well as mean abilities, ſhew that, notwithſtanding the uprightneſs of his intentions, he muſt have been a very different perſon from the true Barnabas who was St. Paul's companion. Mr. Jones ſuppoſes that it was written by a perſon who had been originally a Gentile or Pagan.

Dr. Lardner thinks it moſt probable, that it was written by Barnabas, ſoon after the deſtruction of Jeruſalem by Titus, in the year of our Lord 71 or 72; and that it was addreſſed not to Jews, as archbiſhop Wake ſuppoſes, but to Gentiles, or perhaps rather to Chriſtians in general, and intended to abate their reſpect for the peculiar rites and inſtitutions of the Jewiſh laws and to ſhew that they were not binding upon Chriſtians. It was written in Greek; but the four firſt chapters or ſections, and a part of the fifth, are wanting in the Greek copies. It is however entire in an ancient Latin verſion. This epiſtle has no inſcription, as it is not directed to the Chriſtians of any particular place; and on this account it has been ſometimes called a Catholic epiſtle. Lardner's works, vol. ii. 12, &c. Jones's New and Full Method of ſettling the Canonical Authority of the New Teſtament, vol. ii. p. 500, &c. Moſheim's Eccl. Hiſt. vol. i. p. 113.

Barnabas, St, *Goſpel of*, a ſpurious goſpel mentioned by pope Gelaſius, in his decree againſt apocryphal books. The Turks have a goſpel under this name, in which there are many things injurious to Chriſt and honourable to Mahomet. It was compoſed in Arabic, as M. de la Croſe thinks, under the emperor Frederic II., A. D. 1211 to 1245, and was tranſlated into Italian about the middle of the 15th century. Profeſſor White has given extracts from this goſpel at the end of his "Sermons at the Bampton Lectures."

Barnabas's, *St., Day*, in the *Calendar*, a Chriſtian feſtival celebrated on the 11th of June.

Barnabas, *Cape*, in *Geography*, lies in the north-weſt of America, in N. lat. 57° 13′, between Trinity iſland and Cape Greville.

BARNABE, St., *Iſland*, is ſituated at the mouth of a ſmall river of this name which falls into the river St. Laurence, and moſt remote to the north-eaſt on the ſouthern or ſtarboard ſhore in coming down from Quebec.

BARNABITES, in *Eccleſiaſtical Hiſtory*, an order of religious thus called from the church of St. Barnabas at Milan, where they were firſt eſtabliſhed, and which was beſtowed upon them in the year 1545; and not as ſome have imagined becauſe St. Barnabas was their patron: in reality, St. Paul is the patron of the Barnabites.

The Barnabites are regular prieſts of the congregation of St. Paul. Their habit is black, and the ſame with what they wore when firſt eſtabliſhed, in 1533, by the expreſs bulls of pope Clement VII. and afterwards confirmed by Paul III. Their office is to inſtruct, catechize, and ſerve in miſſion.

BARNACH, in *Geography*, a ſmall iſland near the weſt coaſt of Ireland, ſituate in Black Sod bay.

BARNACIS, in *Ancient Geography*, a town of Hiſpania Tarragonenſis, in the territory of the Carpetani. Ptolemy.

BARNACLE, or Bernacle, in *Conchology*, is the common name of the ſpecies of Lepas called *Anatifera*; and is applied alſo in a general manner to all the ſhells which belong to the Lepas genus.

Barnacle-Goose, or Bernacle-*Goose*, in *Ornithology*, the common Engliſh name of that kind of gooſe which was deemed the offspring of the Lepas Anatifera in the ſixteenth century. See Anatifera, and Anas Erythropus, the latter being the Linnæan name of the Barnacle gooſe.

BARNADESIA, in *Botany*, a ſhrub ſo named by Mutis, from Michael Barnades, a Spaniſh botaniſt. Lin. g. Schreb. 1260. Supp. 55. Juſſ. 178. Claſs, *ſyngeneſia polygamia æqualis*. Nat. Ord. *Compoſitæ diſcoidæ—Corymbiferæ* Juſſ. Gen. Char. *Cal.* common, ſomewhat ventricoſe, ſpreading at the tip, imbricate; ſcales numerous, gradually longer from the baſe to the tip; the inferior or exterior, ovate, cloſely imbricate, ſharp, pungent; the ſuperior or interior, ſubulate, flat, ſpreading, pungent. *Cor.* compound, rayed; corollets hermaphrodite, tubular, very few (three or four), remote, in the diſk ligulate, in a ſimple ſeries, in the ray. Proper to the former, funnel-form; tube very ſhort; border hairy, five-parted; parts converging. Proper to the latter, ligulate, lanceolate, ſpreading at the baſe, incurved at the tip, and ſplit, outwardly very hairy; tube longer than the calyx. *Stam.* filaments five; anthers cylindric, tubular. *Piſt.* germ ovate; ſtyle filiform, longer than the ſtamens; ſtigma bifid; clefts ſpreading, ovate-rounded. *Per.* none; calyx converging; ſeeds very many, ovate, hairy; hairs reverſed. Down of the flowers of the diſk briſtly; rays ſubulate, ſtiff, broken backwards, naked or covered with minute hairs; of the radial flowers long, erect, ſpreading, many-rayed, feathery, ſoft. Recept. flat, villoſe, without chaff.

Eſſ. Gen. Char. *Cal.* naked, imbricate, pungent. *Cor.* radiate; down of the ray feathered, of the diſk briſtly, broken backwards.

Species. *Barnadeſia ſpinoſa* is a ſhrub with very ſmooth branches, ſet with a pair of thorns at their origin, which at firſt were ſtipules; they are petalous, brown, ſmooth; leaves alternate, ſimple, ovate, entire, ſharp, flat, veined, ſomewhat hairy on both ſides, whitiſh underneath; petioles very ſhort; ſtipules in pairs, ſmall, ſubulate; flowers in panicles, terminating; calyx pubeſcent. The flower is ſingular in having two ſorts of down. This, which is the only ſpecies of this genus, is a native of South America, where it was diſcovered by Mutis.

BARNARD, or Bernard, John, in *Biography*, was born at Caſtor in Lincolnſhire, and educated at Queen's college in the univerſity of Cambridge. In 1648, he was admitted, by order of the viſitors appointed by parliament, fellow of Lincoln college at Oxford. After the reſtoration, he conformed, and was promoted to be prebendary in the church of Lincoln. He died at Newark, on a journey to the Spa, in 1683. He was in good repute for his learning and orthodox principles, and was author of the following books; viz. "Cenſura Clerior, againſt Scandalous Miniſters, &c." 4to. 1660; "Theologo-Hiſtoricus, or the Life of Dr Heylyn," whoſe daughter he married, 8vo. 1683; "An Anſwer to Baxter's falſe accuſation of Heylyn;" and a "Catechiſm" for the uſe of his pariſh. Biog. Brit.

Barnard, *Sir* John, a patriotic citizen and diſtinguiſhed magiſtrate of London, was born at Reading in Berkſhire, in 1685, of parents who were Quakers, and educated at a ſchool belonging to perſons of this perſuaſion at Wandſworth in Surry. In early life he was diſtinguiſhed by the integrity and candour of his mind, ſo that all differences among his ſchool-fellows were ſubmitted to his deciſion. In the fifteenth year of his age, his father, who was now ſettled in

London in the wine-trade, introduced him into his own buſineſs; and his conduct was ſuch as fully to juſtify the confidence that was repoſed in him. Amidſt other avocations that occupied his thoughts and time, he directed his particular attention to religion; and without doubt from conviction, renounced the profeſſion of his parents, and became a proſelyte to the eſtabliſhed church. Accordingly he was baptiſed by Dr. Compton, biſhop of London, after ſeveral previous conferences, at his chapel in Fulham, in 1703. It was the uniform practice of Mr. Barnard, from his earlieſt youth, to aſſociate with perſons of riper age than his own, and with ſuch as were diſtinguiſhed by their talents, learning, and religion; and his improvement in knowledge and virtue correſponded to the ſelection he made of his companions and friends. In this courſe of ſedulous application to mental culture as well as to ſecular employment, Mr. Barnard perſevered till he had attained the thirty-ſixth year of his age; and he was only known in private life by the excellencies of his character. About this time a bill that materially affected the wine-trade had paſſed the commons, and was depending in the upper houſe. The merchants that were likely to be injured by the operation of this bill, appointed Mr. Barnard to ſtate their objections before the lords; and ſuch were the abilities which he manifeſted on this occaſion, and ſuch was the ſucceſs that attended his exertions, that in 1721 he was propoſed, without his knowledge, as a candidate to repreſent the city of London at the next election, which took place in the following year. The conteſt was as warm as any that had ever been known in the city; but Mr. Barnard, though he declined all perſonal ſolicitation, ſucceeded by the zeal and activity of his friends. His parliamentary conduct, during a period of forty years, was in the higheſt degree independent and reſpectable; and he derived from his character as well as talents ſingular influence. He diſtinguiſhed himſelf by his oppoſition to the meaſures of adminiſtration, then conducted by ſir Robert Walpole, and particularly to the extenſion of the exciſe, which he condemned both in a commercial and political light, and which, by his vigorous and aſſiduous efforts, he induced the miniſter at length to abandon. Heedleſs of popularity in meaſures which in his judgment concerned the good of his country, he attempted to reduce the intereſt of the national debt from four to three per cent.; and by his endeavour incurred a temporary odium. In 1732 he had obtained the honour of knighthood, on occaſion of preſenting a congratulatory addreſs to king George II.; and in 1737 he was raiſed to the dignity of the chief magiſtrate of the city of London; an office which he executed with ſingular reputation to himſelf and advantage to the public. So attentive was he to the duties of this office, that he would not ſleep a ſingle night in his houſe at Clapham, leſt any perſon ſhould be injured by his temporary abſence. No magiſtrate was ever more vigilant in his attention to the internal police of the city over which he preſided; and blended lenity with ſeverity in the adminiſtration of it with ſo much diſcretion. He would never ſuffer any perſon to be committed to priſon for a ſingle night, till the accuſation againſt him had been fairly heard; for he well knew the danger to which unguarded youth would be expoſed even by a ſhort abode in theſe receptacles of infamy. The ſtate of our gaols had been the object of his particular inveſtigation, and he was fully apprized of thoſe abuſes that needed correction and reſtraint. In 1745 ſir John Barnard took the lead in ſigning an agreement to take bank notes in lieu of caſh, and in thus ſupporting public credit at a period of peculiar danger. In 1749, he became the father of the city; and the London merchants had previouſly, viz. in 1747 teſtified their veneration of him by erecting his ſtatue in the Royal Exchange. This token of reſpect, however, he diſapproved; as he thought that no character was entitled to it, till its perſeverance in integrity had been ſealed by death: and ſuch was his modeſty, that he never after tranſacted buſineſs within this edifice. In 1754 he was for the laſt time, without ſolicitation and in oppoſition to his own wiſhes, elected a repreſentative of the city; but his infirmities increaſing, he thought proper, in 1758, to reſign his alderman's gown. After ſome years of honourable retirement, he died at Clapham in 1764, leaving one ſon (diſtinguiſhed by his taſte in the polite arts, and by his admirable collection of pictures) and two daughters. Few perſons ever ſuſtained a character ſo uniformly reſpectable as ſir John Barnard. He was not only blameleſs, but eminently exemplary in the various relations and offices of life. To the faithful and active diſcharge of the perſonal and ſocial duties, he added a moſt devout ſenſe of religion. The firſt hour, at leaſt, of every day was employed in the exerciſe of devotion and the ſtudy of the ſcriptures. He attended public worſhip twice on a Sunday, and was conſtant in receiving the communion. He had ſuch a high reverence for the bible, that he always expreſſed a great diſlike of any attacks which were made upon its ſacred original and authority. Although he relinquiſhed the profeſſion of his youth, he retained, in a conſiderable degree, that ſimplicity of manners and plainneſs of dreſs which diſtinguiſh the reſpectable body to which his family belonged. But though he was modeſt in his deportment, he was firm and fearleſs in the diſcharge of his duty. His language was clear, conciſe, and unaffected; and his wiſdom and knowledge were recognized by perſons of the firſt character in his time; inſomuch that he was urged in 1746, by king George the ſecond, to accept the office of chancellor of the Exchequer, which he refuſed. Lord Granville and Mr. Pulteney frequently conſulted him on affairs of moment; and lord Chatham, when Mr. Pitt, has been known to ſtile him the great commoner. The muſe of Pope, by exhibiting him in contraſt to worthleſs wealth and title, has immortalized his name.

"Barnard in ſpirit, ſenſe, and truth abounds;
Pray then what wants he? Fourſcore thouſand pounds." Biog. Brit.

BARNARD, in *Geography*, a townſhip of America, in Windſor county and ſtate of Vermont, containing 673 inhabitants. It gives riſe to the northern branch of Waterquecche river, and is diſtant 65 miles N. E. from Bennington.

BARNARD CASTLE, or CASTLE BERNARD, a town of Durham, in England, 246 miles N. N. W. from London, and 26 from Durham. The town is about a mile in length, and conſiſts of ſeveral ſtreets; the principal of which is upwards of forty yards in width, and is moſtly filled with handſome modern buildings. The air of this part of the country is remarkably ſalubrious, the market is abundantly ſupplied, and the ſituation poſſeſſes every advantage to render it pleaſant. The woollen manufactory has declined of late from the great uſe of cotton goods; much buſineſs is done by the tanners; and the ſtocking trade is particularly flouriſhing. This town is mentioned as exiſting ſoon after the conqueſt; though it was then probably but an inſignificant place, as it derived its chief conſequence as well as its name from the magnificent caſtle founded here by Bernard Baliol about the year 1178. This fortreſs is ſituated on the ſummit of a high rock to the weſtward of the town, and was anciently of much importance; maintaining a number of officers, and being veſted with high privileges

leges by its different poſſeſſors. We find the names of John Baliol father to the king of Scotland, the celebrated Guy Beauchamp earl of Warwick, and Richard duke of Glouceſter afterwards Richard III., occur among the proprietors of the caſtle. The latter founded a college for a dean, 12 ſecular prieſts, 10 clerks, and 6 choriſters; but it is preſumed that his intentions were in part fruſtrated by the ſubſequent troubles of his reign, as no traces of this foundation are now diſcernible. In the reign of Charles I., this caſtle, after being ſeveral years in the poſſeſſion of the crown, was purchaſed by an anceſtor of the preſent earl of Darlington, and gives a title to his lordſhip's eldeſt ſon. In the year 1699 it was created a barony by king William III. The preſent remains cover about ſix acres of ground. The parts of chief ſtrength ſtand on the brink of a ſteep rock about eighty perpendicular feet above the river Tees, and every way command a moſt beautiful proſpect. Many fragments of the ruins have the arms of Richard the third, who is ſuppoſed to have conſiderably contributed to this building. Though we can readily aſcertain from the above that this fortreſs muſt have been a place of great ſtrength and extent, yet it is not poſſible to form any competent idea what it was in its original and perfect ſtate. Leland in particular mentions parts of which there are not the leaſt remains. The environs of the town are remarkably beautiful; the vale of the Tees abounding with a great variety of picturesque, paſtoral, and auguſt ſcenery. From the caſtle cliffs northward, the river is bordered by a hanging foreſt of oaks on one hand, and on the other by fine meadow land. The extended battlements, the circular tower and the moſt ſtately parts mantled with ivy, the brown rocks fringed with bruſh wood, the brighter yellow towers, and the dark and ſhaded battlements, are contraſted by the azure lake on whoſe ſurface they are reflected. Near the path on the margin of the river is a fine new bridge of one arch, lately erected by Saurey Morrit Eſq. of Rokeby Park. The number of houſes in the townſhip is 312, and its inhabitants 2966. Hutchinſon's Hiſtory of Durham, vol. iii. 4to.

BARNARDO Islands, are five iſlands on the north coaſt of South America, laid down in modern charts off the north point of the entrance into Moroſquillo bay. They lie S.S W. from the harbour of Carthagena, in the direction of the coaſt. To the weſt of ſouth from them is the opening into the gulf of Darien, which is the limit between North and South America. Theſe iſlands form a large bay and harbour in N. lat. 9° 35′, and W. long. 77° 20′. The outermoſt iſland is called St. George's, the innermoſt is St. Giſbertus, and Goeree iſland lies between them. The river Chenu is to the weſt of theſe iſlands.

BARNASNE, mountains of Ireland, in the county of Kerry, 8 miles S. W. of Killarney.

BARNAUL, a town of Siberia, on the weſt ſide of the Oby, 100 miles S.S.E. of Kolyvan. It is ſituated on the Oby, in the government of Kolyvan, famous for its ſilver and copper mines, which alſo produce gold. Theſe mines are much more productive than thoſe of Nertſhinſk; for the pits hitherto opened in the latter have no continued or ſteady veins, are never powerful, and ſeldom terminate in large neſts, are always poorer as they proceed in depth, and change their contents at every fathom. The mines of Barnaul belong to the crown. About 48,000 boors earn their capitation tax in working at them, over and above the miners and other workmen properly belonging to them. The quantity of gold produced at Barnaul and the Shlangenberg from 1745 to 1780, amounted to 686 pood, 16 pounds, 49 ſolotniks of pure gold.

BARNEGAT Inlet, called in ſome maps *New Inlet*, is the paſſage from the ſea into Flat-bay ſound, on the ſouth-eaſtern coaſt of New Jerſey, 68 miles N. E. from cape May. N. lat. 39° 47′ 30″. W. long. 74° 13′.

BARNER, James, in *Biography*, born at Elbing, in Weſt Pruſſia, in 1641, applied himſelf early to the ſtudy of chemiſtry, in which he made ſuch progreſs, that in 1670 he was engaged to give lectures in that art at Padua. After reſiding ſome years in that univerſity he went to Leipſic, where he practiſed medicine with ſucceſs. Retiring at length to Elbing his native country, he died there in 1686. Barner left ſeveral works on the ſubject of chemiſtry, but that by which he is principally known is his "Chymia philoſophica, cum doctrina ſalium, medicamentis ſine igne culinari parabilibus;" publiſhed at Nuremburg 1689, three years after his death, a work rather curious than uſeful. Haller Bib. Med. Eloy Dict. Hiſtor.

BARNERA, in *Geography*, a ſmall iſland of Scotland, near the weſt coaſt of Lewis, ſeparated from the main land by a ſtrait, called Loch Barnera, about a mile wide. N. lat. 58° 25′. W. long. 7° 3′.

BARNES, Joshua, in *Biography*, an Engliſh divine and claſſical ſcholar, was born in London in 1654, and educated in grammar-learning at Chriſt's hoſpital, where he was diſtinguiſhed by his proficiency in Greek, and by ſome Latin and Engliſh poems. In 1671, he was admitted a ſervitor of Emanuel college in Cambridge; and in 1678, he was elected a fellow of the ſame college. In his numerous writings, which were critical, poetical, and hiſtorical, he diſplayed more induſtry and fancy than taſte and judgment. His memory was ſingularly retentive, ſo that he could write and converſe in the Greek tongue with great readineſs; though Dr. Bentley ſarcaſtically remarked of him, that he underſtood as much Greek as a Greek cobler. But if he excelled in tenaciouſneſs of memory, he was notoriouſly deficient in ſolidity of judgment; and therefore ſome perſon recommended this pun to be inſcribed upon his monument:

"Joſhua Barnes,
"Felicis Memoriæ, Judicium expectans."

The enthuſiaſm of his temper was manifeſted in various ſingularities of opinion and conduct. Believing that charity never fails in this life of obtaining due recompence, he has given his only coat to a common beggar; and he uſed to recite ſtrange ſtories of ſome unexpected remuneration which he had derived from charities of this kind. Of his talents and learning, and particularly of his acquaintance with the Greek language, he was vain and boaſtful; and at the ſame time he was prone to depreciate and abuſe others. Of his works the moſt reſpectable were his editions of the Greek claſſics; and theſe he dedicated, without much appropriate ſelection, to perſons of high rank. In 1695, he was elected Greek profeſſor of the univerſity of Cambridge. In 1700, he married a widow with a handſome jointure, who is ſaid to have made the firſt advances; and, with a view to her amuſement, and in order to induce her to ſupply him with money towards defraying the expence of his edition of Homer, he wrote a copy of Engliſh verſes, deſigned to prove that Solomon was the author of the poems under Homer's name. He died in 1712, and was buried at Hemingford in Huntingdonſhire, where a curious monument was erected to him by his widow, with an inſcription partly in Latin and partly in Greek Anacreontics. The following memorandum is annexed: "Mr. Barnes read a ſmall Engliſh bible, that he uſually carried about him, one hundred and twenty-one times over at leiſure hours." Of his numerous publications, the principal are the following: "A Poetical Paraphraſe on the Hiſtory of Eſther," intitled, "Αυλικοκατοπτρον," or "The Courtier's Looking-glaſs, &c." The ſtory is paraphraſed in Greek

Greek verſe, with a Latin tranſlation in the oppoſite page and Greek ſcholia; to which is added, "An Homeric Parody on the ſame Story." "The Hiſtory of that moſt victorious monarch Edward III. &c.;" Camb. fol. 1688. This hiſtorical work, for which the author's talents ſeem to have been very ill adapted, abounds in falſe inferences and tedious digreſſions; and in long and elaborate ſpeeches, after the manner of Thucydides and other ancient hiſtorians, which ſeem to be the reſult of his own imagination; the whole diſplaying neither the judgment of a politician, nor the taſte of a good writer. "Euripidis quæ extant omnia, &c." Camb. fol. 1694. Beſides a correction of the text of Euripides, this edition contains a preliminary diſſertation on the ancient Greek tragedy, and another on the life and writings of Euripides. "Anacreon Teius, &c." Camb. 1705. In this edition, the poems of Anacreon are corrected, and much enlarged by the addition of ſeveral whole pieces and fragments. The life of Anacreon is annexed; and in the Prolegomena, the author treats of the antiquity and invention of lyric poetry, and the peculiar character and metre of that poet. The dedication to the duke of Marlborough is followed by a Greek Anacreontic ode upon the victory at Blenheim. The editor has alſo ſubjoined the epigrams of the ancients and moderns upon Anacreon, and ſome odes of his own compoſition under the title of "Anacreon Chriſtianus." "Homeri Ilias et Odyſſea, &c.;" 2 vols. 4to. Camb. 1710. This edition is furniſhed with an exact Latin tranſlation, with the ancient Greek ſcholia, many notes upon the text and ſcholia, and various readings; to which are ſubjoined the "Batrochomyomachia," the "Hymns and Epigrams," the "Fragments," and "Two Indexes." This edition of Homer has been generally eſteemed as correct and complete; though in the Acta Eruditorum for Jan. 1711, there are ſome objections againſt it, which have been aſcribed to Dr. Bentley. Barnes's editions of the Greek claſſics have of late years been ſinking into diſrepute; and modern critics place little confidence in his judgment or ſagacity. He has been charged, in ſome of his various readings, by the learned Dr. Clarke, with audacity and unſkilfulneſs.

As for his other works, both in proſe and verſe, it would be tedious to enumerate even their titles; and this is the leſs neceſſary, as they are now conſigned to total oblivion. Biog. Brit.

BARNET, denominated alſo *High*, and *Chipping Barnet*, in *Geography*, a town of England, ſituated in the hundred of Caiſho and county of Hertford, 11 miles north of London. It has a market on Mondays, which has exiſted ſince Henry II.; and here are alſo three fairs annually. At this town, which is a great thoroughfare, the north road divides for York and Liverpool. Being ſituated upon an eminence, the proſpects are extenſive and agreeable; but there are no public buildings worth notice, except the church and a grammar ſchool. The latter was founded by queen Elizabeth, and afterwards endowed by alderman Owen of the Fiſhmongers' company of London, for the education of nine children gratis. There are likewiſe alms-houſes for widows, founded by James Ravenſcroft Eſq. and his wife, in 1672. At the twelfth mile ſtone beyond the town, is erected a pillar to commemorate a ſignal battle fought on that ſpot on Eaſter day, April 14, 1471, between the houſe of York headed by Edward IV., and that of Lancaſter conducted by the ſtout earl of Warwick, who, with many of the nobility and nearly 10,000 men, were ſlain. This was a deciſive victory for the Yorkiſts, as it firmly eſtabliſhed Edward IV. on the throne; although in a ſubſequent battle at Tewkeſbury, the queen of Henry VI. and her ſon were taken priſoners. Barnet is governed by a magiſtrate, high conſtable, and other officers; and a court leet is held at Eaſter. In the town are 225 houſes, inhabited by 1258 perſons. Salmon's Hiſtory of Hertfordſhire.

BARNET, a townſhip of America, in Caledonia county, and ſtate of Vermont, containing 477 inhabitants, and diſtant 112 miles N. E. from Bennington.

BARNEVELDT, JOHN-OLDEN, in *Biography*, a miniſter of Holland, eminently diſtinguiſhed by his abilities and patriotiſm, was born in 1547. In his early negociations on behalf of the ſtates general with France, England, and the neighbouring powers, he gave great ſatisfaction to thoſe who employed him, and gained equal credit and eſteem in the judgment of Henry IV. and queen Elizabeth. As grand penſionary of the ſtates of Holland, he obtained extenſive influence; and firmly attached to the liberty of his country, he obſerved the growing power of the houſe of Orange, directed by the warlike and aſpiring prince Maurice, with jealouſy and apprehenſion. Amidſt the colliſion of different parties, he was regarded as the leader of the oppoſition to the meaſures of that prince. The authority of Maurice depended, in a great meaſure, on the continuance of the war with Spain, and Barneveldt was very deſirous of terminating it. By his zealous endeavours to effect this purpoſe under the mediation of the king of France, he incurred the violent odium of the adverſe party. At length, however, he ſucceeded by obtaining, in 1609, a truce for 12 years; the firſt article of which recognized the independency of the united ſtates. Soon after this event, the diſputes between the Arminians and Calviniſts, or Remonſtrants and Contra-remonſtrants, furiouſly agitated the Dutch provinces. Barneveldt, inclined to the former, and the advocate of toleration, exerted himſelf in procuring for the Arminians or Remonſtrants that liberty of conſcience to which they had an equitable claim. Prince Maurice placed himſelf at the head of the other party, which was the moſt numerous; and probably took pleaſure in the oppoſition and calumny encountered by Barneveldt in his endeavours to promote the cauſe of religious freedom and moderation. At this time, notwithſtanding the ſuſpicions excited againſt Barneveldt, as if he wiſhed to ſubject his country again to the yoke of Spain, he was eſſentially ſerving it by negotiating with James I. the reſtoration of the towns of Fluſhing, Rammekens, and the Brille, which had been put into the hands of Elizabeth as ſecurity for the money which ſhe had lent to the ſtates. Barneveldt's ſucceſs in this negotiation added James to the number of his enemies.

The religious diſputes, which had been appeaſed in the province of Holland by the influence of Barneveldt, prevailed ſo much in the other provinces, that a national ſynod was aſſembled at Dordrecht in 1618 in order to bring them to a termination. To this ſynod the kings of England and France, and moſt of the Proteſtant ſtates of Europe, ſent deputies; and the Arminians, who did not comply with the citation to appear before this aſſembly, incurred a formal condemnation. On this occaſion, Barneveldt, Grotius, and other Remonſtrant chiefs of the anti-Orange party, were arreſted and impriſoned in the caſtle of Louvenſtein. Barneveldt, however, was the devoted victim. Many accuſations were alleged againſt him, as the fomenter of the diſturbances that had occurred at Utrecht, and as an enemy to the public liberty; and being tried by a court, compoſed chiefly of his enemies, and admitting inadequate proofs, he was capitally condemned. Prince Maurice, to whom application was made from various quarters in his favour, remained inexorable; and he would only promiſe a pardon upon condition of its being ſolicited by the family of Barneveldt: but they refuſed to do an act, which would imply the guilt of their

their venerable chief. Barneveldt prepared for death, and without aſking any favour for himſelf, merely ſolicited the protection of his children. On the morning of execution, Barneveldt proceeded to the ſcaffold with a ſerene countenance; but being ſomewhat diſturbed on his arrival, he exclaimed with uplifted eyes to heaven, "O God! what is man!" Having prayed with the miniſter who attended him, he roſe from his knees with compoſure, declared his innocence to the ſpectators, and deſired the executioner to perform his office. His head was ſtruck off at a blow, in his 72d year, May 13th 1619. The popular hatred ſoon ſubſided; his memory was revered as that of the pureſt of patriots and moſt reſpectable of men, and his death left a ſtain on the character of prince Maurice which all his great qualities and ſervices were not ſufficient to efface. The ſtates of Holland, in the regiſter of his death, added theſe words, which may ſerve as a teſtimony to his character; "He was a man of great conduct, induſtry, memory, and prudence; yea, ſingular in all. Let him who ſtandeth, take heed leſt he fall. God be merciful to his ſoul! Amen." "Never (ſays the French ambaſſador De Maurier) was there ſo wiſe and virtuous a man as M. de Barneveldt. He had a majeſtic preſence, and ſaid much in few words, with a grave and ſuccinct eloquence." Barneveldt left two ſons in conſiderable employments; who being deprived of them by prince Maurice, engaged in a conſpiracy againſt his life. One was beheaded, and the other made his eſcape. When the mother of him who was taken and condemned, fell at the feet of Maurice ſupplicating his life, the prince expreſſed his ſurpriſe that ſhe who had refuſed to aſk her huſband's pardon, ſhould condeſcend to intercede on behalf of her ſon. "I did not aſk pardon for my huſband," ſaid the mother with a noble ſpirit, "becauſe he was innocent. I aſk it for my ſon, becauſe he is guilty." Mod. Un. Hiſt. Gen. Biog.

Barnevelt's *Iſlands*, in *Geography*, are two ſmall flat iſlands, cloſe to each other, on the weſt ſide of Terra del Fuego, partly ſurrounded by rocks, and 24 leagues diſtant from the ſtraits of Le Maire. S. lat. 55° 49'. W. long. 66° 58'.

BARNEVILLE, a town of France, in the department of the Channel, and chief place of a canton in the diſtrict of Valognes, 5¾ leagues S.S.W. of Cherburg.

BARNHARD, in *Ornithology*, is an aquatic bird, of which Oviedo ſpeaks in his "Hiſt. des Indes," book 14. c. 2.; but which it is impoſſible to aſcertain from what that author has ſaid of it.

BARNSLEY, in *Geography*, a ſmall market town of England, in the weſt riding of Yorkſhire, 15 miles from Doncaſter, and 176 north-weſt from London. It is ſituated on the ſide of a hill, and about 5 furlongs in extent. The town, though well built of ſtone, is called Black Barnſley; probably from its ſmoking furnaces, or rather from the ſooty ſoil of the moors with which it is ſurrounded. The land is very prolific in wheat and other grain, and coal is alſo exceedingly plentiful. The abundance of ſtone, timber, iron-ſtone, &c. and the cheap living neceſſary for population, render this place very appropriate for any kind of trade. At preſent its wire works are ſuppoſed the beſt in the kingdom: and the wire is of two ſorts; the hard, made into teeth for cotton and wool cards, the ſoft for ſtocking-frame needles. Proceſſes of a leſſer kind are weaving of linen, in which 500 looms are employed, and a glaſs manufactory of black bottles. Barnſley has a well built church, which is a chapelry under Silkeſton, a free grammar ſchool, a market on Wedneſday, and three fairs: the population of this townſhip conſiſts of 722 houſes, inhabited by 3606 perſons.

BARNSTAPLE, a very ancient corporate town and ſea-port in the county of Devon, is ſituated in a broad and fertile vale on the eaſtern bank of the river Taw, and bounded by a ſemicircular range of hills. It is one of the neateſt and moſt reputable towns in the north of the county; the ſtreets being ſpacious and regular, and the buildings reſpectable. Before the conqueſt, Barnſtaple was a royal demeſne; and king Athelſtan is reported to have conſtituted it a borough, and to have erected a caſtle near the confluence of the rivers North Yeo and Taw: no remains, however, of this fortreſs continue, except a high artificial mount. In Domeſday book it is noticed as containing "forty burgeſſes within the borough, and nine without;" and the inhabitants were exempted from ſerving on any expedition or being otherwiſe taxed, but in equal proportion with Exeter and Totneſs. The town was re-incorporated by Henry I. but ſtill retaining ſome of its ancient feudal privileges, which 250 of the common burgeſſes at this day poſſeſs; namely, a right to vote with the corporation for two members of parliament.

The corporation is compoſed of a mayor, high ſteward (at preſent earl Forteſcue), two bailiffs, two aldermen, a recorder, twenty-two common-council men, and other officers. King James I. ratified and confirmed the privileges of the town by a charter in the eighth year of his reign; and we find by authentic documents, that the firſt return for members to parliament was made in the 23d of Edward I.

Reſpecting the trade of Barnſtaple, its harbour is ſo ſhallow that veſſels of more than 200 tons cannot enter; yet the baize, ſilk-ſtocking, and waiſtcoat manufactories ſtill give life to the place, and in a great degree compenſate the loſs of its former woollen trade; added to this, the beautiful ſcenery and pleaſantneſs of the neighbourhood, and the cheapneſs of living, have induced many independent families to make it their ſole reſidence.

A noble quay along the river is terminated by a handſome portico, over the centre of which is placed a ſtatue of queen Anne. Over the river is a ſtone bridge of ſixteen arches. The church is a ſtately building, with a handſome ſpire and a good organ; formerly it contained ſeveral chantries. We find alſo that in the town Judhall de Totneſs founded a priory for Cluniac monks, which, at the diſſolution, was valued at 123l. 6s. 7d. per annum.

The grammar ſchool is famous for having upon its foundation ſeveral eminent characters; biſhop Jewel and his opponent profeſſor Harding, the poet Gay, Dr. Muſgrave, &c. For the uſeful education of the lower claſs of inhabitants, a charity ſchool is erected over the north gate; near which is a pleaſant walk, denominated Northern Hay, from the fine proſpects it commands, as well as an agreeable promenade.

The number of houſes in the whole pariſh is eſtimated at 653, and the inhabitants at 3748. N. lat. 51° 15'. W. long. 4° 5'.

Barnstaple *Bay*, is an opening in the Briſtol channel, formed by the union of the rivers Taw and Towridge. This is the common bay or road to the towns of Barnſtaple and Biddeford, on their reſpective rivers.

Barnstaple, a county of America, lying upon the peninſula, the point of which is cape Cod, the ſouth-eaſtern point of Maſſachuſett's bay, oppoſite cape Ann. This county is about 65 miles long, and in various parts from 3 to 6 and 9 miles broad. It contains 11 townſhips, and the plantation of Marſhpee, having 2543 houſes, and 17,254 inhabitants. Barnſtaple was made a ſhire in 1685. See Cape Cod.

BARNSTAPLE, the *Matchefe* or *Matcheſt* of the ancient Indians, is a port of entry and poſt town, and the ſhire town of Barnſtaple county in North America. It extends across the peninſula, and is waſhed by the ſea on the north and ſouth, having Sandwich and the diſtrict called Marſhpee or Lahpee on the weſt; and is about 5 miles broad and 9 long; 67 miles S. E. from Boſton. Sandy-neck on the north ſhore, running eaſt almoſt the whole length of the town, forms the harbour, and embоſoms a large body of ſalt-marſh. The harbour is about a mile wide and four long; and the tide riſes in it from 8 to 14 feet. Its bar, running off N. E. from the neck ſeveral miles, prevents the entrance of large ſhips; but ſmall veſſels may paſs any part of it at high water. There is another harbour on the ſouth, called Lewis's bay. Its entrance is within Barnſtaple, and extends almoſt 2 miles into Yarmouth. This harbour is commodious and ſafe, and is completely land-locked. In Barnſtaple there are about 20 or 30 ponds. The land here produces about 25 buſhels of Indian corn to an acre, and rye and other grain in proportion. Wheat and flax are cultivated; the latter with ſucceſs. From 12 to 18 000 buſhels of onions are raiſed for the ſupply of the neighbouring towns. The fiſhery, which is annually increaſing, employs about 100 men. The people, who are in number about 2610, are generally healthy; and many inſtances of longevity occur. Many of the farmers are occaſionally ſeamen, and many mariners and maſters of veſſels, who ſail from other ports, are furniſhed by this town. N. lat. 41° 43'.

BARNSTEAD, a townſhip of America, in Strafford county, New Hampſhire, containing 807 inhabitants; 32 miles N. W. of Portſmouth, and 16 E. by S. from Canterbury on Connecticut river.

BARNSTORF, or BERNDORF, a town of Germany, in the circle of Weſtphalia, and county of Diepholz, 8 miles north of Diepholz.

BARNTRUP, a town of Germany, in the circle of Weſtphalia, and county of Lippe, 4 miles N. E. of Blomberg.

BARNWELL, a village ſituated about half a mile north-eaſt of Cambridge, in England, was formerly of great conſequence from its ancient priory, which, at the diſſolution, was valued at 351l. 15s. 4d. The village has ſuffered very much by fire. Barnwell has a fair kept in its neighbourhood, commencing annually on Midſummer-day, and continuing a fortnight. This fair derives its origin from a cuſtom of the children in the neighbourhood aſſembling on Midſummer-eve at Barn's-well. A number of pedlars reſorted to the ſpot, and expoſed their merchandize for ſale, ſo early as the reign of Henry I.: the articles brought being moſtly pottery, the feſtival obtained the appellation of *Pot Fair*. It appears, however, to have aſſumed its legal form in the reign of Henry III. by whom it is ſaid to have been chartered and granted to the priory. The fair is ſtill proclaimed on Midſummer-eve, and the field in which it is held is called Midſummer Green. But Barnwell is moſt famous for the great aſſemblage of merchandize annually held in a large meadow, called *Sturbridge Fair*; the origin of which Dr. Stukely was induced to aſcribe to his hero Carauſius: it is however evident that king John granted the whole for the uſe and maintenance of an hoſpital for lepers who had an ancient chapel here; and the chaplain claimed the dues, till Hen. VIII. in conſideration of 1000 marks paid by the corporation of Cambridge, gave them the grant of the fair, which was confirmed by Elizabeth. The field in which it is held is about half a mile ſquare, having the rivers Cam and Sture on its northern and eaſtern ſides. The booths are built in regular order, each row being particularly named, as Ironmonger's row, Bookſeller's row, &c.: the centre is called the Duddery, and chiefly occupied by drapers, mercers, and wholeſale dealers in cloaths. Sturbridge fair is ſolemnly proclaimed on the 18th of September, by the vice-chancellor, proctors, and other officers of the univerſity; and afterwards by the mayor and aldermen. The ſtated time for its continuance is fourteen days. Dramatic exhibitions are forbidden within nine miles of the univerſity, except during this fair and the week preceding. This was formerly the greateſt mart in England; but its buſineſs declining, owing to the circulation of commerce throughout the country, its conſequence is very much diminiſhed. Beauties of England and Wales, vol. ii.

BARO, or BARON, PETER, in *Biography*, a profeſſor of divinity in the univerſity of Cambridge, was born at Eſtampes in France, and educated for the law at Bourges; but driven from his country to England by the perſecution of the Proteſtants in the reign of queen Elizabeth. By the recommendation of lord Burleigh, he was elected profeſſor at Cambridge in the year 1574. He was attacked by the rigid Calviniſts on account of the reputed laxneſs of his ſentiments concerning the doctrines of predeſtination and juſtification; and a complaint was preferred againſt him as an encourager of the ſpread of Pelagianiſm in the univerſity, to archbiſhop Whitgift in 1595, which produced the *Lambeth* ARTICLES, that were made uſe of to ſilence him. But as he continued to preach his former doctrines, he was cited before the vice-chancellor, and ſeveral articles were exhibited againſt him. The proceedings againſt him, however, were prevented by the interference of the chancellor lord Burleigh, and he was recommended by his learning and character to the protection of the archbiſhop Whitgift. At length wearied by the perſecution of his enemies, he retired from the univerſity to London, where he died three or four years afterwards. A collection of his theological works in Latin was publiſhed at London in 1579, fol.; as were alſo ſome detached pieces in that language, and ſome ſermons, &c. in Engliſh. Biog. Brit.

BAROACH, BROACH, or BARUH, the ancient *Barygaza*, in *Geography*, a town of Hindoſtan, in the country of Guzerat, lying in the route from Surat to Amedabad, and ſeated on the great river Nerbuddah, about 25 miles from its mouth. Baroach has been, in different ages, a port common both to Nehrwaleh, the capital of Guzerat, and Tagara, ſuppoſed to be the modern Dowlatabad. The former was eight journies, the latter ten, from Baroach. It is ſituated about 217 Britiſh miles north from the Plithana of Arrian, or the modern Pultanah; and all kinds of mercantile goods throughout the Deccan were anciently brought to Tagara, and from thence conveyed on carts to Baroach or Barygaza acroſs the Balla-Gaut mountains. Baroach is famous for its manufacture of very fine bafts and other cottons; and the water of the river Nerbuddah is ſaid to have a peculiar property for bleaching of cloth to a perfect whiteneſs. Agates are likewiſe an article of trade in this place; which are brought from the mountains near Brampour, and are moſtly diſpoſed of at Cambaya. The fortreſs of Baroach is large and ſquare, ſtanding upon a hill, which is the only eminence for many miles, and might be made very ſtrong. The Dutch factory was eſtabliſhed here in 1617, but is in a low ſtate. N. lat. 21° 45'. E. long. 72° 58'.

BAROCCIO, FREDERICK, in *Biography*, an eminent painter of hiſtory and portrait, was born at Urbino in 1528, and inſtructed in the principles of painting by Battiſta Venetiano, and in thoſe of perſpective by his uncle Bartolomeo Genga. Having availed himſelf of theſe inſtructions till his

20th year, he removed to Rome, and purſued his ſtudies with ſuch aſſiduity and ſucceſs, that he became one of the moſt graceful painters of his time. At Rome he was particularly encouraged by the protection of cardinal della Rovere, and by the commendation of Michael Angelo. On his return to Urbino he gained great applauſe by ſeveral pictures, and more eſpecially by that of a St. Margaret, which induced pope Pius IV. to invite him to Rome, and to employ him, in conjunction with Federigo Zucchero, in the decorations of his palace of Belvedere. It has been ſaid, that his ſuperior merit excited the jealouſy of his brother artiſts to ſuch a degree, that they gave him poiſon at an entertainment. Whether this be true or not, his health declined; and for the recovery of it, he was under a neceſſity of recurring to his native air, and of intermitting his labours. However, by due attention, his life was prolonged to the advanced age of 84 years. His genius principally inclined him to the painting of religious ſubjects; and his works evince that it was his chief ambition to imitate Correggio in his colouring, and Raphael in his manner of deſigning. It is eaſy to obſerve, that he endeavoured to reſemble the former illuſtrious artiſt in the ſweetneſs of his tints, in the harmony of his colouring, in the graceful airs of the heads, in the diſpoſition of his draperies, and the forms of his Bambinos, though he ſometimes expreſſed the muſcular parts of the human body too ſtrongly. He ſeldom painted any hiſtorical figure without having either modelled it in wax, or placed ſome of his diſciples in ſuch attitudes as he wiſhed to repreſent: his ſiſter was the model for the Madonnas, and her child for his Bambinos. He is ſaid to have employed ſeven years in painting at Aſſiſe, the birth-place of St. Francis, a picture called the "Pardon," in which the figure of the ſaint kneeling, by the force of ſhade, ſeems to riſe from the canvas. The works of this maſter are numerous; the principal of which are at Rome, in the Belvedere, and ſeveral churches; at Urbino, Aſſiſe, Cortona, Arezzo, and other towns in Italy; in the gallery of Florence; the Eſcurial; and the duke of Orleans's collection. Baroccio engraved four of his own pieces with peculiar ſpirit, and more than thirty more have been publiſhed by different engravers. Pilkington and Strutt.

BAROCHE, La, in *Geography*, a town of France, in the department of the Orne, and chief place of a canton in the diſtrict of Domfront; 4 miles S. S. E. of Domfront.

BAROCO, in *Logic*, denotes the fourth mode of the ſecond figure of ſyllogiſms.

A ſyllogiſm in baroco has the firſt propoſition univerſal and affirmative, but the ſecond and third particular and negative; and the middle term, the attribute or predicate in the two firſt.—For example:

"BA Every virtue is attended with diſcretion:
RO Some kinds of zeal are not attended with diſcretion:
CO Therefore ſome kinds of zeal are not virtues."

"BAR Nullus homo non eſt bipes:
OC Non omne animal eſt bipes:
O Non omne animal eſt homo."

BAROLITE, in *Mineralogy*. See Witherite.

BAROMETER, compounded of βαρος, *weight*, and μετρον, *meaſure*, an inſtrument for meaſuring the weight of the atmoſphere and its variations, in order chiefly to determine the changes of weather, and the heights of mountains, &c.

The barometer is frequently confounded with the *baroſcope*, though ſomewhat improperly; the latter, in ſtrictneſs, being an inſtrument that barely ſhews an alteration in the weight of the atmoſphere: but it is one thing to know that the air is heavier at one time than another, and another to meaſure how much that difference is; which is the buſineſs of the barometer.

The barometer is founded on the Torricellian experiment, as it is called from its inventor Torricelli, who, in conſequence of the previous ſuggeſtion of Galileo, with regard to the aſcent of water in a pump, upon drawing up the piſton, proceeded, in 1643, to fill with mercury a glaſs tube, hermetically ſealed or cloſe at one end, the other end being open and immerſed in a baſon of ſtagnant mercury. Judging that, in the former caſe, the water was ſuſtained in the pump by the preſſure of the air on the water in the veſſel, in which its open end was immerſed, and that it was the meaſure of this preſſure, he hence concluded that mercury would in like manner be ſupported by it in the tube, and at a height which was alſo the meaſure of the air's preſſure, or about 13 times leſs than water. His experiment was completely verified; for he obſerved that the mercury deſcended in the tube, and finally ſettled at the perpendicular height of 29½ Roman inches, whether the tube was vertical or inclined, according to the known laws of hydroſtatical preſſure. This famous experiment was repeated and diverſified in various forms, with tubes filled with other fluids, ſuch as water, wine, oil, &c.; and the reſult being the ſame, the weight and preſſure of the air were eſtabliſhed beyond contradiction or doubt. Thoſe who had any remaining doubts were completely ſatisfied by a beautiful experiment exhibited by M. Auzout. He provided a ſmall box or phial EFGH (*Plate* IX. *Pneumatics*, *fig.* 74.) into which he inſerted two glaſs tubes, AB, CD, each three feet long, in ſuch a manner that they were firmly fixed at one end, and reached nearly to the other end. The tube AB was open at both ends, and CD was cloſed at D. This apparatus being completely filled with mercury, by unſcrewing the tube AB, and filling the box and the tube CD, and then ſcrewing in the tube AB and alſo filling it, was inverted, whilſt a finger was held on the orifice A, and ſet upright in the manner exhibited in *Fig.* 75, immerſing the orifice A of *Fig.* 74, or *a* of *Fig.* 75, in a ſmall veſſel of quickſilver. Upon this, the mercury ran out at the orifice *a*, till its ſurface *mn* within the phial deſcended to the top of the tube *ba*. The mercury began alſo to deſcend in the tube *dc* (*Fig.* 75.) correſponding to DC in *Fig.* 74, and flowing over into the tube *ba*, eſcaped at *a*, till that in *dc* was very nearly on a level with *mn*. In *ba*, the mercury ſtood at *k*, 29½ inches above the ſurface *op* of the mercury in the ciſtern, as in the Torricellian tube. Indeed, this whole apparatus may be firſt conſidered as a Torricellian tube of an uncommon form, from which the mercury would flow out at *a*. But when any of it eſcaped, a vacant ſpace would be left above *mn*, and the mercury in the tube *dc* would alſo deſcend, and running over into *ba*, ſupply its waſte, till *dc* became almoſt empty, and could no longer ſupply *ba*. The inner ſurface being therefore depreſſed as much as poſſible, till it became level with *b*, no more mercury could enter into *b*, and yet its column being too heavy to be ſupported by the preſſure of the air on the mercury in the ciſtern *op*, it muſt deſcend in *ba*, till it finally ſettled at the height *kc*, equal to that of the mercury in the Torricellian tube. In this ſtate if a ſmall hole *g* were made in the upper cover of the box, the external air would ruſh in by its weight, and preſs on the mercury in the box. This preſſure would immediately cauſe the mercury to riſe in the tube *dc* to *l*, 29½ inches above *mn*. It likewiſe preſſes on the mercury at *k* in the tube *ba*, balancing the preſſure of the air on the mercury in the ciſtern. The mercury in the tube, therefore, muſt deſcend to the bottom by its own weight. By this experiment the doctrine of the gravity and preſſure

of the air is decisively established. See AIR, *Weight of*, and *Experiments with the* AIR-*Pump*.

Notwithstanding the satisfactory demonstration of the air's pressure, afforded by the Torricellian experiment, some attempts were made by the advocates of a plenum for evading it, and for explaining the phenomena of the barometer by some other hypothesis. Accordingly Linus contended, that in the upper part of the tube there is a film, or "rope of mercury," whence his hypothesis was called "the funicular hypothesis," which extended through the seeming vacuity; and that, by means of this rope, the rest of the mercury was suspended, and kept from descending into the bason. In proof of this absurd and ridiculous hypothesis he alleged the following experiment. Take, says he, a small tube, about 20 inches long, open at both ends; fill it with mercury, and stop the lower orifice with your thumb. Then closing the upper end with your finger, immerse the lower end in stagnant mercury; and upon the removal of your thumb, there will be a sensible suction of the finger into the tube; and both the tube and mercury will adhere to it so closely, that they may thus be carried about the room. Hence he infers, that the internal cylinder of mercury in the tube is not sustained by the pressure of the external air; for this, he argues, would not account for the strong suction, and the adhesion of the tube to the finger. If the tube be not quite filled with mercury, but a small interval of air left at the top, after the tube is immersed in stagnant mercury, a considerable suction will be perceived. From these experiments, which actually furnish evidence of the air's pressure, the funicular hypothesis of Linus derived support for some time; but it has been long since exploded. When it was perceived that the mercury on the top of a high mountain subsided, and stood at a lower height than on a plain, and that in the vacuum of an air-pump it descended to the bottom of the tube, this hypothesis could have no advocates. However, an experiment mentioned by Mr. Huygens, in which mercury well purged of its air remained suspended in a tube at the height of 75 inches, suggested a more considerable difficulty, which has been variously solved. See an account of it, under the article TORRICELLIAN. For an explication of the phenomenon of a siphon, which discharges water under the exhausted receiver of an air-pump, see SIPHON.

BAROMETER, *Common, the Construction of it.*—A glass tube (AB, *Plate* IX. *Pneumatics*, *fig.* 76.) open at one end, and hermetically sealed at the other A, having its diameter about one third or one fourth of an inch, and its length thirty-three or thirty-four inches, is filled with mercury so justly as not to have any air over it, nor any bubbles adhering to the sides of the tube; which is best done by means of a small paper or glass funnel, with a capillary tube. If a small bubble of air be moved backwards and forwards in the tube, it will help to clear the mercury; which will appear, when pure, like a polished rod of steel. The orifice of the tube, filled after this manner, so as to overflow, is then closely pressed by the finger, so as to exclude any air between it and the mercury, and thus immerged in a vessel of a convenient diameter, so however as not to touch the bottom: at the distance of twenty-eight inches from the surface of the mercury are fixed two plates, CE and DF, divided into three inches, called "the scale of variation," and these again subdivided into any number of small parts. Lastly the tube is inclosed in a wooden frame, to prevent its being broken; the bason, though open to the air, secured from dust; and the barometer is complete. As the lowest station of the mercury in this country is about 28 inches, and the highest about 31 inches above the surface of the mercury in the bason, the former point is the lowest in the scale of variation, and in the common barometers, called "weather-glasses," it is marked *stormy*; and the latter is marked on one side *very dry* for the summer, and on the other *very hard frost* for the winter. To the next half-inch below this highest point are annexed *set fair* on the one side, and *set frost* on the other. At the height of 30 inches, the word *fair* is marked on one side, and *frost* on the other; at 29½ is marked the term *changeable* both for summer and winter; at 29 are placed on the one side *rain*, and on the other *snow*; and at 28½ inches are the words *much rain* on one side, and *much snow* on the other. Each of these larger divisions is usually subdivided into ten parts, and by means of a small sliding index adapted to the instrument, the ascent or descent of the mercury may be ascertained for any number of divisions. Each of these tenths is again sometimes divided into ten more, or hundredths of an inch, by means of a sliding piece of brass, with a scale called NONIUS and VERNIER; for the use of which see these terms, and the sequel of this article.

As the common barometer is the best, and most to be depended upon in accurate observations, it may be proper to add some directions for preparing it: they are collected chiefly from the publications of Muschenbroek, Desaguliers, and De Luc on this subject. It appears from many experiments, that the mercury stands higher in tubes of a larger, than in those of a narrower bore; and therefore when observations are made with different barometers, some regard should be paid to the difference of their diameters, and it would be desirable to have them constructed of tubes of the same diameter. The bore of the tube should be large, in order to prevent the effects of the attraction of cohesion; not less than one fourth of an inch; but if they are one third of an inch diameter, they are better. If a cistern be used as a reservoir for the stagnant mercury, it should be large in proportion to the diameter of the tube, at least ten times greater; that the addition or subtraction of the mercury, contained between the greatest and least altitudes, may not sensibly affect its depth; for the numbers marked on the scale annexed to the tube, shew their distance from a fixed point, and cannot truly indicate the height of the column above the mercury in the cistern, unless its surface coincide with this point, and be immoveable. In order more effectually to preserve the lower surface at the same height from divisions on the scale affixed to the instrument, the father of the late Mr. George Adams first applied to the barometer a floating gage, by means of which the same screw that renders the barometer portable, regulates the surface of the mercury in the cistern, so that it is always at the place from whence the divisions on the scale commence. See *Portable* BAROMETER.

The tube should be preserved free from dust till it is used; and for this purpose it may be hermetically sealed at both ends, and one end may be opened with a file, when it is filled. If this precaution has not been observed, the inside should be well cleansed, by washing it with alcohol highly rectified, and rubbing it with a little piston of shammy leather fastened to a wire. The mercury should be pure; and may be purged of its air, by previously boiling it in a glazed earthen pipkin covered close; and when the tube has been uniformly heated and rendered electrical by rubbing it, the hot mercury should be poured into it in a regular current, through a glass funnel with a long capillary tube, so that the air may not have room to pass between the parts of the quicksilver. M. De Luc directs, as Mr. Orme had practised many years ago in the construction of his improved diagonal barometers, that the mercury should be boiled in the tube,

tube, as the moſt effectual method of purging it of its air and moiſture. The proceſs is briefly this: he chuſes a tube of 2½ lines or 3 lines bore, and not exceeding half a line in thickneſs; he fills it with mercury within two inches of the top, and holds it with the ſealed end loweſt in an inclined poſition over a chafing diſh of burning charcoal, preſenting firſt the ſealed end to the fire, and moving it obliquely over the chafing-diſh. As the mercury is heated, the air bubbles appear like ſo many ſtuds on the inner ſurface of the tube, and gradually running into one another, aſcend towards the higher parts of the tube, which are not heated; here they are condenſed and almoſt diſappear; and after ſucceſſive emigrations, they acquire a bulk by their union, which enables them at length to eſcape. When the mercury boils, its parts ſtrike againſt each other, and againſt the ſides of the tube, with ſuch violence, that a perſon unaccuſtomed to this operation is ready to apprehend their force to be ſufficient to break the tube. The mercury is thus freed from all the heterogeneous particles contained in it, together with their ſurrounding atmoſpheres, and the air which lines the inſide of the tube, which cannot be eaſily expelled in any other way, is diſcharged; when this laſt-mentioned ſtratum of air is thus expelled, the tube may be afterwards emptied, and filled even with cold mercury, and will be found nearly as free from air as before. The mercury in the tubes thus prepared by a determinate quantity of heat, will riſe higher than in thoſe of the common ſort, and the barometers will more nearly correſpond with each other; whereas there will be a difference of ſix or eight lines in the aſcent of the mercury in common barometers. When this operation is completed, the mercury generally remains ſuſpended at the top, and will not deſcend to its proper level without ſhaking the tube to bring it down. The tubes, which ſhould be choſen not leſs than three feet long, may now be filled to their proper length.

Barometers of this kind roſe uniformly in a heated room; whilſt the mercury in thoſe that had been prepared in the common way deſcended, and in different proportions. When the room cooled, the former deſcended uniformly, and correſponded with each other; the latter roſe with the ſame irregularity with which they had before deſcended, nor were they found, at the cloſe of the experiment, to ſtand at the ſame relative heights as they did at the beginning of it. The reaſon of which is obvious, from the effects of heat on the air remaining in unequal quantities in the tubes in the one caſe, and on the purer mercury in the other.

Another circumſtance that requires attention in the conſtruction and uſe of barometers is the temperature of the air; for unleſs this remains the ſame, the dimenſions of a given quantity of mercury will be variable; and the altitude of the mercury will be an uncertain meaſure of the weight of the atmoſphere, becauſe it is dilated by heat, and contracted by cold, when probably its weight and preſſure are unchanged. M. De Luc attended particularly to this circumſtance, and contrived to eſtimate the effects of heat on the quickſilver in the barometer, when it is uſed for accurate obſervations, by means of a thermometer; the ſcale of which is divided in ſuch a manner as to indicate, with little labour of calculation, the correction to be made on account of heat. As an increaſe of heat that is ſufficient to raiſe the mercury in the thermometer from the point of melting ice to that of boiling water, will lengthen the column of mercury in the barometer ſix lines, he divides each line in the ſcale of the barometer into four parts, each of which may be eaſily ſubdivided into four leſſer parts, or ſixteenths of a line. The ſcale of the thermometer marking the interval between the freezing and boiling points, and anſwering to the ſix lines of the barometer, is divided into ninety-ſix equal parts, each of which will correſpond to the ſixteenth of a line in the motion of the mercury in the barometer dilated by heat, which muſt be added to or ſubtracted from the height of the mercury in the barometer, for every degree of the variation of the thermometer ſo graduated. A ſcale of this kind, continued above boiling or below freezing water, is annexed to his *Portable* Barometer and Thermometer. M. de Luc prepared two barometers with their reſpective thermometers graduated in the manner above explained; he placed one pair in the cellar of one houſe, and the other pair in the upper room of another houſe in a lower ſituation, ſo as to be exactly on a level with the cellar: he found that the thermometer in the room roſe nine degrees, and the barometer $\frac{9}{10}$ of a line higher than thoſe in the cellar; whence he ſhews, that without allowing for the effect of heat, the difference in the heights of theſe two barometers would have indicated a difference of about forty-five feet in the heights of theſe two places, though they were exactly on the ſame level. M. De Luc's Recherches, &c. vol. i. p. 193—199. See Atmosphere, and the ſequel of this article.

M. Prins, an artiſt in Holland, has made an improvement in the reſervoir of the ſimple barometer, by means of which the mercury contained in it is conſtantly kept at the ſame level; but the conſtruction is difficult, and therefore it has not been generally adopted. De Luc's Recherches, &c. vol. i. p. 35.

The *common barometer* is a kind of chamber barometer, and ſerves for obſerving in a fixed place the changes of the atmoſphere; but is not adapted for removal from one place to another, and in this reſpect differs from the portable barometer. It is ſometimes combined with a thermometer, and ſometimes alſo with an hygrometer, and in this form prepared by the mathematical inſtrument makers. An inſtrument of this kind conſtructed by Meſſrs. Jones, opticians in London, is exhibited in *fig.* 84, and conſiſts of a barometer *d*, thermometer *aa*, and hygrometer *c*, all in one mahogany frame. The thermometer or hygrometer of this apparatus may be conveniently ſeparated from the frame, and occaſionally uſed apart, if it be neceſſary. The thermometer is ſeparated by means of two ſcrews *aa*; and the hygrometer, by unſcrewing a braſs pin at the back of the frame. The index of the hygrometer is ſet at any time, merely by moving with the finger the braſs wheel ſeen at *c*; and the two ſliding indexes of the barometer and thermometer are moved by rack-work, ſet in action by the key *g* placed in the holes *h* and *i*. The diviſions of the barometer plate *b* are in tenths of an inch, from 28 to 31 inches; and theſe are ſubdivided into hundredths, by the Nonius or Vernier ſcale, placed on a ſliding ſlip of braſs, ſimilar to that of the common barometers. This Vernier (*fig.* 85.) is divided into ten equal parts, all of which are equal to eleven of thoſe on the ſcale of inches, or to eleven tenths. By this artifice, the height of the mercury at E is evident merely by inſpection to the one hundredth part of an inch. For underſtanding this, it ſhould be conſidered that $\frac{1}{10}$th part of $\frac{1}{10}$th of an inch is the $\frac{1}{100}$th part of an inch. But every tenth of an inch in the ſcale B is divided into ten equal parts by the ſlip or Vernier A; for ſince ten diviſions on that exceed ten on the ſcale by one diviſion, that is, by one tenth of an inch, one diviſion on the Vernier will exceed one diviſion on the ſcale by one tenth part, and two diviſions on the Vernier will exceed two on the ſcale by two tenths, and ſo on; therefore every diviſion on the Vernier will exceed the ſame number of diviſions on the ſcale by ſo many tenths of a tenth, or by ſo many hundredth parts of an inch. Conſequently the ten equal diviſions of an inch on the ſcale B muſt be conſidered as ſo

many ten hundredth parts of an inch, and numbered accordingly, 10, 20, 30, 40, &c. parts of an inch; then the Vernier gives the unit to each ten, thus: ſet the index very accurately to the top of the ſurface of the mercury E; and if at the ſame time, the beginning of the diviſions at C coincide with a line of diviſion in the ſcale B, then it ſhews the altitude of the mercury in inches and tenths of an inch exactly. But if the index line C of the Vernier fall between two diviſions or tenths on the ſcale B, then there will be a coincidence of lines in both at that number of the Vernier, which ſhews how many tenth parts of that tenth the index of the Vernier has paſſed the laſt decimal diviſion of the ſcale. E. G. Suppoſe the index of the Vernier were to point ſomewhere between the ſixth and ſeventh tenth above 30 on the ſcale; then, if by looking down the Vernier, you obſerve the coincidence at number 8, this ſhews that the altitude of the mercury is 30 inches, and 68 parts of a hundredth of another inch, or ſimply thus, 30,68 inches. See VERNIER. The ſcrew *f*, in *fig.* 84. ſerves to preſs the mercury up into the tube, when the inſtrument is to be moved, and thus to render the inſtrument a *portable barometer*.

The barometer belonging to the houſe of the Royal Society is of the ciſtern kind; and the Hon. Mr. Cavendiſh prefers this form to that of the ſyphon kind, becauſe both the trouble of obſerving and the error of obſervation are leſs, as in the latter we are liable to an error in obſerving both legs. Moreover he remarks, that the quickſilver can hardly fail of ſettling more exactly in the former than in the latter; for the error in the ſettling of the quickſilver can proceed only from the adheſion of its edge to the ſides of the tube. In the latter the adheſion may take place in two legs, but in the former only in one; and beſides, as the air has neceſſarily acceſs to the lower leg of the ſyphon barometer, the adheſion of the quickſilver in it to the tube will moſt probably be different according to the degree of dryneſs or cleanneſs of the glaſs. It is true, as M. De Luc obſerves, that the ciſtern barometer does not give the true preſſure of the atmoſphere; the quickſilver in it being a little depreſſed on the ſame principle as in capillary tubes. But it appears by calculation, that in the barometer of the ſociety, the error ariſing from the alteration of the height of the quickſilver in the ciſtern can ſcarcely ever amount to ſo much as $\frac{1}{100}$th of an inch. In this barometer, the height of the quickſilver is eſtimated by the top of its convex ſurface, and not by the edge where it touches the glaſs; the index being properly adapted for that purpoſe; and this manner of obſerving is more accurate than the other. Phil. Tranſ. vol. lxvi. p. 381.

As ſoon as it was diſcovered that the different heights of the mercury indicated by the barometer were in ſome degree connected with the ſtate of the weather, and that it might be applied to the purpoſe of a "weather-glaſs," many attempts were made to render the changes in it more ſenſible, and ſo to meaſure the variations of the weight of the atmoſphere more accurately; and theſe attempts have given riſe to a great number of barometers of different ſtructures, deviating from the ſimplicity of the common barometer, and at the ſame time leſs accurate. Hence the wheel barometer, diagonal barometer, horizontal barometer, pendant barometer, &c.

Des Cartes ſuggeſted the firſt method of increaſing the apparent ſenſibility, or enlarging the ſcale of variation, of the barometer, though he did not live to execute it. He propoſed a tube AB (*Plate* IX. *Pneumatics*, *fig.* 77.) about twenty-ſeven inches long, terminating in a cylindric veſſel CD: one half of which veſſel, connected above with a long tube of a very ſmall bore, ſealed at top, and exhauſted of its air, was to be filled with water extending up into the ſmall tube; the other part of the veſſel, and the lower part of the tube, were to be filled with mercury. Whenever the mercury roſe in the cylinder, it would force up a proportional quantity of water into the narrow tube, where it would have a conſiderably larger range than that of the mercury in the cylinder: neglecting the weight or preſſure of the water, the motion of the water and of the mercury would be in the inverſe ratio of the ſquares of the diameters of the veſſels containing them. But the water preſſes on the mercury according to its height; and therefore if the whole range of the mercury in the cylinder, or in a common barometer, were ſuppoſed to be two inches, the ſpecific gravity of water to that of mercury as 1 to 14, and the difference between the diameters of the cylinder and tube a *maximum* or infinite, then the entire ſcale of variation in this inſtrument would be twenty-eight inches; or the extent of this ſcale would be to that of the common barometer in the inverſe ratio of the ſpecific gravity of water to that of mercury. It is evident that in practice it would be ſomewhat leſs than twenty-eight inches. Huygens conſtructed a barometer of this kind; but here, though the column ſuſpended was larger, and conſequently the variation greater, yet the air impriſoned in the water getting looſe by degrees, filled the void ſpace in the top, and ſo ruined the machine.

Huygens then thought of changing the conſtruction of the barometer, and of placing the mercury at top, and the water at bottom, in the following manner: ADG (*fig.* 78.) is a bent tube hermetically ſealed in A, and open in G; the cylindric veſſels BC and FE are equal, and about twenty-nine inches apart; the diameter of the tube is about a line, that of each veſſel fifteen lines, and the depth of the veſſels is about ten; the tube is filled with mercury (the common barometer ſtanding about twenty-nine inches) which will be ſuſpended between the middle of the veſſel FE, and that of the veſſel BC; the remaining ſpace to A being void both of mercury and air; laſtly, common water, tinged with a ſixth part of *aqua regis* to prevent its freezing, is poured into the tube FG till it riſes a foot above the mercury in DF.

When the mercury riſing above the level of that contained in FE, through the tube AD, becomes a balance to the weight of the atmoſphere; as the atmoſphere increaſes, the column of mercury will increaſe, conſequently the water will deſcend; as the atmoſphere again grows lighter, the column of mercury will deſcend, and the water aſcend. This *double* barometer, as it was called, which is nearly the ſame with that of Dr. Hooke, will therefore diſcover much minuter alterations in the air than the common one; for, inſtead of two inches, the fluid will here vary two feet; and by enlarging the diameters of the cylinders, that variation may be ſtill increaſed; but it has this inconvenience, beſides others, that the water will evaporate, and ſo render the alterations precarious; though the evaporations be in ſome meaſure prevented by a drop of oil of ſweet almonds ſwimming at top: the column of water will likewiſe be ſenſibly affected by heat and cold.

The *double barometer* of Dr. Hooke was invented in the year 1668, and is deſcribed in the Phil. Tranſ. N° 185. The invention was claimed by Huygens and De la Hire; but it ſufficiently appears, that Hooke was the original inventor. (See De Luc's Recherches, vol. i. p. 18.) This conſiſts of a compound tube ABCDEFG (*fig.* 79.), of which the parts AB and DE are equally wide, and EFG as much narrower as it is propoſed to enlarge the ſcale. The parts AB and EG are made as cylindrical as poſſible.

The

The part HBCDI is filled with mercury, having a vacuum above in AB. IF is filled with a light fluid, and FG with another light fluid, which will not mix with that in IF. The ciſtern G is of the ſame diameter with AB. It is plain that in this inſtrument the range of the ſeparating ſurface at F muſt be as much greater than that of the ſurface I, as the area of I is greater than that of F; and this ratio may be ſelected at pleaſure. This barometer is the beſt of thoſe with an enlarged ſcale; it is moſt delicately moveable, and is the beſt adapted to a chamber for the purpoſe of amuſement, by obſervations on the changes of the atmoſpheric preſſure. It riſes or falls by the ſlighteſt breeze, and is continually in motion. The moſt accurate method for graduating ſuch a barometer would be to make a mixture of vitriolic acid and water, which ſhould have $\frac{1}{10}$ of the denſity of mercury. Then, let a long tube ſtand vertical in this fluid, and connect its upper end with the open end of the barometer by a pipe with a branch to which the mouth may be applied. By ſucking through this pipe, the fluid will riſe both in the barometer and the other tube; and the riſe of ten inches in this tube will correſpond to a deſcent of one inch in the common barometer. Thus every point of the ſcale may be adjuſted in due proportion to the reſt. But nothing except actual compariſon can determine what particular point of the ſcale correſponds to ſome determined inch of the common barometer. When this is done, the whole becomes equally accurate. It is liable, however, to ſeveral inconveniences. Although the heights of the contained fluids are always the ſame in a conſtant temperature, nevertheleſs their weight or preſſure on the baſe is not always the ſame on account of the difference of their ſpecific gravity; and though there be no ſenſible difference in the action of theſe fluids againſt the ſides of the tube, yet there is a continual action, and therefore the movements of this barometer cannot be ſo free as thoſe of the ſimple barometer. Theſe differently coloured liquors mingle with one another, and form a depoſit on the ſides of the tube, ſo that their reſpective boundaries cannot always be aſcertained with preciſion. The fluid of this barometer is alſo ſubject to evaporation; and heat acts upon the fluids which it contains. On account of theſe and ſuch defects, others have had recourſe to an

Horizontal or *rectangular barometer* ABCD (*fig.* 80.); the tube whereof is bent in form of a ſquare BCD: at the top of its perpendicular leg it is joined to a veſſel or ciſtern AB; and its variations accounted on the horizontal leg CD. Now here the interval, or ſpace of variation, may be made of any extent at pleaſure, and ſo the minuteſt change in the air become ſenſible. For the diameter of the tube CD being given, it is eaſy to find the diameter of the veſſel AB, ſo as that the ſcale of deſcent in the tube DC ſhall have any given proportion to the ſcale of aſcent in the veſſel AB; the rule being that the diameter of the veſſel is to that of the tube in a ſubduplicate reciprocal ratio of their ſcales.

The diameters then of CD and AB being given, together with the ſcale of aſcent of the mercury in the veſſel, the ſcale of mercury in the tube is found thus: as the ſquare of the diameter of the tube is to the ſquare of the diameter of the veſſel, ſo reciprocally, is the ſcale of mercury in the veſſel, to the ſcale of mercury in the tube.

Caſſini was the firſt inventor of this kind of barometer, though the ſame conſtruction had been thought of, and firſt publiſhed by M. J. Bernouilli, in the year 1710.

This and the preceding contrivance of Huygens are founded on a theorem in hydroſtatics; viz. that fluids, having the ſame baſe, gravitate according to their perpendicular altitude, not according to the quantity of their matter; whence the ſame weight of the atmoſphere ſupports the quickſilver that fills the tube ACD, and the ciſtern B, as would ſuport the mercury in the tube alone.

This laſt, however, with its excellencies, has great defects: for, by reaſon of the attraction between the parts of the glaſs and of the mercury (which Dr. Jurin has ſhewn to be conſiderable), with the length of the ſcale (conſequently the quantity of motion), and the attrition againſt its ſides, eſpecially in ſudden riſes and deſcents, the mercury breaks, ſome parts of it are left behind, and the equability of its riſe and fall ruined. Some therefore prefer the

Inclined barometer, or *diagonal*, of ſir Samuel Moreland, where the ſpace of variation is conſiderably larger than in the common one, and yet the riſe and fall more regular than in the others.—Its foundation is this; that in a Torricellian tube BC (*fig.* 81.) inclined at any angle to the horizon, the cylinder of mercury equivalent to the weight of the atmoſphere, is to a cylinder of mercury equivalent to the ſame in a vertical tube, as the length of the tube BC to the perpendicular height DC.

Hence, if the height DC be ſubtriple, ſubquadruple, &c. of the length of the tube, the changes in the diagonal barometer will be triple or quadruple, &c. of the changes in the common barometer. This barometer will ſcarce allow its tube to be inclined to the horizon at a leſs angle than 45°, without undergoing the inconveniency of the horizontal one.

Mr. Orme, in order to obviate ſome of the objections to which the diagonal conſtruction of the barometer is liable, purified the quickſilver from its droſs and earthy particles by diſtillation; and when the tube was filled with a certain quantity of mercury, diſcharged the remaining air by an intenſe heat ſufficient to make the mercury boil; and he continued this operation for four hours. In the proceſs, an innumerable quantity of ſmall particles were emitted, and when no more bubbles roſe in the tube, the mercury appeared extremely bright, but ſunk lower in the tube than when it was firſt put in, by two inches. Phil. Tranſ. Abr. vol. viii. p. 455.

The *wheel barometer* was a contrivance of Dr. Hooke, in 1668, to make the alterations in the air more ſenſible; the foundation of this is the common vertical barometer, with a large ball above, and turned up at the lower end, with the addition of a couple of weights A and B (*fig.* 82.) hanging on a pulley, the one of them playing at liberty in the air, the other reſting on the ſurface of the mercury in the inverted tube, and riſing and falling with it.

Thus is the motion of the mercury communicated, by means of the pulley, to an index which turns round a graduated circle; and thus the three inches of vertical aſcent are here improved to five, ſix, or more, at pleaſure.

But the friction of the axis of this index, and more eſpecially when it has contracted ſome ruſt, generally renders this ſort of barometer uſeleſs; and, at beſt, the graduation of inches on the circle can only be conſidered as a ſcale of motions of the mercury in its tube; for the great variation of the height of the ſurface of the mercury in the tube below will perpetually falſify the inches and tenths upon the plate above. In a juſt or ſtandard barometer, the inferior ſurface of the mercury in the ciſtern or tube below ſhould either be invariable, or reducible by a preſſing ſcrew to a fixed or determinate gauge point.

The wheel barometer has lately been obtruded upon the public by the ſtrolling Italian hawkers in our ſtreets; but the imperfect manner in which theſe barometers are conſtructed,

ſtructed, as well as their defective principle, renders them mere mechanical pictures, and not ſcientific inſtruments, in the parlour.

An inſtrument of this kind, with conſiderable improvements, has been conſtructed by Mr. Fitzgerald, F. R. S. It is furniſhed with two pulleys that move on friction-wheels; each of which turns an index on the centre of a graduated circle. The ſmaller circle is four inches in diameter, and divided into three equal parts, each of which is again ſubdivided decimally; and the changes correſponding to the riſe or fall of the mercury from 28 to 31 inches, are marked on the margin of it, as they are on the ſcales of common barometers. The larger circle is divided into 300 equal parts; and being about 30 inches in circumference, the index belonging to it will mark diſtinctly the 600th part of an inch in the riſe or fall of the mercury. On the centre of this circle two regiſters are fixed, which are placed along the index when the inſtrument is adjuſted; one of them is carried round with the index, and left behind on its return; ſo that their diſtance will determine the limits of the variation from one obſervation to another. Phil. Tranſ. vol. lii. part i. N° 29. Ibid. vol. lx. N° 10.

The *pendant barometer*, invented by M. Amontons, in 1695, is a machine rather pretty and curious than uſeful (*fig.* 83). It conſiſts of a conical tube, placed vertically, its upper and ſmaller extreme hermetically ſealed; it has no veſſel or ciſtern, its conical figure ſupplying that defect: for when filled, like the reſt, there will be as much mercury ſuſtained as is equivalent to the weight of the atmoſphere; and as that varies, the ſame mercury takes up a different part of the tube, and ſo becomes of a different weight.

Thus, when the weight of the atmoſphere is increaſed, the mercury is driven up into a narrower part of the tube; by which means its column is lengthened, and, for the reaſon juſt given, its weight increaſed. Again, the atmoſphere decreaſing, the mercury ſinks into a wider part of the tube; by which means its column is again ſhortened, and its preſſure accordingly weakened. Thus, the ſame mercury is ſtill a balance to the atmoſphere under all its variations. The inconvenience in this barometer is, that to prevent the mercury and air from changing places, the bore of the tube muſt be very ſmall; which ſmallneſs of the bore renders the friction ſo ſenſible as to impede its playing.

The *marine barometer* is a contrivance of Dr. Hooke, in 1700, to be uſed at ſea, where the motion of the waves renders the others impracticable; it reſembles that of Amontons invented in 1705. This is nothing more than a double thermometer, or a couple of tubes half filled with ſpirit of wine; the one hermetically ſealed at both ends, with a quantity of common air incloſed; the other ſealed at one end, and open at the other.

Now the air, we know, is able to act on the ſpirit of wine, and raiſe it, two ways; partly by its gravity, as in the Torricellian tube; and partly by its heat, as in the thermometer. If then the two tubes be graduated, ſo as to agree with each other at the time when the air is incloſed, it will eaſily follow, that, wherever the two agree afterwards, the preſſure of the atmoſphere is the ſame as at the time when the air was incloſed. If in the thermometer open to the air the liquor ſtand higher, conſidering at the ſame time how much the other is riſen or fallen from the other cauſe of heat or cold, the air is heavier; on the contrary, when it is lower, compared with the other, the air is lighter than at the time when the inſtrument was graduated. Here the ſpaces anſwering to an inch of mercury will be greater or leſs, according to the quantity of the air incloſed, and the ſmallneſs of the tubes; and they may be increaſed almoſt in any proportion. But it muſt be remembered, that the denſity and rarity of the air, on which this machine is founded, do not only depend on the weight of the atmoſphere, but alſo on the action of heat and cold. This, therefore, can never be a juſt barometer; but may properly enough be called a manoſcope, or inſtrument to ſhew the denſity of the air. See MANOMETER.

Nevertheleſs, the inſtrument is ſaid to be of good uſe in giving notice of all bad weather at ſea, as alſo of veerable winds, and of the neighbourhood of ice. Phil. Tranſ. N° 429. p. 133.

Improved marine barometers. In the beſt of theſe barometers, Meſſrs. W. and S. Jones apply a ſmall ivory floating gage, or index, to an aperture in the ciſtern of mercury below; the index floats on the mercury; a mark is cut on its ſtem, and another on the ſocket in which it moves; theſe two marks are brought to a coincidence by turning the ſcrew below: and thus the ſurface of the mercury in the ciſtern is made to be juſt to the diviſions of the plate above.

Mr. Nairne, an ingenious artiſt in London, conſtructed a marine barometer for captain Phipps, in his voyage to the north pole; the upper part of which was a glaſs tube, about three tenths of an inch in diameter, and four inches long, to which another glaſs tube was joined with a bore about $\frac{1}{20}$th of an inch diameter. Theſe two glaſs tubes formed the tube of this barometer, which was filled with mercury, and inverted into a ciſtern of the ſame. The inſtrument was fixed in gimbals, and kept in a perpendicular poſition by a weight faſtened to the bottom of it, and was not liable to the inconvenience attending the common barometer at ſea. Voyage to the North Pole, p. 123.

The *marine barometer*, as it is commonly conſtructed, differs from the common one merely in having the bore of the tube ſmall for about two feet in its lower part; but above that height it is enlarged to the common ſize. Through the ſmall part of the inſtrument the mercury is prevented from aſcending too haſtily by the motion of the ſhip, and the motion of the mercury in the upper wide part is conſequently leſſened. Much depends upon the proper ſuſpenſion of this inſtrument: and Mr. Nairne has found by experiment the point from which it may be ſuſpended ſo as not to be affected by the motion of the ſhip.

We ſhall here ſubjoin the deſcription of two kinds of *marine barometers*, which are conſtructed by Meſſrs. W. and S. Jones of London, and which ſeem to be well adapted to marine purpoſes. In *Plate* X. *fig.* 86. one of theſe barometers is repreſented as ſupported on its ſtand in the cabin of a ſhip, ready for obſervation: *a b c* are the folding mahogany legs, about three feet each in length; *A* is a circular braſs plate, with two hollow braſs tubes fixed perpendicularly upon it; a gimbal braſs ring with its axis is made to turn between theſe tubes; and on two ſpiral ſprings placed in the tubes, the axis of the gimbal ring acts. The barometer frame *B* is attached inwards to this ring by an axis and two ſcrews, in a poſition at right angles to the axis in the uprights, yet left free to move; the three legs are ſcrewed down to the floor of the cabin. Whatever heave or motion the ſhip may receive, the barometer, by its action on the gimbal, on the ſprings in the tubes, and on its axis, will always tend to keep its vertical poſition, and as ſpeedily as poſſible attain to a ſtate of quieſcence; *d* is a ſcrew that ſerves to move the ſliding Nonius ſcale upon the plate above; *e* is a ſmall mahogany door that is ſhut over the tube and plate, to defend them when this inſtrument is not in uſe. On the top of the frame there is a pendent braſs ring *g*, by which the barometer,

rometer, without the ſtand, may be hung on a neck againſt the wall of a room or ſide of a cabin: the ſcrew *f* at the bottom of the frame ſerves to compreſs the mercury in the ciſtern, in order to force it up to the top of the tube, as in the common barometers. By the barometer's being moveable from its ſtand, and the ſtand folding up into a ſmall extent, the whole apparatus may be packed up in a convenient narrow deal caſe for carriage.

The principal inconvenience that has been found to attend this barometer has been the ground occupied by the feet in the cabin when the inſtrument is in uſe, this being ſometimes more than a mariner can ſpare; and beſides, it is liable to be ſtumbled againſt by a heedleſs by-ſtander. To obviate this inconvenience, another principle of mounting has been adopted (ſee *fig.* 87.). The barometer in this figure is in every reſpect the ſame as the preceding, but its mode of ſuſpenſion is as follows: on the ſides of the frame, at its centre of gravity, are fixed two iron centres; as an axis to theſe there is fixed a braſs frame *a*, and braſs pillar; one end of this pillar is framed on a vertical joint, having only one motion upwards, and checked by a braſs ſocket ſhoulder below, to keep the pillar and arm in an horizontal poſition; thus cauſing the barometer to be ſuſpended in a vertical direction. The length of the pillar and arm together is about 14 inches; the joint ſocket at the end of the pillar is attached to a ſtrong round braſs plate *b*, about 3 inches diameter, with four counterſunk holes for receiving ſcrews, by which the whole inſtrument may be ſcrewed ſecurely to the ſide of a cabin, in any convenient or ſafe ſituation. When the inſtrument is in a ſtate of ſuſpenſion for obſervation, it will be about 15 inches from the ſide of the cabin, and being alſo free to act on its axis of ſuſpenſion at *a*, it is evident that notwithſtanding any common motion or reel of the ſhip, the barometer will tend to keep a vertical poſition, or to recover it after having been agitated. The only circumſtance to be apprehended is the poſſibility that, by a violent motion, the bottom of the barometer ſhould ſtrike againſt the ſide of the cabin, and endanger the glaſs tube; but this is eaſily avoided by fixing a temporary leathern cuſhion againſt that part of the cabin againſt which alone it could ſtrike. When the inſtrument is not wanted for any obſervation, while the ſhip is in motion, it may be moved upwards upon the joint, and it will cloſe to the ſide of the cabin or wall, and may be buckled faſt by a leather ſtrap and buckle *c* attached for that purpoſe (ſee *fig.* 86.), and thus be out of any danger from any perſon ſuddenly or unguardedly coming to it; and it will anſwer the purpoſe of the common chamber barometer.

M. Paſſement, an ingenious artiſt at Paris, accommodates the barometer to nautical uſes, by twiſting the middle part of the common barometer into a ſpiral, conſiſting of two revolutions: by this contrivance, the impulſes which the mercury receives from the motions of the ſhip, are deſtroyed by being tranſmitted in contrary directions. De Luc's Recherches, &c. vol. i. p. 34.

The *ſtatical barometer*, or *baroſcope*, uſed by Mr. Boyle, Otto de Gueric, &c. conſiſted of a large glaſs bubble, about the ſize of a large orange, and blown ſo thin as to weigh only 70 grains. This being balanced by a braſs weight, in a nice pair of ſcales, that would turn with the 30th part of a grain, was found to act as a barometer; for this obvious reaſon, that the ſurface of the bubble was oppoſed to a much larger portion of air than that of the braſs weight, and conſequently was liable to be affected by the varying ſpecific gravity of the atmoſphere; ſo that when the air became ſpecifically light, the bubble deſcended, and *vice verſâ*. Thus (ſays Mr. Boyle) he could perceive variations of the atmoſphere no greater than ſuch as would have been ſufficient to raiſe or depreſs the mercury in the common barometer an 8th part of an inch. Nevertheleſs, the two bodies being of equal gravity, but unequal bulk, if the medium in which they equiponderate be changed, there will follow a change of their weight; ſo that if the air grows heavier, the greater body, being lighter in ſpecie, will loſe more of its weight than the leſſer and more compact; but if the medium grow lighter, then the bigger body will outweigh the leſs.

The barometer of Mr. Caſwell, deſcribed in the Philoſophical Tranſactions, has been much commended for its accuracy; the ſtructure of it is as follows: *A B C D* (*fig.* 88.) a bucket of water, wherein is the barometer *x r e z y o s m*, conſiſting of a body *x r s m*, and a tube *e z y o*. The body and tube are both concave cylinders, communicating with each other, and made of tin, or rather glaſs. The bottom of the tube *z y* has a lead weight to ſink it, ſo that the top of the body may juſt ſwim even with the ſurface of the water, by the addition of ſome grain weights on the top. The water, when the inſtrument is forced with its mouth downwards, gets up into the tube to the height *y o*. There is added on the top a ſmall concave cylinder, which we call the *pipe*, to diſtinguiſh it from the other at bottom which we call the *tube*: this pipe is to ſuſtain the inſtrument from ſinking to the bottom; *m d* is a wire, *m S* and *d e* two threads oblique to the ſurface of the water, performing the office of diagonals. Now, while the inſtrument ſinks more or leſs by the alteration of the gravity of the air, there where the ſurface of the water cuts the thread is formed a ſmall bubble, which aſcends up the thread as the mercury of the common barometer aſcends, and *vice verſâ*.

This inſtrument, as appears from a calculation which the author gives, ſhews the alterations in the air more accurately than the common barometer, by no leſs than 1200 times. He obſerves, that the bubble is ſeldom known to ſtand ſtill a minute; that a ſmall blaſt of wind that cannot be heard in a chamber will make it ſink ſenſibly, and that a cloud always makes it deſcend, &c.

Mr. Rowning (Phil. Tranſ. N° 427. and Syſtem of Philoſophy, part ii. diſſ. 4.) has deſcribed a barometer, in which the ſcale of variation may be infinitely extended. *A B C D* (*fig.* 89.) is a cylindrical veſſel, filled with a fluid to the height *W*, in which is immerged the barometer *S P*, conſiſting of the following parts: the principal one is the glaſs tube *T P* (repreſented ſeparately at *tp*), whoſe upper end *T* is hermetically ſealed; this end does not appear to the eye, being received into the lower end of a tin pipe *G H*, which in its other end *G* receives a cylindric rod or tube *S T*, and thus fixes it to the tube *T P*. This rod *S T* may be taken off, in order to put in its ſtead a larger or a leſſer as occaſion requires. *S* is a ſtar at the top of the rod *S T*; and ſerves as an index by pointing to the graduated ſcale *L A*, which is fixed to the cover of the veſſel *A B C D*. *M N* is a large cylindrical tube made of tin (repreſented ſeparately at *mn*), which receives in its cavity the ſmaller part of the tube *T P*, and is well cemented to it at both ends, that none of the fluid may get in. The tube *T P*, with this apparatus, being filled with mercury, and plunged into the baſon *M P*, which hangs by two or more wires upon the lower end of the tube *M N*, muſt be ſo poiſed as to float in the liquor contained in the veſſel *A B C D*; and then the whole machine riſes when the atmoſphere becomes lighter, and *vice verſâ*. Let it now be ſuppoſed that the fluid made uſe of is water; that the given variation in the weight of the atmoſphere is ſuch, that by preſſing upon the ſurface of the water at *W*, the

the ſurface of the mercury at *X* may be raiſed an inch higher (meaſuring from its ſurface at *P*) than before; and that the breadth of the cavity of the tube at *X*, and of the baſon at *P*, are ſuch, that by this aſcent of the mercury there may be a cubic inch of it in the cavity *X* more than before, and conſequently in the baſon a cubic inch leſs. Now, upon this ſuppoſition, there will be a cubic inch of water in the baſon more than there was before, becauſe the water will ſucceed the mercury to fill up its place. Upon this account the whole machine will be rendered heavier than before by the weight of a cubic inch of water; and therefore will ſink, according to the laws of hydroſtatics, till a cubic inch of that part of the rod *WS*, which was above the ſurface of the water at *W*, comes under it. Then if we ſuppoſe this rod ſo ſmall that a cubic inch of it ſhall be 14 inches in length, the whole machine will ſink 14 inches lower into the fluid than before; and, conſequently, the ſurface of the mercury in the baſon will be preſſed more than it was before, by a column of water 14 inches high. But the preſſure of 14 inches of water is equivalent to one of mercury; this additional preſſure will make the mercury aſcend at *X* as much as the ſuppoſed variation in the weight of the air did at firſt. This aſcent will give room for a ſecond cubic inch of water to enter the baſon; the machine will therefore be again rendered ſo much heavier, and will ſubſide 14 inches farther, and ſo on *in infinitum*. If the rod was ſo ſmall that more than 14 inches of it were required to make a cubic inch, the variation of this machine would be negative with reſpect to the common barometer, and inſtead of coming nearer to an equilibrium with the air by its aſcent or deſcent, it would continually recede farther from it: but if leſs than 14 inches of rod were required to make a cubic inch, the ſcale of variation would be finite, and might be made in any proportion to the common one.

The ſame author has alſo contrived a *compound barometer*, in which the ſcale of variation ſhall bear any proportion to that of the common one. *ABC* (*fig.* 90.) is a compound tube hermetically ſealed at *A*, and open at *C*; empty from *A* to *D*, filled with mercury from thence to *B*, and from thence to *E* with water. It appears from the nature of a ſiphon, that if *H*, *B*, *G*, be in the ſame horizontal line, the column of mercury *DH* will be in equilibrio with the column of water *GE*, and a column of air of the ſame baſe, and will therefore vary with the ſum of the variations of theſe. He has ſubjoined a calculation, whence it appears, that if the tubes *AF* and *FC* are of an equal bore, the variation in this is leſs than that of the common barometer, in the proportion of 7 to 13; but if the diameter of *AF* be to that of *FC* as 5 to 1, the variations will be to thoſe in the common barometer, as 175 to 1; but if the proportion of the diameters be greater, the variations will be infinite in reſpect to thoſe of the common barometer. Of the practical utility of this conſtruction the author had no experience. Rowning's Nat. Phil. part ii. diſſ. 4.

Another contrivance for enlarging the ſcale of the barometer is exhibited in *fig.* 91. *AB* is the tube of a common barometer, open at *B*, and ſealed at *A*, ſuſpended at the end of a lever which moves on the fulcrum *E*. *D* is a glaſs tube fixed, and ſerving for a ciſtern, which is wide enough to admit the free motion of the barometrical tube *AB*. *AB*, when filled with mercury, is nearly counterbalanced by the long end of the lever. When the atmoſphere becomes lighter, the mercury deſcends in the long tube, and the ſurface of the mercury riſing in the ciſtern, puſhes up the tube *AB*, which cauſes the lever to preponderate, and to point out by its index moving along a circular arc, the moſt minute variations. This apparatus, however, is ſubject to the inconvenience of the friction as well as weight of the lever, when put in motion by the riſe or fall of the tube *AB*.

Whilſt ſome have endeavoured to enlarge the variations of the barometer, others have endeavoured to make it more convenient, by reducing the length of the tube. M. Amontons, in 1688, firſt propoſed this alteration in the ſtructure of barometers, by joining ſeveral tubes to one another, alternately filled with mercury and with air, or ſome other fluid; and the number of theſe tubes may be increaſed at pleaſure: but the contrivance is more ingenious than uſeful.

M. Mairan's reduced barometer, which is only three inches long, ſerves the purpoſe of a *manometer* in diſcovering the dilatations of the air in the receiver of an air-pump; and inſtruments of this kind are now generally applied to this uſe. See AIR-*Pump*, and GAGE.

For an account of a ſelf-regiſtering barometer by the Rev. Arthur M'Gwire, ſee Iriſh Tranſactions, vol. iv. p. 141.

The barometer lately invented by Alexander Keith, Eſq. F. R. S. and F. A. S. Edinb. marks the riſe and fall of the mercury from two different times of obſervation. This inſtrument conſiſts of a glaſs tube *ABCD* (*fig.* 92.) bent in the manner repreſented in the figure, open at *D*, and hermetically ſealed at *A*. The length from *A* to *B* is 8 inches, and its calibre about $\frac{3}{4}$ of an inch; from *B* to *C* it is $31\frac{1}{4}$ inches long, and about $\frac{1}{4}$ inch calibre; and from *C* to *D* $4\frac{1}{2}$ long, and $\frac{1}{4}$ inch calibre. The tube is filled with mercury, the length from *A* to *E* being $29\frac{1}{2}$ inches. When the tube is hung perpendicularly, the mercury will fall from *B* towards *E*, leaving a vacuum from *A* to *B*. When the atmoſphere becomes heavier, the mercury falls in the tube *DC*; and when lighter, it riſes. The range of the ſcale is about 3 inches, being equal to that of a common barometer of the beſt conſtruction, which has a baſon with a very broad ſurface. This inſtrument moves in a direction contrary to that of the common barometer, the one riſing while the other falls. The tube *DC* is repreſented on a larger ſcale in *fig.* 93.; *F* is the float, having the float-wire fixed to it, terminating in a knee at a right angle between the indexes *LL*, where it embraces a very ſmall wire ſtretched along the ſcale, and thereby raiſes or lowers them as the mercury riſes or falls in the tube *DC*. The barometer is prepared for obſervation, by bringing down the one and raiſing the other index, till both touch the knee of the float-wire. When next obſerved, the upper index will point out the greateſt depreſſion of the mercury, or lightneſs of the atmoſphere; and the lower the greateſt riſe of the mercury, or weight of the atmoſphere ſince the ſcale was prepared. By theſe means, the variations of the atmoſphere are more truly pointed out than by the common barometer; for it often happens that during tempeſtuous weather, or before it, the mercury both riſes and falls within a few hours, or during the night time; which variations cannot be noticed by any of the barometers now in uſe. The ſudden fall and riſe, or even the riſe and fall of the mercury, always denote an extraordinary agitation in the atmoſphere. In a common barometer the mercury may be at the ſame height in the morning that it was the night before; which leads to a concluſion that as there has been no agitation of the mercury, there will be calm or ſettled weather: but this new barometer will often ſhew in ſuch caſes, that the one float has been raiſed $\frac{2}{10}$, and the other depreſſed as much; which inſtead of indicating calm weather denotes that tempeſtuous weather may be expected.

The weight of the atmoſphere at great heights might be diſcovered by ſuſpending this inſtrument to an air-balloon. Edinb. Tranſ. vol. iv. 1798.

The *portable barometer* is ſo contrived, that it may be carried from one place to another without being diſordered; and ſince it has been applied to the menſuration of altitudes, it has undergone many improvements in its conſtruction and appendages. The moſt common inſtrument of this kind conſiſts of a tube of a proper length accurately filled with mercury; the lower end of the tube is glued to a wooden reſervoir, the bottom of which is formed of leather; the ſuperfluous mercury deſcends into this reſervoir, and the air, by preſſing upon the flexible leather, keeps the mercury ſuſpended at its proper height. This reſervoir is concealed from the eye by a neat mahogany cover or box; through the bottom of which paſſes a ſcrew, having upon its end a round plate, which preſſes upon the leather bag and forces the mercury to the top of the tube, ſo that it is prevented from ſhaking or breaking the tube by daſhing againſt the top of it when the inſtrument is removed from one ſtation to another. This apparatus is placed in a frame, having on its upper part a ſilvered braſs plate with a ſcale of inches and tenths reckoned from the ſurface of the mercury in the ciſtern; and cloſe to the line of inches is a ſlit or groove for ſliding the nonius ſcale up and down. On the left hand ſide of the plate are engraved the words *fair*, *changeable*, and *rain*. When this barometer is uſed, the ſcrew at the bottom of the frame is to be ſo turned that the mercury may fall to its proper height, and indicate the correſponding changes in the weight of the air. The upper edge of the index is adjuſted ſo as to coincide with the ſurface of the mercury in the tube, and then the nonius ſcale will ſhew the height of the column. Before every obſervation, the frame ſhould be gently ſtruck with the knuckles in order to diſengage the quickſilver from the tube. This barometer does not admit of being adjuſted in ſuch a manner, that the diviſions on the ſcale may be at that height from the mercury in the ciſtern, which is expreſſed by the numbers affixed to them; becauſe the mercury as it falls in the tube riſes in the reſervoir, and when it riſes in the tube it ſinks in the reſervoir; and thus its diſtance is perpetually varying from the diviſions on the ſcale. Beſides the tenſion of the leather occaſions a conſiderable reſiſtance to the preſſure of the atmoſphere. The portable barometer has of late received a variety of improvements, the principal of which are here recited.

The portable barometer of Mr. Ramſden is conſtructed with his uſual accuracy. The principal parts of this inſtrument are a ſimple ſtraight tube, fixed into a wooden ciſtern, which for the convenience of carrying is ſhut with an ivory ſcrew; and that being removed, it is open when in uſe. Fronting this aperture is diſtinctly ſeen the coincidence of the gage-mark with a line on the rod of an ivory float, ſwimming on the ſurface of the quickſilver, which is raiſed or depreſſed by a braſs ſcrew at the bottom of the ciſtern. From this, as a fixed point, the height of the column is readily meaſured on the ſcale attached to the frame, always to $\frac{1}{100}^{th}$ part of an inch, by means of a nonius moved with rack work. A thermometer is placed near the ciſtern, whoſe ball was uſually incloſed within the wood work; but that defect has been ſince remedied. The three-legged ſtand, ſupporting the inſtrument when in uſe, ſerves as a caſe for it when inverted and carried from place to place. Two of theſe barometers after the quickſilver in them hath been carefully boiled, being ſuffered to remain long enough in the ſame ſituation, ſo as to acquire the ſame temperature, uſually agree in height, or rarely differ from each other more than a few thouſandth parts of an inch, which are to be allowed for in calculating altitudes, as well as in eſtimating the rate of expanſion.

The next inſtrument of this kind which we ſhall mention and minutely deſcribe, is that of M. de Luc. This portable barometer conſiſts of a tube compoſed of two pieces, or of two tubes (ſee *fig.* 94.): one of theſe tubes is thirty-four French inches in length, and ſtraight from the top but bent at the bottom in form of a ſiphon; the other tube is eight inches long, open at both ends, of the ſame diameter with the former, and communicating with its open end by means of a cock. When this barometer is carried from one place to another, it is inverted very ſlowly to prevent the intruſion of any air; the quickſilver retires into the long tube on which the key of the cock is turned; and to preſerve the cock from being too much preſſed by the mercury, the barometer is conveyed in this inverted poſture. When an obſervation is to be made, the cock is firſt opened: the tube is then turned upright very ſlowly, that the mercury, as much as poſſible, ſuch vibration of the column as would diſturb the obſervation; and according to the weight of the atmoſphere, the mercury will fall in the longer branch, and riſe up through the open cock into the ſhorter. The cock is wholly made of ivory, except the key; and is compoſed of two ſmall ivory cylinders *a* and *c*, open through their whole length and admitting the free paſſage of the tube, and of a ſmaller piece of ivory *e*, thirteen lines long, as many broad, and three lines thick, having two holes, one for receiving the key *f d e*, and the other in a vertical direction with two ſhort tubes, *b*, *i*, at its extremity, adapted to the holes in the ſmall ivory cylinders above mentioned. The moſt eſſential part of the cock is the key, which ſerves to open and cloſe the communication between the two glaſs tubes. The part of the key that turns within the cock and paſſes through the opening in *c* to *f*, is formed of cork, and the outward part or handle *d e*, is made of ivory. The cork is firmly faſtened to the ivory by means of a broad thin plate of ſteel, which cuts both the ivory and cork, lengthwiſe, through the centre, and reaches within to the hole of the key. This plate ſerves to counteract the flexibility of the cork, and to make it yield to the motion of the handle, although it is compreſſed in a very conſiderable degree by the ivory, in order to preſerve it tight. But that this compreſſion may not contract the diameter of the hole of the key, it is lined with a thin hollow ivory cylinder of the ſame diameter with the tubes. The extremities of the tubes are wrapped round with the membrane employed by the gold-beaters covered with fiſh-glue in order to fix them tight, the one in the lower, and the other in the upper, end of the vertical canal of the cock. On the upper end of the ſhorter tube is fixed, during the intervals of obſervation, a kind of funnel, with a ſmall hole in it which is ſhut with an ivory ſtopple. This is intended for keeping the tube clean, for replacing the mercury that may have eſcaped through the cock in conſequence of any dilatation; and alſo for replacing the mercury taken out of the ſhorter tube, after ſhutting the cock, when any obſervation is completed; becauſe when the mercury is left expoſed to the air, it contracts on its ſurface a dark pellicle that ſullies both itſelf and the tube. The ſhorter tube ſhould be cleanſed occaſionally, by a little bruſh of ſponge fixed to the end of a wire adapted to the purpoſe.

The barometer thus conſtructed, and deſcribed more in detail by the author (Recherches, vol. ii. p. 6, &c.) is placed in a long box of fir, the two ends of which are lined within with cuſhions of cotton covered with leather. This box may be carried on a man's back like a quiver in its natural poſition, though the inverted poſition is to be preferred, either walking or riding; and ſhould

ſhould be defended from the rain by a cover of wax-cloth. In order to prevent its being unduly affected by heat, it ſhould be kept at a diſtance from the body of the man who carries it, and be protected from the ſun by an umbrella, when it is near the place of obſervation. To the apparatus a plummet ſhould be annexed, in order to aſcertain its vertical poſition, and a three-legged frame or tripod will ſerve to keep it firm in that poſition at the time of obſervation. The ſcale of this barometer is annexed to the long tube; it commences at a point on a level with the upper end of the ſhort one, and riſes in the natural order of the numbers to 21 inches. Below the above point, the ſcale is transferred to the ſhort tube; and deſcends upon it in the natural progreſſion of the numbers to 7. The interval of 27 inches, comprehended between the point marked 20 in the upper tube, and that which correſponds to 7 in the lower, is divided into 27 parts, which are inches. Theſe inches are again divided into lines, fourths, ſixteenths, and even thirty-ſecond parts of lines. The adheſion and friction of the mercury in the tubes will not allow of a more minute ſubdiviſion. As the mercury falls in the one tube, it will riſe in the other; and therefore the total altitude will be found by adding that part of the ſcale which the mercury occupies in the long tube, to that part of it which the mercury does not occupy in the ſhort one. In eſtimating, however, the total fall or riſe in the long tube, every ſpace muſt be reckoned twice; becauſe in barometers of this kind, half the real variation only appears in one of the branches.

One of the thermometers, exhibited in *fig.* 95, is deſigned for aſcertaining the corrections that are to be made in the height of the mercury on account of any variation in the temperature of the air by heat and cold. For this purpoſe it is placed near the middle of the longer tube, that it may partake as much as poſſible of its mean heat. The ball is nearly of the ſame diameter with that of the tube of the barometer, that the dilatations or condenſations of the fluids contained in them may more exactly correſpond; and this ball ſhould alſo be encloſed in wood that it may participate, as well as the barometer, of the heat of the bottom of the box. The ſcale of the thermometer is divided into 96 parts, between the points of boiling water and melting ice. M. de Luc, having found that an increaſe of heat, ſufficient to raiſe the thermometer through this interval, augmented the height of the mercury in the barometer, when it was at 27 French inches, preciſely ſix lines, was led to divide it into 96 equal parts; ſo that one of theſe parts correſponded to $\frac{1}{16}$th of a line in the height of the barometer: and this quantity therefore muſt be added to or ſubtracted from the ſaid height, for every degree of variation of the thermometer thus graduated. He placed the term 0, one eighth part of the above interval above the lower point; ſo that there are 12 degrees below and 84 above it; becauſe as 27 French inches expreſs the mean height of the barometer, ſo the 12th degree above freezing is nearly the mean altitude of the thermometer. Hence by taking theſe two points, the one for the mean altitude and the other for the mean heat, there will be fewer corrections neceſſary for reducing all obſervations to the ſame ſtate, than if any higher or lower points had been taken. The diviſions above 0 or *zero*, are conſidered as poſitive and denoted by +, and thoſe below as negative and expreſſed by −.

If the barometer remains at 27 French inches, and the thermometer at 0, according to the above explained graduation, no corrections are neceſſary. But if, while the barometer continues at 27 inches, the thermometer ſhould riſe any number of degrees above 0, ſo many ſixteenths of a line muſt be ſubtracted from the 27 inches, in order to obtain the true height of the barometer produced by the weight of the atmoſphere, and to reduce this obſervation to the ſtate of the common temperature. On the other hand, if the thermometer ſhould fall any number of degrees below 0, while the barometer remains at 27 inches, ſo many *ſixteenths* muſt be added to that height in order to obtain the true altitude. Theſe corrections are very ſimple and eaſy when the height of the barometer is at or near 27 inches. But if it fall ſeveral inches below this point, as the portable barometer frequently muſt, according to the ſtations in which it is placed for the purpoſe of meaſuring altitudes, the dilatations will no longer correſpond with the degrees of heat, after the rate of $\frac{1}{16}$th of a line for every degree of the thermometer; becauſe the columns of mercury being ſhortened, the quantity of fluid to be dilated muſt be diminiſhed; and, according to a general ſtatement, the quantity of dilatation for the ſame degree of heat will be as much diminiſhed as the column is ſhortened. If, then, it ſhould be ſtill found convenient to reckon the dilatations by ſixteenths of a line, theſe ſixteenths muſt be counted on a ſcale, of which the degrees ſhould be as much longer than the degrees of the firſt ſcale, as the ſhortened column of mercury is leſs than 27 inches, the height to which the length of the degrees of the firſt ſcale was adapted. E. G. Let the mercury deſcend, in conſequence of the elevation of the barometer, to $13\frac{1}{2}$ inches, or half the mean column, and let the thermometer aſcend ten degrees above the mean heat; then according to the rule $\frac{10}{16}$ths ſhould be deducted from the mean column for this temperature; but ten half-ſixteenths only or $\frac{5}{16}$ths muſt be ſubtracted from the column of $13\frac{1}{2}$ inches, becauſe the ſum of its dilatations will be half that of the former; the quantities of fluid being to one another in that proportion. As it would occaſion conſiderable embarraſſment to ſubdivide the ſixteenths of correction into ſmaller fractions proportional to every half inch of deſcent in the barometer, the ſame end may be obtained in a much more eaſy manner by reckoning the corrections on different ſcales of the ſame length, with the degrees longer as the columns of the barometer are ſhorter. E. G. The degrees of correction on a ſcale applicable to the column of $13\frac{1}{2}$ inches will be double in length to thoſe of the ſame degrees adapted to the column of 27 inches, and conſequently the number of corrections will be reduced to likewiſe one half. M. de Luc conſtructed, in the manner which he has minutely deſcribed (Recherches, vol. ii. p. 26, &c.), on a piece of vellum, ſcales with theſe properties for no leſs than 23 columns of mercury, being all thoſe between 28 inches and 29 incluſive, reckoning from half inch to half inch, within which extremes every practical caſe will be comprehended. This vellum he wrapped on a ſmall hollow cylinder, including a ſpring, like a ſpring curtain, and he fixed it on the right ſide of the thermometer. The vellum was made to paſs from right to left, behind the tube of the thermometer, and to move along its ſurface. The obſerver, in eſtimating the neceſſary corrections, draws out the vellum till the ſcale correſponding to the obſerved altitude of the barometer, touches the thermometer, and he counts them on that ſcale. The vellum is then let go, and it is gently furled up by the ſcrew.

M. De Luc, having provided the neceſſary apparatus for the accurate menſuration of heights, proceeded to eſtabliſh by experiment the altitudes correſponding to the different deſcents of the mercury; and he made choice of Saleve, a mountain near Geneva, about 3000 French feet high, for the ſcene of his operations. The height of this mountain was twice meaſured by levelling, and the reſult of the menſurations, at the interval of ſix months, gave a difference of only $10\frac{1}{2}$ inches. On this mountain he ſelected no leſs than 15 different ſtations, riſing at the rate of nearly 200 feet one above another; and here he propoſed to make ſuch a number of obſervations as would

would ſerve either to eſtabliſh a new rule of proportion between the heights of places and the deſcents of the mercury, or to juſtify the preference of ſome one of thoſe that had been formerly diſcovered.

Soon after he had commenced his obſervations, an unexpected phenomenon occurred. Having obſerved the barometer, at one of the ſtations (Recherches, vol. ii. p. 49, &c.) twice in one day, he found the mercury higher in the ſecond obſervation than in the firſt; and this variation he naturally aſcribed to a change in the weight of the atmoſphere, which muſt have affected his other barometer ſtationed on the plain in the ſame manner. But he was not a little ſurpriſed when, on examining the ſtate of the latter barometer, he found that it had purſued a contrary courſe, and that it had fallen while the other roſe. As this difference could not proceed from any inaccuracy in the obſervations, it was ſo conſiderable as to diſcourage his progreſs and to diſappoint his hope of ſucceſs, unleſs he ſhould be able to explore its cauſe, and to make due allowance for its effects. The experiment was carefully repeated at different periods. An obſerver on the mountain, and another on the plain, took their reſpective ſtations at the riſing of the ſun, and continued to make their reſpective obſervations, both of the barometer and thermometer, every quarter of an hour till the ſun ſet. It was found, that the lower barometer gradually deſcended for the firſt three quarters of the day; after which it re-aſcended, till in the evening it ſtood at nearly the ſame height as in the morning, But the higher barometer aſcended for the firſt three quarters of the day, and then deſcended, ſo as to regain likewiſe about ſun-ſet the altitude of the morning. The following theory ſeems to afford a ſatisfactory ſolution of this phenomenon. When the ſun riſes above the horizon of any place, his beams penetrate the whole ſection of the atmoſphere of which that horizon is the baſe; but falling very obliquely on the greater part of it, they communicate little heat, and conſequently produce little dilatation of its air. As the ſun advances, his rays become more direct, and the heat and rarefaction of courſe increaſe. However, the greateſt heat of the day is not felt when the ſun is in the meridian and his rays are moſt direct, but it increaſes after mid-day while the place receives more heat than it loſes; juſt as the tide attains not its higheſt altitude till the moon has proceeded a conſiderable way to the weſt of the meridian. Beſides, the heat of the atmoſphere is greateſt at the ſurface of the earth, and ſeems not to aſcend to any great diſtance above it; and therefore the dilatations of the air occaſioned by the ſun will be found principally, if not ſolely, near the earth. A motion of the adjacent air, in all directions, muſt take place in order to allow the heated air to expand itſelf. The heated columns, extending themſelves vertically, will become longer, and alſo ſpecifically lighter in conſequence of the rarefaction of their inferior parts. As the motion of air, till it riſes into wind, is not rapid, theſe lengthened columns will take ſome time to diſſipate their ſummits among the adjacent leſs rarefied columns that are not ſo high; at leaſt they will not do this as ſpeedily as their length is increaſed by the rarefaction of their baſes.

In order to apply this theory to the ſolution of the phenomenon above mentioned, it ſhould be conſidered, that the barometer on the plain begins to fall a little after morning, becauſe the column of air that ſupports it becomes ſpecifically lighter on account of the rarefaction occaſioned by the heat of the ſun. It continues to fall during the three firſt quarters of the day, becauſe the heat and conſequent rarefaction are continually increaſing. After this period it riſes again, becauſe the cold and condenſation coming on, the ſpecific gravity is augmented by the ruſhing in of the adjacent air. Thus the equilibrium is reſtored, and the mercury returns to the altitude of the morning. The barometer on the eminence riſes after morning, and continues ſo to do for three fourths of the day, for two reaſons. The denſity of the columns of air is greateſt near the earth, and decreaſes as the diſtance from it increaſes. The higher therefore we aſcend in the atmoſphere, we find air ſpecifically lighter. But by the rarefaction of the baſe of the column that ſupports the mercury of the barometer on the eminence, the denſer parts of that column are raiſed higher than they would naturally be if left to the operation of their own gravity. On this account, the higher barometer is preſſed with a weight nearly as great as it would ſuſtain, if it were brought down in the atmoſphere to the natural place of that denſer air now raiſed above it by the prolongation of the baſe of the column. The other reaſon is, that as the rarefaction does not take place at any great diſtance from the earth, little change is produced in the ſpecific gravity of the portion of the column that preſſes on the higher barometer, and the ſummit of that column diſſipates itſelf more ſlowly than it increaſes. Thus we ſee how this barometer muſt aſcend during the firſt three fourths of the day, and purſue a courſe reverſe of that on the plain. The condenſations returning after this time, the denſer air ſubſides, the equilibrium takes place, and the mercury deſcends to its firſt poſition.

This phenomenon ſuggeſted to M. De Luc (Recherches, vol. ii. p. 54, &c.) the idea of a ſecond pair of thermometers, in order to meaſure the mean heat of the column of air intercepted between the barometers. Theſe thermometers are extremely delicate and ſenſible, their tubes being the fineſt capillary, the glaſs very thin, and the diameters of the balls only three lines; the balls are inſulated or detached from the ſcales, which are fixed to the tubes only by ligatures of fine braſs wire covered with ſilk: by this contrivance the air has free acceſs to the balls on all ſides; and if the direct rays of the ſun be intercepted at ſome diſtance by a ſcrap of paper or by the leaf of a tree, the thermometers will quickly mark the true temperature of the air. For the neceſſity and utility of theſe appendages to the author's apparatus, ſee the ſequel of this article.

A new kind of *portable barometer* for meaſuring heights has been invented by Dr. J. A. Hamilton, and deſcribed in the Tranſactions of the Royal Iriſh Academy (vol. v. p. 95.). Inſtead of the leathern bag which confines the mercury in the common portable barometer, Dr. Hamilton ſubſtitutes a cylindrical ciſtern of ivory, about two inches long and upwards of one inch in diameter, with a ſcrewed bottom and open top, ſomewhat contracted into a ſhoulder that receives internally a ſound, clean and porous cork, about ¾ of an inch in length, and one in diameter, through which the glaſs tube is nicely inſerted and puſhed down midway. The conſtruction depends upon this principle, that ſpongy cork affords a ready paſſage through its pores to the particles of air, but prevents the eſcape of quickſilver, unleſs a very powerful preſſure be applied. Nevertheleſs, as it is not through the pores of that ſubſtance, but through the minute interſtices between the cork and the inſide of the ivory cylinder, that the air inſinuates itſelf, ſome caution and experience are requiſite to prevent the ſtopper from being fitted too tight: nor can the obſerver be always aſſured, that the confinement of the cork will occaſion no inaccuracy in the reſults; for it will evidently require a conſiderable time, through the extremely ſlender communications, to reſtore the balance between the external and internal air, if ever that balance can rigorouſly obtain. Dr.

Hamilton gives very copious and circumſtantial directions, together with an annexed engraving, for the conſtruction, adjuſtment, and application of this inſtrument. AB (*fig.* 96.) repreſents a ſection of the barometer longitudinally, when put together and ready for uſe. F the ivory cylinder, CD the ſcale, with a vernier that ſlides ſo as to cover the aperture when the inſtrument is put by. E the attached thermometer in its caſe, and GG the braſs caps that ſecure the ends. AB (*fig.* 97) repreſents a ſection of the ivory cylinder with its cork C, and its tube T; SS is the ſurface of the mercury; M its maſs; EE the ſhoulders that keep the cork C in its place; and FF is the bottom that ſcrews in tight.

Dr. Hamilton remarks, that mercury is beſt cleanſed by ſhaking it repeatedly in a phial with freſh portions of water; and the remark deſerves attention. For correcting the errors of altitude cauſed by the fluctuation of the ſurface of the mercury in the baſon, he recommends the computation of tables from the proportion which the aperture of the tube bears to that of the cylinder. His paper contains practical precepts for calculating heights from obſervations of the barometer, in a form adapted to practice; and he propoſes to delineate vertical ſections of a country, by means of a ſeries of ſuch obſervations, made during ſettled weather. In the ſame volume (p. 117, &c.) we have remarks and hints for the further improvement of barometers, by Dr. H. Hamilton, dean of Armagh, occaſioned by the preceding communication. He obſerves, that the pores of cork may in time become choaked with duſt or moiſture; and he therefore propoſes, that inſtead of cork the box ſhould have a top of ivory with a hole to drop in a floating gage, which might be occaſionally ſtopped with a peg or ſcrew, to render the inſtrument ſafely portable: or, which would be better, to have a cover ſcrewed over the top of the box, and a hole in it correſponding with that in the box. When theſe two holes are connected, the box is open; and it is ſhut, when the holes are removed from each other by turning the cover and ſcrewing it tight to the top of the box; and if there be a plate of ſoft leather between them, it will be ſufficient to keep in the mercury when the inſtrument is agitated by carriage. The dean had a barometer made in this form, and found it to anſwer all the purpoſes of an open and of a portable one. Inſtead of making tables for correcting the error occaſioned by the variation of the level of the mercury in the baſon, he thinks it would be more convenient to contract proportionally the diviſions of the ſcale. This obvious plan is illuſtrated at length. It is ſuggeſted, that theſe cloſe barometers would ſerve juſt as well at ſea as on land; and the hint merits attention, as a marine barometer is ſtill an important deſideratum.

Various improvements in the conſtruction and uſe of the *portable barometer*, with its annexed apparatus, have been ſuggeſted by ſir George Shuckburgh and Gen. Roy; and they have been adopted by ſeveral inſtrument makers in London. An inſtrument of this kind, poſſeſſing all the advantages of thoſe by Mr. Ramſden and M. de Luc, and from its principle free from ſome inconveniences and error to which theirs is liable, is conſtructed by Mr. William Jones, an ingenious artiſt in Holborn. It is repreſented in (*Pl.* XII. *fig.* 100.) as incloſed in its mahogany caſe by means of three metallic rings, *b*, *b*, *b*. This caſe is in the form of a hollow cone divided into three arms or legs from *a* to *c*, and is ſo carved in the inſide as to contain ſteadily the body of the barometer; and the arms, when ſeparated, form three firm legs or ſupports for the barometer, when it is uſed for making obſervations. (See *fig.* 101.) The inſtrument is ſuſpended at the part *g* of the caſe, by a kind of improved gimbals, and thus, by its own weight, it will be ſufficiently ſteady when expoſed to the weather. In that part of the frame where the barometer tube is viſible, *a e*, there is a long ſlit or opening, ſo that the altitude of the mercury may be ſeen againſt the light, and the vernier piece *a* brought down to coincide with the edge of the mercury to the greateſt poſſible exactneſs. When the inſtrument is placed on its ſupport, the ſcrew *f* is to be let down, that the mercury may ſubſide to its proper height; and alſo a peg at *b* muſt be looſened, to give admiſſion to the action of the external air upon the mercury contained in the box *b*. The adjuſtment, or mode of obſerving what is called the *zero*, or 0, diviſion of the column of mercury, is by means of a ſmall floating ivory index or ſtem that riſes up through the braſs box from the ciſtern below in a hole made for that purpoſe. This will riſe and ſhew itſelf directly under a ſmall plate and ſcrew fixed over as a cover, and is unſcrewed to move upwards. With one eye even with the upper ſurface of the box, the hand at the regulating ſcrew at the bottom of the frame muſt ſo turn the ſcrew till the top of the index is very exactly even with the ſurface: thus will the adjuſtment for reading off be made after the ſtations. The vernier piece at *a* that determines the altitude of the column of mercury is to be brought down by the hand to a near contact, and then accurately adjuſted by a ſmall adjuſting ſcrew attached to the top of this vernier ſcale. This barometer has uſually two different ſorts of ſcales inſerted on it: that on the right at *a e* is a ſcale of French inches from 19 to 31, meaſured from the ſurface or *zero* of the mercury in the box *b* below, divided into twelve parts or lines, and each line ſubdivided by the vernier into ten parts, ſo that the height of the column of mercury may be aſcertained to the 120th part of a French inch. The ſcale which is on the other ſide, or the left of obſervation, is of the ſame length; but divided into Engliſh inches, each of which is ſubdivided into 20ths of an inch, and the vernier ſubdivides each 20th into 25 parts; ſo that the height of the mercury is thus aſcertained to the 500dth part of an Engliſh inch (viz. $20 \times 25 = 500$). But this vernier is figured double for the convenience of calculation: the firſt 5 diviſions are marked 10, the 20 marked 40, and the 25 marked 50: then each exact diviſion is reckoned as the two thouſandths of an inch, which amounts to the ſame; for $\frac{1}{500}$ is the ſame in value as $\frac{2}{1000}$ of an inch. A thermometer is always attached to the barometer, and indeed it is indiſpenſibly neceſſary: it is faſtened to the body at *c*, counterſunk beneath the ſurface of the frame, which makes it leſs liable to be broken; the degrees of the thermometer are marked on two ſcales, one on each ſide; viz. that of Fahrenheit and Reaumur, ſcales generally known; the freezing point of the former being at 32, and the latter at 0. On the right hand ſide of theſe ſcales there is a third, called a ſcale of *correction*: it is placed oppoſite to that of Fahrenheit, with the words *add* and *ſubtract*; and it ſerves as a neceſſary correction to the obſerved altitude of the mercury at any given temperature of the air ſhewn by the thermometer. There are ſeveral other valuable appendages to this inſtrument that cannot be diſtinctly repreſented in the figure: but its nature and uſe may be apprehended from the above ſtatement. In complete obſervations, ſuch as thoſe to which we now refer, the obſerver ſhould be provided with two barometers, or rather three, for fear of danger, and two or three ſeparate thermometers. See the ſequel of this article.

By very ſmall additional contrivances this inſtrument may be rendered equally uſeful for making obſervations at ſea with any marine barometer that has hitherto been invented.

The editor has been furniſhed with the following deſcrip-

tion

tion of the ciſtern, &c. of the portable barometer, according to the conſtruction of Mr. Hawes, lately an eminent inſtrument-maker in London. A ſection of the ciſtern is repreſented in *Plate* XII. of *Pneumatics*, *fig.* 102. AAAABB is the ciſtern: the part AAAA, which contains the quickſilver, is made of wood, with a bottom of leather C, glued on the wooden ring DD, and preſſed cloſe againſt the wooden cylinder by means of the ſcrew at EE, which ſcrews on the braſs cover or collar FF that covers the cylindric ciſtern AA. This collar has a ſtep at the top, as ſeen at G, to prevent its ſlipping, while it preſſes the ring DD againſt the wooden cylinder AA. When ſcrewed tight, the quickſilver HH is prevented from eſcaping. II is part of the tube of the barometer, drawn nearly to a point, and covered with an ivory cap KK for defending it againſt injury. LL is a ſcrew with a broad circular top Q, by means of which the leather C forces up the quickſilver ſo as to fill the tube, when the inſtrument is carried from one place to another. In order to prevent the oſcillations of the quickſilver from breaking the tube by ſudden jerks, a pin *a* with a head *b* paſſes through the ſcrew LL; this pin has on the under ſide of the head a ſpiral ſpring to counteract the violence of a ſudden motion. The two nuts M, N, are uſed to raiſe or depreſs the ſcrew LL, and conſequently the quickſilver; the proper height of which is indicated by the floating gage OO, the top of whoſe ſtem P correſponds to the top and outſide of the ciſtern. When the barometer is not in uſe, the gage and aperture are covered by the plate *e*, which effectually confines the quickſilver, the under ſide of *e* being covered with leather. The lower end of the ſcrew LL is ſlit up as high as *c*, and carries a croſs pin *d* paſſing through the bottom of the pin *a b* to prevent it from riſing too high. *Fig.* 103. repreſents a ſquare frame to be ſcrewed on the part BB *fig.* 102, and connected by wires from the angles to the legs as ſeen in the perſpective view in *fig.* 101. This is uſed to prevent the barometer from vibrating.

The nonius is exhibited at large in *fig.* 104. A is a ſcrew with a milled head tapped into the piece B, and alſo let into and moveable in the piece C in the manner repreſented at D in *fig.* 105. which is a ſide view.

B and C in *fig.* 106. are horizontal ſections of B and C, *fig.* 104. The ſpring *a* of the piece B is conſiderably ſtronger than that of C; ſo that it requires much greater force to make it ſlide up and down, whilſt C, which ſlides very eaſily, is moved by turning the milled head E; and thus the lower ſurface of C is made to coincide with the upper ſurface of the mercury at F; and, beſides, both the piece B and the nonius C may be depreſſed or raiſed at pleaſure, as occaſion requires, for a due adjuſtment of the nonius. Behind the plate *a b*, in the perſpective view *fig.* 101. hangs a pendulum ſuſpended at the point *a* which ſerves for ſetting the inſtrument vertical; and when it is brought into this poſition, a mark on the bob coincides with another on the plate, as ſeen at *b*. When the inſtrument is not in uſe, a fork connected with the ſcrew *c* is puſhed up, and prevents the pendulum from ſhaking.

In order to adapt the portable barometer more completely to the purpoſe of meaſuring heights, in which uſe of it peculiar accuracy of obſervation is neceſſary, it ſhould be furniſhed with two microſcopes or magnifying glaſſes, one of which ſhould be placed at the beginning of the ſcale; and either this ſhould be moveable, ſo that it may always be brought to the ſurface of the mercury in the ciſtern, or the ciſtern ſhould be ſo contrived that its ſurface may always be brought to the beginning of the ſcale. By this glaſs the coincidence may be accurately perceived. The other microſcope muſt be moveable, ſo as to be ſet oppoſite to the ſurface of the mercury in the tube; and the ſcale ſhould be furniſhed with a vernier, which divides an inch into 1000 parts, and conſtructed of materials, the expanſion of which is precisely aſcertained. For an account of many ingenious contrivances to make the barometer accurate, portable, and commodious, the reader may conſult Magellan's "Deſ. de Diverſes Inſtr. de Phyſ." Phil. Tranſ. vol. lxvii. vol. lxviii. Journ. de Phyſ. xvi. 262. xviii. 291. xix. 326. 334. xxi. 476. xxii. 290. Sulzer, Act. Helvet. iii. 259. De Luc, Recherches, &c. ubi ſupra. Cardin. de Luynes, Mem. Par. 1768. Van Swinden's Poſitiones Phyſicæ. Com. Acad. Petrop. i. Id. Nov. ii. 200. viii.

Mr. Magellan, in his edition of "Cronſtedt's Mineralogy," has ſhewn that great errors may ariſe in barometrical meaſurements for want of due attention to the ſpecific gravity of the mercury with which barometers are filled. If two barometers, each 30 inches high, and in every other reſpect ſimilarly circumſtanced, be filled with mercury of different ſpecific gravity, that of the one being 13,62, and that of the other 13,45, the error in the reſult would be no leſs than 327 feet; becauſe the heights of the mercurial columns in each barometer muſt be in the inverſe ratio of their ſpecific gravities; viz. 13,45 : 13,62 :: 30 : 30,379. But the logarithm of 30 is 4771,21, and that of 30,379 is 4825,73, neglecting the indices, and their difference is 54,52, which ſhews that there is a difference of 54,52 fathoms or 327 feet in the altitudes of the two places, where the barometers ſhould have been ſtationed, though in reality they were on the ſame level. But if the ſpecific gravity of the mercury in the two barometers were according to the different ſtatements of Bergman and Fourcroy, the one 14,110 and the other 13,000, (and this may happen to be the caſe, as the heavieſt is commonly reputed to be the pureſt mercury,) the error muſt have amounted to 355,76 toiſes, or 2134½ feet, becauſe 13,000 : 14,110 :: 30 : 32,561. But the logarithm of 30 is 4771,21, and that of 32,561 is 5126,97, and the difference, or 355,76, ſhews that the error ſhould amount to ſo many fathoms, or 2134,5 feet. See the ſequel of this article.

Barometer, *Phenomena of the.* Theſe are the variations of height in its mercurial column, for aſcertaining which many contrivances in the ſtructure of the barometer have been propoſed; the principal of which have been detailed in the preceding articles; and the ſubject will be further purſued in the ſequel. The uſes to which theſe phenomena have been ſubſervient, are the prediction of the weather from the variable weight of the atmoſphere, indicated by the riſe and fall of the mercury in the barometer, and the meaſurement of altitudes, to which they have been lately applied with ſingular aſſiduity and ſucceſs.

The phenomena of the barometer, conſidered as a "weather glaſs," have been very differently ſtated and explained by various writers; and they are ſo precarious, that it is extremely difficult to form any fixed and general rules concerning them. Although we have reaſon to believe, that the barometer never fails to indicate a ſtorm, or any very great change of weather, for ſome hours before it occurs; yet its variations afford no indications or prognoſtics that are abſolutely certain, with reſpect to thoſe leſs conſiderable changes to which the weather is ſubject in our variable climate. With certain reſtrictions, they afford ſome ground for probable conjecture; and theſe reſtrictions are to be determined merely by the ſagacity of long-continued obſervation and experience. Strictly ſpeaking, the height of the mercury in the barometer hath no immediate and neceſſary connection either with rain or fair weather. That its variable height is the immediate conſequence of the variable

variable preſſure of the atmoſphere, is a fact that admits of no doubt; but the cauſes of this variable preſſure have not yet been fully and ſatisfactorily aſcertained; and how far the ſtate of the weather, in all its minute and ſudden changes, depends upon it, is a queſtion that ſtill remains to be determined. M. Paſcal was one of the firſt perſons who particularly obſerved the variations of the barometer, and referred them to correſponding changes in the weight of the air; but he acknowledges, that it is very difficult to explain both the one and the other, as well as the connection that ſubſiſts between them. He obſerves, in general, that the mercury is commonly higheſt in winter and loweſt in ſummer; that it is leaſt variable at the ſolſtices, and moſt variable at the equinoxes: and he adds, in direct contradiction to later experience, that the mercury uſually falls in fine weather, and that it riſes when the weather becomes cold or the air is loaded with vapours. M. Paſcal was followed by Perrier, Beal, Wallis, Garcin, Garden, Liſter, Halley, Gerſten, De la Hire, Mariotte, Le Cat, Woodward, Leibnitz, De Mairan, Bernouilli, Muſchenbroek, &c.; all of whom have given different ſolutions of the phenomena of the barometer.

The principal obſervations, that have been made on the variations of this inſtrument, are ſummed up by Mr. Kirwan (Iriſh Tranſ. vol. ii. p. 46, &c.) in the following particulars.

I. The more conſiderable elevations and depreſſions of the mercury in the barometer happen at a very ſhort interval of time in places very remote from each other. This correſpondence was obſerved by Mr. Derham in 1699 between the heights of the mercury at Upminſter in Eſſex and Townley in Lancaſhire; and afterwards by Mr. Maraldi between the variations at Paris and Genoa, at the diſtance of nearly four degrees of latitude, who adds, during theſe variations different winds prevailed at theſe places. But Mr. Kirwan obſerves, that where there is a conſiderable difference of longitude, the like agreement is not found.

II. The deviations of the mercury from its mean annual altitude are far more frequent and extenſive in the neighbourhood of the poles than in that of the equator. At Peterſburgh, in 1725, the mercury once ſtood at the ſtupendous height of 31,59 inches, if we may credit Mr. Conſett; and yet it has been ſeen ſo low as 28,14 inches. In the northern parts of France the variations are greater than in the ſouthern: at Naples they ſcarcely exceed one inch. In Peru, under the equator, and at the level of the ſea, they amount only to two or three tenths of an inch; but in other parts, within a few degrees of the line, on the approach of the rainy ſeaſon or of hurricanes, the barometer falls an inch or more.

III. The variations without the tropics are greater and more frequent in the winter than in the ſummer months.

IV. The variations are conſiderably ſmaller in very elevated ſituations than on the level of the ſea. Thus M. Bouguer obſerved, that on the coaſts of Peru the variations extended to ½ of an inch: at Quito, elevated 9374 feet above the ſea, they comprehended only 0,083 of an inch. M. Sauſſure made ſimilar obſervations in Savoy, as did Mr. Lambert in Swiſſerland.

V. The mean height of the barometer on the level of the ſea in moſt parts of the globe hitherto examined, is about 30 inches. M. Bouguer, under the line, obſerved it at 29,908 inches; but as his barometer was not purged of air by fire, it ſtood lower than it ſhould have done. Sir George Shuckburgh (Phil. Tranſ. vol. lxvii. p. 586.), on a mean of ſeveral obſervations on the coaſts of Italy and England, found it at 30,04, when the temperature of the mercury was 55°, and that of the air 62°. The mean height of the barometer in London, upon an average of two obſervations in every day of the year, kept at the houſe of the Royal Society, for many years paſt, is 29,88; the mean temperature or height of the thermometer, according to the ſame, being 58°. The greateſt height obſerved by ſir G. Shuckburgh, Dec. 26, 1778, in London, was 30,948 inches, the thermometer being at 47°; and reduced to the heat of 50°, it was 30,957: and this, he ſays (Phil. Tranſ. vol. lxix. p. 370.), is the greateſt height, which, as far as he has been able to collect, it has ever been ſeen to ſtand at in any country, where obſervations have been made and recorded, ſince the firſt invention of this inſtrument. In the proximity of the poles, ſays Mr. Kirwan, the annual mean heights of the barometer differ much more from the above ſtandard than in the more ſouthern parts of our hemiſphere.

In eſtimating the connection of the variations of the barometer with the weather, Dr. Halley has propoſed the following rules:

I. In calm weather, when the air is inclined to rain, the mercury is commonly low.

II. In ſerene and ſettled weather, and alſo in calm and froſty weather, the mercury is generally high.

III. Upon very high winds, though not accompanied with rain, the mercury ſinks loweſt, regard being had to the point of the compaſs from which the wind blows.

IV. The greateſt heights of the mercury are found upon eaſterly and north-eaſterly winds, other circumſtances being alike: to which it may be added, that under a ſoutherly wind it is commonly low. The above four obſervations, made by Dr. Halley in England, ſeem to be moſt univerſal, as they were found by Mr. Melander (Schwed. Abhand. 1773, S. 255) to apply to lat. 39°, and by M. de Luc to lat. 46°.

V. After very great ſtorms of wind, when the mercury has been very low, it generally riſes again very faſt.

VI. The more northerly places have greater alterations of the barometer than the more ſoutherly.

VII. Within the tropics, and near them, there is little or no variation of the mercury in all weathers. At St. Helena it is little or nothing; at Jamaica $\frac{1}{10}$ths of an inch; whereas in England it amounts to 2½ inches, and at Peterſburgh to 3½ nearly.

Dr. Beal, who adopted the opinion of M. Paſcal, obſerves, that, *ceteris paribus*, the mercury is higher in cold weather than in warm; and uſually in the morning and evening higher than at mid-day: that, in ſettled and fair weather, it is higher than either a little before or after or in the rain; and that it generally deſcends lower after rain than it was before it. And he aſcribes theſe effects to the vapours with which the air is charged in the former caſe, and which are diſperſed by the falling rain in the latter. If it chance to riſe higher after rain, it is generally followed by a ſettled ſerenity. He adds, that there are frequently great changes in the air, without any ſettled alteration in the barometer.

An ingenious author obſerves, in relation to this uſe of barometers, that, by their means, we may regain the knowledge, which ſtill reſides in brutes, and which we have forfeited by not continuing in the open air as they generally do, and by our intemperance corrupting the craſis of our organs of ſenſe.

Mr. Patrick's rules for judging of the weather by the riſe and fall of the mercury in the barometer, have been much approved, and are to be accounted for on the ſame principles with thoſe of Dr. Halley. They are as follow:—1. The riſing of the mercury preſages, in general, fair weather; and

and its falling, foul weather; as rain, ſnow, high winds, and ſtorms.

2. In very hot weather, the fall of the mercury indicates thunder.

3. In winter, the riſing preſages froſt; and in froſty weather, if the mercury falls three or four diviſions, there will certainly follow a thaw: but in continued froſt, if the mercury riſes, it will certainly ſnow.

4. When foul weather happens ſoon after the falling of the mercury, expect but little of it: and, on the contrary, expect but little fair weather when it proves fair ſhortly after the mercury has riſen.

5. In foul weather, when the mercury riſes much and high, and ſo continues for two or three days before the foul weather is quite over, then expect a continuance of fair weather to follow.

6. In fair weather, when the mercury falls much and low, and thus continues for two or three days before the rain comes; then expect a great deal of wet, and probably high winds.

7. The unſettled motion of the mercury, denotes uncertain and changeable weather.

8. You are not ſo ſtrictly to obſerve the words engraved on the plates (though for the moſt part it will agree with them), as the mercury's riſing and falling; for if it ſtands at much rain, and then riſes up to changeable, it preſages fair weather, although not to continue ſo long as it would have done, if the mercury were higher: and ſo, on the contrary, if the mercury ſtood at fair, and falls to changeable, it preſages foul weather, though not ſo much of it, as if it had ſunk down lower.

From theſe obſervations it appears, ſays Mr. Rowning (Nat. Philoſ. part ii. diſſ. 4.), that it is not ſo much the height of the mercury in the tube that indicates the weather, as the motion of it up and down: wherefore, in order to paſs a right judgment of what weather is to be expected, we ought to know whether the mercury is exactly riſing or falling, to which end the following rules are of uſe:

1. If the ſurface of the mercury is convex, ſtanding higher in the middle of the tube than at the ſides, it is generally a ſign that the mercury is then riſing.

2. If the ſurface of the mercury is concave, or hollow in the middle, it is ſinking. And,

3. If it is plain or level, or rather if it is a little convex, the mercury is ſtationary; for mercury being put into a glaſs tube, eſpecially a ſmall one, will naturally have its ſurface a little convex; becauſe the particles of mercury attract each other more forcibly than they are attracted by glaſs. Farther,

4. If the glaſs be ſmall, ſhake the tube; and if the air be growing heavier, the mercury will riſe about half the tenth of an inch higher than it ſtood before; if it is growing lighter, it will ſink ſo much. This proceeds from the mercury ſticking to the ſides of the tube, which prevents the free motion of it, until it is diſengaged by the ſhock. Therefore, when an obſervation is to be made by ſuch a tube, it ought always to be ſhaken firſt; for ſometimes the mercury will not vary of its own accord, until the weather it ought to have indicated be preſent.

To the preceding rules we may ſubjoin the following, deduced from later and more accurate obſervation of the motions of the barometer, and the conſequent changes in the air of this country:

1. In winter, ſpring, and autumn, the ſudden falling of the mercury, through a large interval, denotes high winds and ſtorms; but in ſummer it denotes heavy ſhowers, and often thunder; and it always ſinks loweſt of all for great winds, though not accompanied with rain; though, however, it falls more for wind and rain together, than for either of them alone. Alſo, if, after rain, the wind change into any part of the north, with a clear and dry ſky, and the mercury riſe, it is a certain ſign of fair weather.

2. After very great ſtorms of wind, when the mercury has been low, it commonly riſes again very faſt. In ſettled fair and dry weather, except the barometer ſink much, expect but little rain; for its ſmall ſinking then is only for a little wind, or a few drops of rain; and the mercury ſoon riſes again to its former ſtation. In a wet ſeaſon, ſuppoſe in hay-time and harveſt, the ſmalleſt ſinking of the mercury muſt be regarded; for when the conſtitution of the air is much inclined to ſhowers, a little ſinking in the barometer then denotes more rain, as it never at this time ſtands very high. And if, in ſuch a ſeaſon, it riſe ſuddenly, very faſt, and high, expect not fair weather more than a day or two, but rather that the mercury will fall again very ſoon, and rain immediately follow. The ſlow gradual riſing, and keeping on to do ſo for two or three days, are moſt to be depended upon for a week's fair weather; and the unſettled ſtate of the quickſilver always denotes uncertain and changeable weather, eſpecially when the mercury ſtands any where about the word *changeable* on the ſcale.

3. The greateſt heights of the mercury, in this country, are found upon eaſterly and north-eaſterly winds; and it may often rain or ſnow, the wind being in theſe points, and the barometer may ſink but little or not at all, or it may even be in a riſing ſtate, the effect of thoſe winds counteracting. But the mercury ſinks for wind, as well as for rain, in all the other points of the compaſs; but riſes as the wind ſhifts about to the north or eaſt, or between thoſe points: but if the barometer ſhould ſink with the wind in that quarter, expect it ſoon to change from thence; or elſe, if the fall of the mercury ſhould be conſiderable, a heavy rain is likely to enſue, as it ſometimes happens.

BAROMETER, *Cauſe of the Phenomena of the.* Thoſe which have been enumerated, are the chief phenomena of the barometer; to account for which, the hypotheſes that have been framed are almoſt innumerable. It would far exceed our limits to detail them all; we muſt content ourſelves with briefly reciting ſome of the principal, and refer the reader who is deſirous of farther information to De Luc's "Recherches," vol. i. ch. iii.

Some, as Paſcal, Beal, Wallis, and Garcin, have accounted for the change in the weight of the air by the augmentation of the atmoſphere in conſequence of the introduction of vapours, and its diminution by their fall; others, as Perrier, Garden, Le Cat, and De Mairan, have aſcribed it to the variations of heat; and others, as Garden, to the alterations of the ſpecific gravity of the air; and Dr. Halley refers it to the accumulation or diſperſion of the air by contrary winds. Wallis, Halley, and De Mairan have ſuppoſed that there is a difference in the vertical preſſure of the air, when in motion and at reſt. Wallis, and ſome other philoſophers, have conceived that the height of the barometer depends upon the variations that occur in the elaſticity of the air, and that it is directly proportional to theſe variations. Some have alſo had recourſe to the contractions and dilatations of the mercury itſelf, as Wallis and Liſter; others, as Gerſten, ſuppoſe vibrations produced in the particles of air by the winds. De la Hire and De Mairan imagine that air is removed from the ſouth to the north, and from the north to the ſouth: Mariotte ſuppoſes that the inclination of the winds to the ſurface of the earth is ſometimes greater and ſometimes leſs. Woodward and Hamberger conceive that there is a ſhock of vapours againſt the air, when they riſe, and that this ceaſes when they are at reſt. Leibnitz ſuppoſes

poſes that there is a diminution in the weight of the air when rain falls; and De Mairan apprehends, that an agitation of the air is occaſioned by vapours; and Bernouilli is of opinion, that an augmentation of the atmoſphere is produced by a dilatation and diſcharge of the air incloſed within the bowels of the earth, and that there is a diminution of it when the contrary happens. To theſe ſeveral cauſes acting ſeparately or conjointly, and to ſeveral circumſtances attending their different operation, the variations of the barometer have been attributed. But theſe cauſes may all be reduced to three general claſſes: viz. variations of temperature; the velocity and other qualities of different winds; and the agency of vapour.

Dr. Lister accounts for the changes in the barometer from the alterations of heat and cold. This, he ſays, he has often obſerved, that in ſtorms, &c. when the mercury is at the loweſt, it breaks, and emits ſmall particles, which he calls a kind of fretting; and argues, that in all times of its deſcent, it is more or leſs on the fret. In this diſorder, he thinks, its parts are contracted, and brought cloſer together; and, for that reaſon, deſcend: beſides, in the fretting they let go little particles of air, before incloſed in them, and theſe riſing into the top of the tube, the mercury muſt ſink, both from the column's being ſhortened by their eſcape, and by their lying upon it. Mercury therefore, he adds, riſes either in very hot or very cold weather, between the tropics, &c. as being then in its natural ſtate; and again, in the intermediate degrees of heat and cold it falls, as being contracted, and as it were convulſed, and drawn together. Phil. Tranſ. N° 165. But his account, however ingenious, yet comes far ſhort of accounting for the phenomena; nay, in ſome reſpects it contradicts them.

The changes in the weight of the atmoſphere, therefore, muſt be laid down as the cauſe of thoſe in the barometer; but then, the cauſe of that cauſe, or whence thoſe alterations ariſe in the atmoſphere, it will be no eaſy matter to determine; there being, perhaps, no one principle in nature that will account for ſuch a variety of appearances, and thoſe too ſo irregular. It is probable the winds, as driven this or that way, have a great ſhare in them; ſome ſhare too, vapours and exhalations, riſing from the earth, may have; ſome, the changes in the air of the neighbouring regions; and ſome, the flux and reflux occaſioned in the air by the moon; and alſo ſome chemical cauſes operating between the different particles of matter.

Dr. Halley thinks the winds and exhalations ſufficient; and, on this ground, gives us a rationale of the barometer. The ſubſtance of what may be ſaid on that head, is as follows:

1ſt, then, The winds muſt neceſſarily alter the weight of the air in any particular country; and that, either by bringing together and accumulating a greater quantity of air, and ſo loading the atmoſphere of any place; which will be the caſe, as often as two winds blow at the ſame time, from oppoſite points towards the ſame point: or by ſweeping away a part of the air, and removing ſome of the load, and thus giving room for the atmoſphere to expand itſelf; which will be the caſe when two winds blow at the ſame time, and from the ſame point, oppoſite ways: or laſtly, by cutting off the perpendicular preſſure of the atmoſphere; which happens as often as any ſingle wind blows briſkly any way; it being found, by experiment, that a ſtrong blaſt of wind, even made by art, will render the atmoſphere lighter; and accordingly, the mercury, in a tube under which it paſſes, as well as in another at a diſtance from it, will ſubſide conſiderably. See Phil. Tranſ. N° 292.

2dly, The cold nitrous particles, and even air itſelf condenſed in the northern parts, and driven elſewhere, muſt load the atmoſphere, and increaſe its preſſure.

3dly, Heavy dry exhalations from the earth muſt increaſe the weight of the atmoſphere, and heighten its elaſtic force, as we find the ſpecific gravity of menſtruums increaſed by diſſolved ſalts and metals.

4thly, The air being rendered heavier from theſe and the like cauſes, is thereby the more able to ſupport the vapours; which being likewiſe intimately mixed with it, and ſwimming every where equably through it, make the weather ſerene and fair: again, the air being made lighter, from the contrary cauſes, it becomes unable to ſupport the vapours wherewith it is replete; theſe, therefore, precipitating, are gathered into clouds; and thoſe, in their progreſs, coaleſce into drops of rain.

Theſe things obſerved, it appears pretty evident, that the ſame cauſes which increaſe the weight of the air, and make it more able to ſupport the mercury in the barometer, do likewiſe occaſion a ſerene ſky, and a dry ſeaſon; and the ſame cauſes which render the air lighter, and leſs able to ſupport the mercury, do likewiſe generate clouds and rain. Hence, 1ſt, When the air is lighteſt, and the mercury in the barometer is loweſt, the clouds are very low, and move ſwiftly; and when, after rain, the clouds break, and a calm ſky again ſhines forth, being purged of the vapours, it appears exceedingly bright and tranſparent, and affords an eaſy proſpect of remote objects.

2dly, When the air is heavier, and the mercury ſtands higher in the tube, the weather is calm, though ſomewhat leſs clear, becauſe the vapours are diſperſed every where equally; if any clouds now appear, they are very high, and move ſlowly; and when the air is heavieſt of all, the earth is frequently found enveloped in pretty thick clouds, which appear to be formed out of the groſſer exhalations, and which the air is then able to ſuſtain, though a lighter atmoſphere could not.

3dly, Hence it is, that with us the mercury ſtands higheſt in the coldeſt ſeaſons, and when the wind blows from the north or north-eaſt corner: for, in that caſe, there are two winds blowing towards us at the ſame time, and from oppoſite corners; there being a conſtant weſt wind found in the Atlantic ocean, at the latitude correſponding to our's. To which we may add, that in a north wind, the cold condenſed air of the northern parts is brought hither.

4thly, Hence, in the northern regions, the variation of the mercury is more ſenſible than in the ſouthern ones; the winds being found more ſtrong, more frequent, more various, and more oppoſite to each other in the former, than in the latter.

Laſtly, Hence it is, that between the tropics, the variation of the mercury is ſcarcely ſenſible; the winds there being extremely gentle, and uſually blowing the ſame way.

But this account, however well adapted to many of the particular caſes of the barometer, ſeems to come ſhort of ſome of the principal and moſt obvious ones: and is, beſides, liable to ſeveral objections.

For, 1ſt, If the wind were the ſole agent in effecting theſe alterations, we ſhould have no alterations without a ſenſible wind, nor any wind without ſome alteration of the mercury: both which are contrary to experience.

2dly, If two winds be ſuppoſed blowing from the ſame place, viz. London, oppoſite ways, viz. N.E. and S.W. there will be two others, blowing from oppoſite points, viz. N.W. and S.E. to the ſame place; which two laſt will balance the firſt, and bring as much air towards the point, as the others ſwept from it. Or thus, in proportion as the air

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is carried off N.E. and S.W. the adjacent air will croud in from the other points, and form a couple of new currents in the direction N.W. and S.E. to fill up the vacancy, and reſtore the equilibrium. This is a neceſſary conſequence from the laws of fluids.

3dly, If the wind were the ſole agent, the alterations in the height of the mercury would only be relative, or topical; there would be ſtill the ſame quantity ſupported at ſeveral places taken collectively: thus, what a tube at London loſt, another at Paris, or at Piſa, or at Zurich, &c. would at the ſame time gain. But we find the very contrary true in fact; for from all the obſervations hitherto made, the barometers in ſeveral parts of the globe riſe and fall together; ſo that it muſt be ſome alteration in the abſolute weight of the atmoſphere that accounts for the riſe and fall of the mercury.

Laſtly, Setting aſide all objections, theſe popular phænomena, the mercury's fall before, and riſe after rain, ſeem to be inexplicable on the ground of this hypotheſis: for ſuppoſe two contrary winds ſweeping the air from over London, we know that few, if any, of the winds reach above a mile high; all, therefore, they can do, will be to cut off a certain part of the column of air over London: if the conſequence of this be the fall of the mercury, yet there is no apparent reaſon for the rain's following it. The vapours indeed may be let lower, but it will only be till they come into an air of the ſame ſpecific gravity with themſelves; and there they will be ſuſpended as before.

M. Leibnitz, about the year 1710, in a letter written to the abbé Bignon, endeavoured to ſupply the defects of this hypotheſis with a new one of his own. The new principle, upon which Leibnitz's hypotheſis is founded, was illuſtrated by M. Fontenelle in the Hiſtory of the Royal Academy of Sciences at Paris for the year 1711. He aſſerts, that a body immerſed in a fluid only weighs with that fluid while it is ſuſtained by it; ſo that when it ceaſes to be ſuſtained, i. e. when let fall, its weight ceaſes to make a part of that of the fluid, which by this means becomes lighter. Thus, adds he, the watery vapours, while ſuſtained in the air, increaſe its weight; but when let fall, they ceaſe to weigh along with it. Thus the weight of the air is diminiſhed; and thus the mercury falls, and rain enſues.

But M. Leibnitz's principle, notwithſtanding the experiment he brings to confirm it, is falſe, as has been evidently made appear by a counter experiment of Dr. Deſaguliers. (See his Courſe of Exp. Philoſ. vol. i. p. 282, &c.) For a body, whether ſpecifically equal or lighter or heavier than a fluid, while it is immerged in it, whether it be at reſt, or in motion, adds to the fluid a weight equivalent to that of an equal bulk of the fluid; as follows from that law in hydroſtatics, that fluids gravitate according to their perpendicular altitudes. However, were M. Leibnitz's principle true, yet it is defective; and that in the ſame reſpect with Dr. Halley's; nor would it account for the phenomena more than the other. For, ſuppoſing the vapours by being condenſed, to be put in a motion downwards, and ſo ceaſing to gravitate with the atmoſphere; they will therefore fall, till they reach a part of the atmoſphere of the ſame ſpecific gravity with themſelves; and there they will hang as before. If the mercury fall, it will only be during the time of that deſcent; for theſe once fixed, the former gravity is retrieved; or, were it not retrieved, yet no rain would ſucceed the fall of the mercury.

The hypotheſis, propoſed by Mr. Chambers, is ſomewhat ſimiliar to that of Leibnitz, and liable to the ſame objection. It is as follows: ſuppoſe any number of watery veſicles floating in any part of the atmoſphere, over any determinate portion of the globe; if the upper veſicles be condenſed by the cold of the ſuperior regions, their ſpecific gravity will be increaſed, and they will deſcend; where meeting with other veſicles not yet precipitated, they will coaleſce, or run into larger veſicles, by the known laws of attraction. Or, if we rather chooſe to have the wind act, let it drive either horizontally or obliquely, ſome veſicles will be driven againſt others; by which means likewiſe will the particles coaleſce, and form new and larger veſicles as before; ſo that their number, which before was, ſuppoſe a million, will now be reduced, v. gr. to a hundred thouſand.

But by the ſame coalition whereby their number is diminiſhed, their ſpecific gravity, if we may ſo call it, is increaſed, i. e. they come to have more matter in the ſame ſpace, or under an equal ſurface; as may be eaſily proved from principles of geometry: for in augmenting the maſs of any homogeneous body, the increaſe of ſurface does not keep pace with that of the ſolidity; but that of the former is as the ſquare of the diameter, and that of the latter as the cube of the ſame.

But ſince the ſame quantity of matter is now in a leſs ſpace or under leſs dimenſions, it will loſe leſs of its weight by the reſiſtance of the medium. This is evident; for a body immerſed in a fluid loſes nothing of its weight but by the friction of its parts againſt thoſe of the fluid; but the friction is evidently as the ſurface; therefore, when the ſurface is leſſened, the reſiſtance muſt be ſo too. Conſequently, the veſicles, whoſe gravity before the coalition was equal to the reſiſtance of the medium, now that reſiſtance is diminiſhed, will deſcend; and that with a velocity in the ratio of the increaſe of the maſs to the increaſe of the ſurface.

In their deſcent, as they arrive at denſer parts of the atmoſphere, their maſs and ſurface again will be increaſed by new coalitions; and thus, by conſtant freſh acceſſions, more than equal to the conſtant reſiſtances, they will be enabled to purſue their journey through all the ſtages of the air, till they reach the earth; their maſſes exceedingly magnified, and in the form of rain.

Now that the vapours have got down, let us conſider how the barometer muſt have been affected during their paſſage.

Before any of the veſicles began to ſubſide, either from the action of the cold, or of the wind, they all floated in a certain portion of the atmoſphere, and all gravitated towards the centre. Here now, each reſpectively reſiding in a part of the medium of the ſame ſpecific gravity with itſelf, will loſe as much of its weight as is equal to that of a part of the medium of the ſame bulk with itſelf, i. e. each will loſe all its weight. But then, whatever weight each loſes, it communicates to the medium, which now preſſes on the ſurface of the earth with its own weight and that of the veſicles conjointly. Suppoſe then this united preſſure keeps up the mercury in the barometer at thirty inches: by the coalition of the veſicles from the cauſes aforeſaid, their ſurfaces, and conſequently their friction, are leſſened; therefore, they will communicate leſs of their weight to the air, i. e. leſs than the whole; and conſequently they will deſcend with the exceſs, i. e. with a velocity equal to the remainder, as before obſerved. Now, as the veſicles can act no otherwiſe on the ſurface of the earth but by the mediation of the interjacent air, in proportion as their action on the medium is leſs, their action on the earth will be leſs. It is alſo evident, that the ſurface of the earth muſt be now leſs preſſed than before; and that in proportion as the veſicles reſerve more of their weight uncommunicated to the medium, to promote their own deſcent, i. e. in proportion to the velocity of the falling veſicles; which is

again in proportion to their bulks. Thus, as the veſicles deſcend, the bulks continually increaſing, the friction, and therefore the preſſure on the earth, and laſtly the height of the mercury, will continually decreaſe, during the whole time of the fall.—Hence we ſee, both why the veſicles, when once beginning to fall, perſevere; why the mercury begins to fall at the ſame time; and why it continues and ceaſes to fall together with them; which were the great deſiderata in the philoſophy of the barometer.

There is one objection that evidently lies againſt this theory, viz. that the veſicles being put in motion, and ſtriking againſt the particles of the medium and one another with ſome moment, will meet with a conſiderable reſiſtance from the *vis inertiæ* thereof; by which means their deſcent will be retarded, and the preſſure of the atmoſphere retrieved; the impetus of the moving veſicles being ſuppoſed to compenſate for their loſs of ſurface. Thus a heavy body ſuſtained in a fluid by a hair, and moved up and down therein, preſſes more on the bottom than when held at reſt; which additional preſſure will be the greater as the velocity of the falling veſicles is greater; a greater impulſe being required to break through the *vis inertiæ* of the contiguous particles in a leſs time than in a larger.

But it is alleged, that we have both reaſon and experiment againſt this objection; for the velocity of the veſicles, in theſe circumſtances, muſt neceſſarily be very ſmall, and their impulſe inconſiderable; beſides, the *vis inertiæ* of the air muſt be exceedingly weak, by reaſon of its extreme ſubtility; and it muſt be a very improper vehicle to convey an impulſe to a diſtance by reaſon of its elaſticity; we alſo find that a piece of lead, which is a ponderous body, falling with great moment, gravitates conſiderably leſs, in its deſcent through water, which is a groſs unelaſtic medium, than when ſuſtained at reſt therein; in which the ſeveral experiments of Reaumur, Ramazzini, and Deſaguliers, all agree.

M. de Luc (Recherches, &c. vol. i. p. 138.) ſuppoſes that the changes obſerved in the weight of the atmoſphere are principally produced by the preſence or abſence of vapours floating in it. Others have attributed the effect to vapours, but have given a different explication of it. It is his opinion, that vapours diminiſh the ſpecific gravity, and conſequently the abſolute weight of thoſe columns of the atmoſphere into which they are received, which, notwithſtanding this admixture, remain of an equal height with the adjoining columns that conſiſt of pure or dry air. He afterwards more largely explains and vindicates this theory, and applies it to the ſolution of the principal phenomena of the barometer, connected with or produced by the varying denſity and weight of the atmoſphere.

Dr. James Hutton, in his "Theory of Rain" (ſee RAIN), printed in the Edinburgh Tranſactions, vol. i. p. 41, &c. ſuggeſts ſeveral plauſible reaſons in favour of his opinion, that the diminution of the weight of the atmoſphere by the fall of rain is not the cauſe of the fall of the barometer; but that the principal, if not the only cauſe, is to be ſought for in the commotions of the atmoſphere that are chiefly produced by ſudden changes of heat and cold in the air. "The barometer," he ſays (p. 78.), is an inſtrument neceſſarily connected with motions in the atmoſphere; but it is not equally affected with every motion in that fluid body. The barometer is chiefly affected by thoſe motions by which there are produced accumulations and abſtractions of this fluid, in places or regions of ſufficient extent to affect the preſſure of the atmoſphere upon the ſurface of the earth. But as every commotion in the atmoſphere may, under proper conditions, be a cauſe for rain, and as the want of commotion in the atmoſphere is naturally a cauſe of fair weather, this inſtrument may be made of great importance for the purpoſe of meteorological obſervations, although not in the certain and more ſimple manner in which it has been, with the increaſe of ſcience, ſo ſucceſsfully applied to the meaſuring of heights."

In the "Encyclopædia Britannica," art. BAROMETER, we have another theory of changes in the barometer, as depending on the heat in the atmoſphere, not as producing commotions in it, but as altering the ſpecific gravity of the air by the variations of heat and cold. The preliminaries to this hypotheſis are: 1ſt. That vapour is formed by an intimate union between the elements of fire and water, in conſequence of which the fire or heat is ſo totally enveloped, and its action ſo entirely ſuſpended by the watery particles, that it not only loſes its properties of burning and of giving light, but becomes incapable of affecting the moſt ſenſible barometer, in which caſe, it is ſaid by Dr. Black, the author of this theory, to be in a latent ſtate. 2dly. If the atmoſphere be affected by any unuſual degree of heat, it thence becomes incapable of ſupporting ſo long a column of mercury as before, for which reaſon the barometer ſinks.

From theſe primary principles or axioms it is inferred, that as vapour is formed by an union of fire with water, whether by an elective attraction or a ſolution of the water in the fire, the vapour cannot be condenſed till this union, attraction, or ſolution be at an end. Hence it follows that the commencement of the condenſation of the vapour, or the firſt ſigns of approaching rain, muſt be the ſeparation of the fire which is latent in the vapour. This may at firſt be ſlow and partial, or it may be ſudden and violent; in the firſt caſe the rain will come on ſlowly, and after a conſiderable interval; in the other it will come on very quickly and in a great quantity. But Dr. Black has proved, that when fire quits its latent ſtate, however long it may have lain dormant and inſenſible, it always re-aſſumes its proper qualities, and affects the thermometer as if it had never been abſorbed. The conſequence of this muſt be, that in proportion as the latent heat is diſcharged from the vapour, thoſe parts of the atmoſphere into which it is diſcharged, will be ſenſibly affected by it; and in proportion to the heat communicated to thoſe parts, they will become ſpecifically lighter, and of courſe the mercury will ſink. When the ſeparation between the fire and water is gradual and ſlow, the barometer may indicate rain for a conſiderable time before it happens; or if the ſenſible heat ſhould be abſorbed by the colder parts of the atmoſphere, or by any means be prevented from affecting the ſpecific gravity of the air, the barometer will not be affected; and yet the water, deprived of the heat that is neceſſary for ſuſtaining it, muſt deſcend in rain; and hence it happens, that the indications of the barometer are not always juſt. Hence it alſo appears, that though the ſpecific gravity of the air is diminiſhed, unleſs this diminution proceeds from a diſcharge of the latent heat contained in the vapours, no rain will follow; and thus the ſinking of the barometer may prognoſticate wind as well as rain, or ſometimes no change at all. The great deſcent of the mercury in the barometer between the tropics in the time of hurricanes, noticed by Dr. Halley, is aſcribed, as to its probable cauſe, to a great commotion in the electric fluid, by which the air is internally agitated, and its gravitation in part ſuſpended.

In the fourth volume of the "Memoirs of the Literary Society of Manchester," we have a curious paper on this ſubject, viz. "Meteorological Obſervations made on different parts of the Weſtern Coaſt of Great Britain;" arranged by T. Garnett, M. D. The materials of this paper were furniſhed by ſeveral obſervers; but thoſe of Mr. Copland,

Copland, ſurgeon at Dumfries, are of peculiar importance. This gentleman is of opinion that the changes of the barometer indicate approaching cold and hot weather, with much greater certainty than dry and wet. "Every remarkable elevation of the barometer, he ſays, when it is of any duration, is followed by very warm or dry weather, and moderate as to wind, or by all of them; but heat ſeems to have moſt influence and connection; and when it is deficient, the continuance of the other two will be longer and more remarkable; therefore the calculation muſt be in a compound ratio of the exceſs and deficiency of the heat, and of the dryneſs of the weather in compariſon of the medium of the ſeaſon; and with regard to the want of ſtrong wind, it appears to be intimately connected with the laſt, as they ſhew that no precipitation is going on in any of the neighbouring regions."

In his 14th and 15th remarks, he had ſaid,

'14th, That the barometer being lower, and continuing ſo longer than what can be accounted for by immediate falls, or ſtormy weather, indicates the approach of very cold weather for the ſeaſon; and alſo, cold weather, though dry, is always accompanied by a low barometer, till near its termination.'

'15th, That warm weather is always preceded and moſtly accompanied by a high barometer; and the riſing of the barometer in the time of broken or cold weather, is a ſign of the approach of warmer weather: and alſo if the wind is in any of the cold points, a ſudden riſe of the barometer indicates the approach of a ſoutherly wind, which in winter generally brings rain with it.'

In the two following remarks, Mr. Copland had explained certain phenomena from a principle ſimilar to that on which Dr. Darwin has ſo much inſiſted. (Botanic Garden, I. notes p. 79, &c.)

'That the falling of the barometer may proceed from a decompoſition of the atmoſphere occurring around or near that part of the globe where we are placed, which will occaſion the electricity of the atmoſphere to be repelled upwards in fine lambent portions; or driven downwards or upwards in more compacted balls of fire; or laſtly, to be carried along with the rain, &c. in an imperceptible manner to the ſurface of the earth; the precipitation of the watery parts generally very ſoon takes place, which diminiſhes the real gravity of the atmoſphere, and alſo by the decompoſition of ſome of the more active parts, the air loſes part of that elaſtic and repulſive power which it ſo eminently poſſeſſed, and will therefore preſs with leſs force on the mercury of the barometer than before, by which means a fall enſues.

'That the cauſe of the currents of air or winds, may alſo be this way accounted for: and in very ſevere ſtorms, where great decompoſitions of the atmoſphere take place, this is particularly evident, ſuch as generally occur in one or more of the Weſt India iſlands at one time, a great loſs of real gravity, together with a conſiderable diminution of the ſpring of the air immediately enſues; hence a current commences, firſt in that direction whence the air has moſt gravity, or is moſt diſpoſed to undergo ſuch a change; but it being ſoon relieved of its ſuperior weight or ſpring on that ſide, by the decompoſition going on as faſt as the wind arrives in the iſland, it immediately veers to another point, which then ruſhes in moſtly with an increaſe of force; thus it goes on till it has blown more than half way round the points of the compaſs during the continuation of the hurricane. For in this manner the Weſt India phenomena, as well as the alteration of the wind during heavy rains in this country, can only be properly accounted for.' See remark No. 4.

Mr. C's 4th aphoriſm is, 'That the heavieſt rains, when of long continuance, generally begin with the wind blowing eaſterly, when it gradually veers round to the ſouth; and that the rain does not then begin to ceaſe till the wind has got to the weſt, or rather a little to the northward of it, when, it may be added, it commonly blows with ſome violence.'

Mr. Kirwan, in an elaborate paper on this ſubject (ſee Iriſh Tranſactions, vol. ii. p. 49, &c.) examines the different cauſes to which the phenomena of the barometer have been aſcribed. He begins with the influence of different temperatures. It appears, he ſays, by obſervation, that a variation of the maſs of the atmoſphere is not a neceſſary conſequence of an alteration of the temperature; for the mercury is often at the ſame height at different ſeaſons, and at different places in the ſame ſeaſon; and even when the height of the mercury changes ſimultaneouſly with the temperature, the change is often directly contrary to that which the change of temperature would lead one to expect. Beſides, great changes of temperature take place only in the lower atmoſphere; but in the higher regions they are inconſiderable. Any increment or decrement of the maſs of the lower atmoſphere that can be aſcribed to a change of temperature, is too ſmall to produce any conſiderable alteration in the height of the barometer; for in winter the height to which any conſiderable variation of temperature may be ſuppoſed to extend, ſcarcely exceeds 5000 feet, as we learn from the teſtimony of aeronauts and the height of the clouds; and indeed the winds that prevail on the ſurface of the earth, and which are the primary agents in producing a change of temperature, ſeldom reach higher, and in the more northern regions not ſo high. This cauſe, the effect of which is eſtimated by calculation, and compared with the actual variation, though not abſolutely inefficient, on the ſuppoſition that the whole maſs of the ſuperincumbent column is increaſed by the acceſſion of new air in proportion to the condenſation, is nevertheleſs inadequate to the effect produced.

Mr. Kirwan next examines the efficacy of winds in producing the variations of the barometer; and theſe are ſuch as reign in the lower regions of the atmoſphere. If, according to Dr. Halley's theory, the riſe of the barometer above its mean altitude were owing to the accumulation of air over the place of obſervation, occaſioned by two contrary winds blowing towards that place, we ſhould always have a calm when the mercury ſtands higheſt; but it is notorious, that the greateſt mercurial heights are accompanied by an eaſterly or northerly wind, as Halley himſelf has obſerved. Nor can that equality of barometrical heights, which takes place in very diſtant countries, where very different winds prevail, be explained by this hypotheſis. This hypotheſis aſcribes the deſcent of the mercury below its mean altitude to the rarefaction of the atmoſphere over the place of obſervation, which rarefaction is owing to its exhauſtion by two contrary currents; for inſtance, over England, if it ſhould blow a weſterly wind on the German, and an eaſterly wind on the Iriſh ſea. But Mr. Kirwan thinks, that a rarefaction in ſuch circumſtances from ſuch a cauſe is impoſſible; for if ſuch currents took place, the northern or ſouthern air would flow in to maintain the equilibrium in the ſame proportion; or if this did not happen, and that four contrary currents took place, the higher air ſhould deſcend, and cauſe a ſenſible cold, which yet is ſeldom obſerved in England, when the mercury is low; on the contrary, a warm ſouth wind commonly prevails, to whoſe temperature nevertheleſs the rarefaction cannot be aſcribed. Dr. Halley's explication of the deſcent of the mercury on high winds in

ſtorms appears to Mr. Kirwan to be unſatisfactory. "The region of the earth," ſays Halley, "wherein thoſe winds rage, not extending round the globe, the ſtagnant air left behind and that on the ſides cannot ruſh in faſt enough to reſtore the evacuation made by ſo ſwift a current, ſo that the air muſt be attenuated where the ſaid winds continue to blow."—"Add that the horizontal motion being ſo quick may take off ſome part of the perpendicular preſſure." This laſt reaſon ſeemed to acquire ſome confirmation from an experiment made by Mr. Hawkſbee; for having paſſed a ſtream of air through a box in which the lower trunk of a barometer was inſerted, he obſerved the mercury to fall while the current paſſed through the box; as alſo in another barometer which communicated with the box, over which the current of air did not flow. Allowing this, the phenomenon is not ſufficiently explained; for Mr. Kirwan obſerves, that not only during the ſtorm, but ſeveral hours, if not days, before it, the mercury deſcends conſiderably, as Halley himſelf, and all who recommend the marine barometer, atteſt; otherwiſe this inſtrument would be uſeleſs. Mr. Caſwell obſerves (Phil. Tranſ. Abr. vol. viii. p. 458.), that two days before the great ſtorm of January 1734-5, the mercury fell $\frac{1}{10}$ of an inch below 28 inches. But if the fall were concomitant with the ſtorm, Dr. Halley's reaſons would not prove their connection. In order to a body's moving through air with ſuch a velocity as to leave a vacuum behind it, there is a neceſſity that it ſhould move at the rate of 11 or 1200 feet per ſecond, as appears by the obſervations of Mr. Brice and many others. (See Phil. Tranſ. for 1766, p. 266.) The inſufficiency of the ſecond reaſon alleged by Dr. Halley has been clearly ſhewn by M. de Luc; nor is the experiment of Mr. Hawkſbee concluſive, as it appears that part of the air already confined in the boxes was forced out by the blaſt of air; and beſides, Mr. Derham obſerved that during the greateſt vehemence of ſtorm, the mercury riſes inſtead of falling lower. (Phil. Tranſ. Abr. vol. iv. pt. 2. p. 77.) Mr. Kirwan made the ſame obſervation on the 28th of February 1785, in London.

The third hypotheſis is that of thoſe who aſcribe the variations of the barometer to the preſence or abſence of vapours in the atmoſphere; but Mr. Kirwan infers, from a view of the nature of vapours, and the change they produce in the weight and elaſticity of the atmoſphere, that this theory does not fully account for the phenomena. If we ſuppoſe, ſays he, the atmoſphere perfectly dry, the barometer at 30 inches, and the thermometer at 65, and then a column of it to be ſaturated with moiſture, its elaſticity being increaſed $\frac{1}{31}$, which, according to his computation, would be the caſe, it will contain $\frac{1}{31}$ of its volume leſs air than before ſaturation, ſince the increaſe of its elaſticity ariſes from the introduction of a new elaſtic fluid amounting to $\frac{1}{31}$ of its bulk: and ſince the weight of the whole volume was at firſt equal to that of 30 inches of mercury, its weight will now be leſſened by $\frac{1}{31}$ of 30 inches, that is nearly 0.59 of an inch. But on the other hand, it gained $\frac{1}{31}$ of its volume of vapour, and therefore its real loſs of weight will be the difference of the weight of $\frac{1}{31}$ of air, and $\frac{1}{31}$ of vapour; but the weight of air is to that of vapour as 12 to 10, therefore the gain here is 0.49 of an inch, which deducted from 0.59 the loſs, leaves the loſs $\frac{1}{10}$ of an inch. Accordingly, this is the variation which the barometer ſhould undergo by the paſſage of a column of air from abſolute dryneſs to complete ſaturation; a circumſtance which never takes place, as the atmoſphere is never abſolutely dry; and yet previouſly to heavy rains, we often obſerve the barometer to fall 3, 4, or 5 tenths of an inch; a fall which, from the above calculation, cannot originate from the ſaturation of the atmoſphere with vapour. Nor is there any proportion between the aſcent of mercury after heavy rains, and the weight of vapour condenſed; for in ſuch caſes, the mercury frequently riſes 3 or 4 tenths of an inch; and yet the heavieſt rain ſeldom produces one cubic inch of water, and the weight of a cubic inch of water is not equal to that of even one tenth of a cubic inch of mercury.

Mr. Kirwan, having examined the cauſes to which the variable weight of the atmoſphere and height of the barometer have been uſually referred, and controverted their ſufficiency, proceeds to explain that which alone ſeems to him adequate to the effects produced. This, in his opinion, is the accumulation of air over thoſe parts of the globe in which the mercury exceeds its mean height; that is, the height ſuited to its ſituation; and the diminution or ſubtraction of the natural quantity of air over thoſe regions in which the mercury falls beneath its mean height. In order to trace the origin of this accumulation and diminution, this ingenious author conſiders what may be called the natural ſtate of the atmoſphere, and how that ſtate may be diſturbed. The natural ſtate of the atmoſphere is that in which the barometer on the level of the ſea would ſtand at 30 inches in ſerene weather, conformably to the fifth obſervation above mentioned. For producing this ſtate, the weight of the atmoſphere muſt be every where equal at the ſurface of the ſea; and as its weight proceeds from its denſity and height, in order to obtain this equality of weight, it ſhould be loweſt where its denſity is greateſt, and higheſt where its denſity is leaſt; and theſe extremes of denſity take place in the equatorial and polar regions. Hence it follows, that if the height of the mercury be 30 inches under the equator and under the poles, the atmoſphere muſt be higheſt under the equator and loweſt under the poles, with ſeveral intermediate gradations. (See *Figure of the* ATMOSPHERE.) But though the equatorial air be leſs denſe to a certain height than the polar, yet at certain greater heights it muſt be more denſe; for the mercurial heights at the level of the ſea being equal, the maſſes of the correſponding atmoſpheric columns muſt be equal. The ſame obſervation applies to the extratropical columns with reſpect to each other, where great differences of heat prevail. Hence it follows, that in the higher regions of the atmoſphere, the denſer equatorial air, not being ſupported by the collateral extratropical columns, gradually flows to the north and ſouth. If the affluence of the northern and ſouthern air to the equator by the trade winds kept pace with the effluence of the ſuperior air, ſome degree of equilibrium might ſtill be maintained. But the trade winds move only at the rate of about 8 miles an hour; whereas without the tropics, or at leaſt beyond latitude 30°, the currents of the upper atmoſphere are incomparably more rapid. The mean heat of the whole ſpace between latitude 0° and latitude 30° being only ſeven degrees leſs than the mean heat under the equator, the difference of denſity is not ſo great as to cauſe any rapid collapſion of the ſuperior columns within that ſpace; but from latitude 30° to latitude 60°, a much ſmaller ſpace, the mean annual heat over the ocean differs from that of latitude 30° by nearly fourteen degrees; and, therefore, the rapidity of the upper current towards the polar regions is much greater, and will occaſion frequent interruptions, during which the weight of the air will be diminiſhed. Hence, notwithſtanding the high winds that frequently prevail between the tropics, the barometer inconſiderably and but ſeldom varies; whereas, without them, the variations are frequent and conſiderable, nearly in proportion to the diſtance from the equator: and thus

thus the ſecond obſervation is ſufficiently explained. During the ſummer of the northern hemiſphere, when it is winter in the ſouthern, the denſity of the equatorial air becomes ſuperior to that of the ſouthern air at a much lower height than that at which it becomes ſuperior to the northern, which is expanded by the preſence of the ſun in the northern tropic; the exuberance will therefore be poured on the ſouthern regions, and a ſmaller quantity will flow over the northern: conſequently the variations of the barometer are ſmaller with us in the ſummer ſeaſon. In winter, on the contrary, the ſuperior current is chiefly directed to the northern hemiſphere, and hence the greateſt mercurial heights are found in this ſeaſon: and thus the third obſervation is illuſtrated and confirmed. This accumulation takes place where the columns of the inferior air are coldeſt and ſhorteſt, as over that part of Aſia beyond latitude 35°, and eaſt of the Caſpian ſea to the Frozen ocean, and over the continent of North America; and hence the barometer uſually ſtands higher in North America, and varies leſs than with us even in Hudſon's bay, latitude 59°. Accumulations are alſo found in the ſouthern parts of the old continent; and when the rarefaction in the northern parts of Europe is frequent and conſiderable, the ſouthern air flows from theſe tracts to reſtore the equilibrium, and while this current laſts, the barometer muſt fall in the intermediate regions; ſo that the deſcent of the mercury is never the effect of a ſoutherly wind, but both it and this wind are the concomitant effects of a rarefaction in the northern parts. On the other hand, the mercury generally riſes under a northerly or eaſterly wind, becauſe the ſuperior atmoſphere is accumulated chiefly in thoſe parts of our hemiſphere from whence theſe winds iſſue, and this accumulated air paſſes with them to the ſouthern regions. In the ſame manner, when the mercury falls before a ſtorm, both the ſtorm and this fall proceed from a great rarefaction of the air in the quarter towards which the ſtorm blows, and this rarefaction is occaſioned by the diminution or deſtruction of the ſuperior atmoſphere. As the ſuperior accumulation is derived to us chiefly from North America, hence it is that the variations of the barometer generally begin to the weſtward with us in Europe, and are thence gradually propagated eaſtwards. In ſpring the current of ſuperior air begins to flow to the ſouth, and in autumn to return from it; hence the equinoctial ſtorms and frequent variations of the barometer in thoſe ſeaſons. The quantity of equatorial air devolved on our hemiſphere in different years is variable, and ſo is the quantity conſumed in the northern regions; and hence the mean barometrical height is different in different years. In ſome years, the accumulation reſting on the mountainous countries of the ſouth of Aſia and Europe, and the northern part of Africa, is greater than in other years; owing perhaps to a greater or earlier fall of ſnow: when this is the caſe, the northern air is lighter, and the ſouthern colder, than uſual, and ſouth winds principally prevail, which in the northern parts muſt ſeem to be comparatively warm; and hence, when the winter is remarkably ſevere in the ſouth of Europe and Aſia, it is often as remarkably mild in the northern parts, and the barometer low. Although clouds and a diſpoſition to rain frequently follow the deſcent of the mercury, this deſcent is not the immediate conſequence of either clouds or rain; on the contrary, the mercury frequently riſes during rain. But the rarefaction of the atmoſphere, which produces the deſcent of the mercury, and which ariſes from the removal of the ſuperior accumulation, is favourable to the production of clouds; as a heavy atmoſphere, though it ſupports vapours once formed, obſtructs evaporation: when therefore its weight is diminiſhed, and evaporation increaſed, it ſoon becomes ſaturated in the higher regions, and clouds are formed. But rain ſeems to ariſe from a ſubtraction of the electrical fluid, which, when the air abounds with vapours, is eaſily conducted to the earth. In ſerene and ſettled weather the mercury is generally high, becauſe the greateſt diſturbances of the atmoſphere are connected with its rarefied ſtate, which is commonly pretty diſtant when the ſuperior accumulation is conſiderable.

That the variations of the mercurial heights ſhould be greater at the level of the ſea than at great elevations above that level, is very natural. For ſuppoſing the mercury at the level of the ſea to ſtand at 30 inches, and at a certain elevation above that level at 25 inches, then if the weight of the atmoſphere be diminiſhed one hundredth part, the mercury at the level of the ſea ſhould fall one hundredth part of 30 inches = 0.3 of an inch, but that on the elevation ſhould fall one hundredth of 25 inches, = 0.25 of an inch. But it has been obſerved, that the variation on high mountains is beyond all proportion ſmaller than on the level of the ſea; and this proceeds from a property which they ſeem to poſſeſs of condenſing and accumulating the air incumbent upon them in a greater degree than the air incumbent over plains is condenſed at equal heights; and hence, when the barometer on the plains falls, and that on the mountain alſo, it will be found, after allowing for the difference of temperature, that the fall is proportionably greater in the inferior than in the ſuperior barometer; and, on the contrary, if the mercury aſcends in both barometers, the aſcent will be proportionably greater in the ſuperior than in the inferior. To this purpoſe General Roy found, on the 7th of Auguſt 1775, at 9 o'clock, the correct height of a barometer on Caernarvon quay 30.075, and on the peak of Snowdon 26.418 inches; at 12 o'clock, that on the quay fell to 30.043, and that on the peak to 26.405; the fall of the mercury on the plain was therefore $\frac{1}{1002}$ of the whole, and the fall on the mountain was only $\frac{1}{2032}$ of its original height. On the other hand, at 2 o'clock, the barometer on the quay roſe to 30,045, while that on the peak roſe to 26.415 inches correct height; therefore that on the quay aſcended only $\frac{1}{1502}$ of the whole, and that on the peak aſcended $\frac{1}{2640}$th part of its height. Yet as the deſcents of the mercury beneath its moſt uſual mean height are much more frequent and conſiderable than its aſcents above it, the variations on mountains are upon the whole proportionably ſmaller than at the ſurface of the ſea. For a more particular illuſtration of the theory of Mr. Kirwan, and the collateral obſervations which he deduces from it, we muſt refer to his paper, ubi ſupra. See ATMOSPHERE, and AURORA *borealis*. For other prognoſtics of the weather, beſides the variations of the barometer, ſee WEATHER.

Another important purpoſe to which the variations of the barometer have been applied, is the "meaſurement of altitudes." Whilſt M. Paſcal and M. Perrier were proſecuting experiments for aſcertaining the weight of the air by means of the barometer, as early as the year 1648, they found that the mercurial heights varied according to the ſituations, either more elevated or more depreſſed, in which the barometer was placed; and hence they concluded, that this inſtrument might ſerve to determine how much one place was higher than another. M. Paſcal was not unacquainted with the dilatability of the air, and he was therefore apprized of one of the difficulties that have attended experiments of this nature. The firſt perſon who eſtimated the height of the atmoſphere on theſe principles was Kepler; but having, from ill-conducted experiments, very erroneous ideas of the proportional ſpecific gravities of mercury and air, he ſtated it at only two or three Engliſh miles. The Honourable Mr. Boyle, deducing from experiments the proportion of the ſpecific gravity of mercury to that of air to be as 1 to 14000,

14000, and ſuppoſing the atmoſphere to be equally denſe, eſtimated its height to be twice as great as Kepler's meaſure, or at leaſt 35,000 feet. But when the elaſticity of the air was found to be in an inverſe ratio of the ſpace which it occupied, or that its condenſation was proportional to the weight that compreſſed it, and of courſe that its dilatations were in the inverſe proportion of the compreſſing weights, a property firſt diſcovered by Mr. Richard Towneley, and demonſtrated by Mr. Boyle, the height of the atmoſphere was more accurately aſcertained. Mr. Boyle's experiments to this purpoſe were publiſhed in 1661, in his "Defenſio Doctrinæ de Aëris Elatere contra Linum," and exhibited the preceding year before the Royal Society. The law of the dilatation of the air was diſcovered alſo by M. Mariotte; and he publiſhed an account of his experiments for aſcertaining it, in 1676, in his "Eſſai ſur la Nature de l'Air," and "Traité des Mouvemens des Eaux." This law was generally admitted by philoſophers, and it was confirmed by obſervation in all climates and at all altitudes. To this purpoſe, M. Bouguer (Mem. Acad. Roy. Sc. 1753.) gives us the reſult of the experiments made by himſelf and M. de la Condamine in America; and he ſays that he found, without any exception, that the elaſticities of the ſame maſs of air exactly correſponded to the ratio of the denſities. M. Mariotte applied this general law to the inveſtigation of the total height of the atmoſphere. With this view, he collected many obſervations of the barometer made at ſmall heights; and he was the firſt perſon who ſuggeſted the uſe of logarithms in eſtimating heights by the deſcent of the mercury in the barometer, though this method has been generally aſcribed to Dr. Halley; and Halley indeed firſt employed tables of logarithms in the calculation of atmoſpherical altitudes. See Phil. Tranſ. N° 181, or Abridg. vol. ii. p. 14. Dr. Halley, aſſuming the ſpecific gravity of the air to water, when the barometer ſtood at 30 inches, and in a mean ſtate of heat and cold, to be as 1 to 800, and that of mercury to water as 13½ to 1, (ſo that the weight of mercury to air is as 10800 to 1, or a cylinder of air of 10800 inches or 900 feet is equal to an inch of mercury,) inferred from theſe premiſes, that if the air were of equal denſity, like water, the whole atmoſphere would be no more than 5.1 miles high; and that for an aſcent of every 900 feet, the barometer would ſink an inch. But the expanſion of the air increaſing in the ſame proportion as the incumbent weight of the atmoſphere decreaſes, the upper parts of the air are much more rarefied than the lower, and each ſpace correſponding to an inch of quickſilver is gradually enlarged, and therefore the atmoſphere muſt be extended to a much greater height. As theſe expanſions of the air are reciprocally as the heights of the mercury, they may be repreſented for any given mercurial height by means of the hyperbola and its aſymptotes. Thus, in *Plate* XI. *Pneumatics*, *fig.* 98, the rectangles ABCE, AKGE, ALDE, &c. are always equal; and conſequently the ſides CB, KG, LD, &c. are reciprocally as the ſides AB, AK, AL, &c. (See HYPERBOLA.) If then AB, AK, AL, &c. be ſuppoſed equal to the heights of the mercury, or the correſponding preſſures of the atmoſphere, the lines CB, KG, LD, &c. anſwering to them, will be as the expanſions of the air under thoſe preſſures, or the bulks which the ſame quantity of air will occupy; and if theſe expanſions be taken infinitely numerous and infinitely ſmall, their reſpective ſums will give the ſpaces of air between the ſeveral heights of the barometer: i. e. the ſum of all the lines between CB and KG, or the area CBKG, will be proportional to the diſtance or interval intercepted between the levels of two places in the air, where the mercury would ſtand at the heights repreſented by the lines AB, AK; and, therefore, the ſpaces of the air anſwering to equal parts of mercury in the barometer are as the areas CBKG, GKLD, DLMF, &c.; but theſe areas are proportional to the logarithms of the numbers expreſſing the ratios of AK to AB, of AL to AK, of AM to AL, &c. Thus, by the common table of logarithms, the height of any place in the atmoſphere, having any aſſigned height of the mercury, may very eaſily be found; for the line CB in the hyperbola, the areas of which repreſent the tabular logarithms, being 0.0144765, we ſhall have the following proportion: as 0.0144765 is to the difference of the logarithms of 30 and of any leſſer number, ſo is the ſpace anſwering to an inch of mercury, if the air were equally preſſed with 30 inches of mercury, and every where alike, or 900 feet, to the height of the barometer in the air, where it will ſtand at that leſſer number of inches. By the converſe of this propoſition, the height of the mercury may be found correſponding to the given altitude of the place. It ſhould be obſerved, that the number 0.0144765 is the mean between 0.0147232, the difference of the logarithms of 30 and 29; and 0.0142404, the difference of the logarithms of 30 and 31. The firſt difference repreſents the mean denſity of the air between the heights of 30 and 29 inches indicated by the barometer; and the ſecond difference repreſents the mean denſity between 30 and 31; and the denſity of the air at 30 inches is the mean between theſe two denſities. This calculation of Dr. Halley is founded on the ſuppoſition of equal and uniform gravity; but ſir Iſaac Newton reſolved the problem more generally (Princ. Philoſ. Nat. Math. l. ii. § 5.), and extended it to the true ſtate of the caſe, where gravity is as the ſquare of the diſtance inverſely; and he ſhewed, that when the diſtances from the earth's centre are in harmonic progreſſion, the denſities are in geometric progreſſion. He alſo ſhews, in general, what progreſſion of the diſtances, on any ſuppoſition of gravity, will produce a geometrical progreſſion of the denſities ſo as to obtain a ſeries of lines which will be logarithms of the denſities. See alſo Cotes's "Hydroſtatical Lectures," and "Harmonia Menſurarum," and the article *Height of the* ATMOSPHERE, and *Atmoſpherical* LOGARITHMIC in this dictionary. By theſe rules Dr. Halley calculated the following tables:

Given Heights of the Mercury.	Altitudes.	Given Altitudes.	Heights of the Mercury.
Inches	Miles Feet	Feet.	Inches
30	0	0	30.00
29	915	1000	28.91
28	1862	2000	27.86
27	2844	3000	26.85
26	3863	4000	25.87
25	4922	5000	24.93
20	10947	Miles 1	24.67
15	18715	2	20.29
10	29662	3	16.68
5	48378	4	13.72
1	91831	5	11.28
0.5	110547	10	4.24
0.25	129262	15	1.60
0.1	29 or 154000	20	0.95
0.01	41 or 216169	25	0.23
0.001	53 or 278338	30	0.08
		40	0.012

Upon theſe ſuppoſitions it appears, that at the height of 41 miles, the air is ſo rarefied as to take up 3000 times the ſpace it occupies here; and at 53 miles high it would be expanded

expanded above 30,000 times: but it is probable, fays Dr. Halley, that the utmoft power of its fpring cannot exert itfelf to fo great an extenfion, and that no part of the atmofphere reaches above 45 miles from the furface of the earth. However, it follows from the principles above ftated, that the air has a finite denfity at an infinite diftance from the centre of the earth, or fuch as would be repreſented by an ordinate drawn through the centre. But at great diftances its rarity would be fo great, that its reſiſtance would be inſenſible, though the retardation occaſioned by it has been accumulated for ages. At the moderate diſtance of 500 miles, the rarity is fo great that a cubic inch of common air expanded to that degree would occupy a ſphere equal to the orbit of Saturn; and the whole retardation ſuſtained by this planet, after ſome millions of years, would not exceed what would be occaſioned by its meeting with one particle of matter weighing half a grain. Hence it may be reaſonably inferred, that the viſible univerſe is occupied by air, which, by its gravitation, will accumulate itſelf round every body in it, in a proportion depending on their reſpective quantities of matter; the larger bodies attracting more of it than the ſmall ones, and thus forming an atmoſphere about each.

Dr. Halley obſerves, that as the weight of the atmoſphere is different at different times, its lower parts will be unequally preſſed, and conſequently its ſpecific gravity will be alſo variable. This variation he partly aſcribes to the effect of heat and cold, and alſo to the influence of other cauſes; but he was of opinion, that the condenſation and rarefaction, occaſioned by cold and heat, and by the various mixtures of aqueous and other vapours, compenſate one another; for he ſays, that when the air is rarefied by heat, the vapours are moſt copiouſly raiſed; ſo that though the air, properly ſo called, be expanded and conſequently becomes lighter, yet its interſtices being crouded with vapours and other matter ſpecifically heavier, the weight of the compound may continue much the ſame. He alleges an experiment of Mr. Caſwell upon the ſummit of Snowdon hill to prove, that the firſt inches of mercury have their portions of air ſufficiently near to what he has determined; for the height of the hill being nearly 1240 yards, Caſwell found the mercury to have ſubſided to 25.6 inches, or 4 inches below the mean altitude of it at the level of the ſea, and by his own calculation the ſpace anſwering to 4 inches ſhould be 1288 yards.

M. De Luc has given an hiſtorical and critical detail, in his "Recherches," vol. i. p. 159, &c. of the attempts that have been made, and of the rules that have been propoſed, by Maraldi, Scheuchzer, I. Caſſini, D. Bernouilli, Horrebow, and Bouguer, as well as thoſe of Paſcal, Perrier, Mariotte, and Halley, for applying the motion of the mercury in the barometer to the meaſurement of altitudes. But the ſubject has been further purſued, and with a peculiar degree of accuracy, by De Luc himſelf, ſir Geo. Shuckburgh, and Gen. Roy, as we ſhall ſhew in the ſequel of this article.

From the experiments of Boyle, Mariotte, Amontons, and others, it was inferred that the elaſticity of the air is very nearly proportional to its denſity; and this principle, denominated the "Boylean law," was aſſumed by almoſt all writers on this ſubject. Theſe experiments, however, were not very nice; nor were they extended to any great degrees of compreſſion, as the denſity of the air was not quadrupled in any of them. By the later and more accurate experiments of Sulzer (Mem. Berlin. vol. ix.), Fontana (Opuſc. Phyſico-Math.), M. De Luc, ſir George Shuckburg, and Gen. Roy, it has been found that the elaſticity of the air does not increaſe quite ſo faſt as its denſity. From the Berlin experiments it appears, that the elaſticity of the air of the temperature 55°, or the compreſſing force, increaſes ſo much more ſlowly than the denſity, that if the compreſſing force be doubled, the denſity will exceed the double by about a tenth part, &c. The law of this variation is expreſſed with tolerable exactneſs, by ſuppoſing that if D be the denſity of the air, and F the force compreſſing it, then $D = F^{1-n}$, n being a very ſmall fraction, nearly .0015. But new experiments are wanting to aſcertain the law of this inequality with preciſion. Nevertheleſs, the general reſult has been, that the elaſticity of rarefied air is very nearly proportional to its denſity; and the Boylean law may in general be aſſumed in caſes of the greateſt practical importance, or when the denſity does not much exceed or fall ſhort of that of ordinary air. See ELASTICITY *of the Air*.

If we ſuppoſe the air to be of the temperature of 32° of Fahrenheit, and the mercury to ſtand in the barometer at 30 inches, we muſt allow $\frac{1}{10}$th of an inch for its deſcent if it be elevated 87 feet; and, accordingly, if the air were equally denſe and heavy every where, the height of the atmoſphere would be $30 \times 10 \times 87$ feet, or about 5 miles. But as the air is an elaſtic fluid, whoſe denſity is always proportional to the compreſſing force, the altitude of the atmoſphere will be much greater; and the method of eſtimating it by Dr. Halley and others, admits of a familiar illuſtration. Suppoſe then that a priſmatic or cylindric column of air, reaching to the top of the atmoſphere, were divided into an indefinite number of layers or ſtrata of very ſmall but equal thickneſs, and that every one of the particles of air that form theſe ſtrata were of the ſame weight at all diſtances from the ſurface of the earth; it is plain, that the quantity of air in each ſtratum is as the denſity of the ſtratum, or as the compreſſing force, that is, the weight or quantity of matter of the ſuperior and incumbent ſtrata; conſequently the quantity of air in each ſtratum is proportional to the ſuper-incumbent air; but the quantity in each ſtratum is the difference between the column on its bottom and on its top, and, therefore, theſe differences are proportional to the quantities of which they are the differences. But in a ſeries of quantities proportional to their differences, the quantities themſelves and their differences will be in continued geometrical progreſſion: e. g. let a, b, c be three ſuch quantities; then $b : c :: a - b : b - c$; and, by alternation, $b : a - b :: c : b - c$; and, by compoſition, $b : a :: c : b$, and $a : b :: b : c$. Hence it appears that the denſities of the ſtrata decreaſe in a geometrical progreſſion; that is, when the elevations above the centre or ſurface of the earth increaſe, or their depths under the top of the atmoſphere decreaſe, in an arithmetical progreſſion, the denſities decreaſe in a geometrical progreſſion. This principle may be applied to the purpoſe of meaſuring atmoſpherical altitudes in the manner of Dr. Halley above ſtated, or by means of that ſpecies of logarithmic curve, called from this application and uſe of it the "atmoſpherical logarithmic." (See *Logarithmic* CURVE, and *Atmoſpherical* LOGARITHMIC.) Let *ARQ* (*fig.* 99.) repreſent the ſection of the earth by a plane paſſing through its centre *O*, and let *m OAM* be a vertical line, and *AE*, perpendicular to *OA*, will be an horizontal line paſſing through *A*, a point on the ſurface of the earth. Let *AE* repreſent the denſity of the air at *A*; and let *DH*, parallel to *AE*, be taken in proportion to *AE*, as the denſity at *D* is to the denſity at *A*; and hence it is evident, that if a logiſtic or logarithmic curve *EHN* be drawn, having *AN* for its axis, and paſſing through the points *E* and *H*, the denſity of the air at any other point *C*, in this vertical line, will be repreſented by *CG*, the ordinate to the curve in that point; becauſe it is the property of this curve, that if portions *AD*, *AC*, *AD*, of its axis be taken in arithmetical

metical progreſſion, the ordinates *AE*, *BF*, *CG*, *DH*, will be in geometrical progreſſion. It is another fundamental property of this curve, that if *EK* or *HS* touch the curve in *E* or *H*, the ſubtangent *AK* or *DS* is a conſtant quantity. Moreover, the infinitely extended area *MAEN* is equal to the rectangle *KAEL* of the ordinate and ſubtangent; and the area *MDHN* is equal to *SD* × *DH*, or to *KA* × *DH*; and, therefore, the area lying beyond any ordinate is proportional to that ordinate. Theſe properties are analogous to the principal circumſtances in the conſtitution of the atmoſphere, on the ſuppoſition of equal gravity. The area *MCGN* repreſents the whole quantity of aerial matter above *C*, for *CG* is the denſity at *C*, and *CD* is the thickneſs of the ſtratum between *C* and *D*, and, therefore, *CGHD* will be as the quantity of air in it, and ſo of all the others, and of their ſums, or of the whole area *MCGN*; and as each ordinate is proportional to the area above it, ſo each denſity, and the quantity of air in each ſtratum, is proportional to the quantity of air above it; and as the whole area *MAEN* is equal to the rectangle *KAEL*, ſo the whole air of variable denſity above *A* might be contained in a column *KA*, if, inſtead of being compreſſed by its own weight, it were without weight, and compreſſed by an external force equal to the preſſure of the air at the ſurface of the earth; and, in this caſe, its uniform denſity would be expreſſed by *AE*, the meaſure of the denſity at the ſurface of the earth, and it would form what may be called the homogeneous atmoſphere. Hence it follows, that the height of this atmoſphere is the ſubtangent of that curve, whoſe ordinates are as the denſities of the air at different heights, on the ſuppoſition of equal gravity. In order to determine this ſubtangent, we may compare the denſities of mercury and air; for a column of air of uniform denſity, reaching to the top of the homogeneous atmoſphere, counterbalances the mercury in the barometer. From the beſt experiments it is inferred, that when mercury and air are of the temperature of 32° of Fahrenheit, and the barometer ſtands at 30 inches, the mercury is nearly 10440 times denſer than air; conſequently the height of the homogeneous atmoſphere is 10440 × 30 inches = 313200 inches = 26100 feet = 8700 yards = 5 miles wanting 100 yards. Or we may find this height by obſerving the variations of the barometer at known altitudes, thus; when the mercury and air are of the above temperature, and the barometer on the ſea-ſhore ſtands at 30 inches, an aſcent of 883 feet will cauſe it to fall to 29 inches. Moreover, in all logarithmic curves having equal ordinates, the portions of the axes intercepted between the correſponding pairs of ordinates, are proportional to the ſubtangents; and the ſubtangent of the curve belonging to our common tables is 0.4342945; and the difference of the logarithms of 30 and 29, which is the part of the axis intercepted between the ordinates 30 and 29, or 0.0147233 : 0.4342945 :: 883 : 26046 feet = 8682 yards = 5 miles wanting 120 yards, differing from the former reſult 20 yards. This difference reſults from the difficulty of accurately aſcertaining the reſpective denſities of mercury and air, and alſo of duly eſtimating the elevation which cauſes a fall of one inch in the barometer. This inveſtigation, however, proceeds upon the ſuppoſition of equal gravity; whereas it is well known, that the weight of a particle of air decreaſes as the ſquare of its diſtance from the centre of the earth increaſes. In order, therefore, that a ſuperior ſtratum may produce an equal preſſure at the ſurface of the earth, it muſt be denſer, becauſe a ſingle particle of it gravitates leſs; conſequently, the denſity at equal elevations muſt be greater than on the ſuppoſition of equal gravity, and the law of its diminution muſt be different.

Make $OD : OA :: OA : Od$;
$OC : OA :: OA : Oc$
$OB : OA :: OA : Ob$, &c: ſo that *Od*, *Oc*, *Ob*, *OA*, may be reciprocals to *OD*, *OC*, *OB*, *OA*; and through the points *A*, *b*, *c*, *d*, draw the perpendiculars *AE*, *bf*, *cg*, *dh*, proportional to the denſities in *A*, *B*, *C*, *D*; and let *CD* be ſuppoſed exceedingly ſmall, ſo that the denſity may be ſuppoſed uniform through the whole ſtratum. Then we ſhall have. $OD \times Od = OA^2 = OC \times Oc$; and $Oc : Od :: OD : OC$; and $Oc : Oc - Od :: OD : OD - OC$, or $Oc : cd :: OD : DC$, and $cd : CD :: Oc : OD$; or becauſe *OC* and *OD* are ultimately in the ratio of equality, we have $cd : CD :: Oc : OC :: OA^2 : OC^2$, and $cd = CD \times \frac{OA^2}{OC^2}$, and $cd \times cg = CD \times cg \times \frac{OA^2}{OC^2}$; but $CD \times cg \times \frac{OA^2}{OC^2}$ is as the preſſure at *C* ariſing from the abſolute weight of the ſtratum *CD*; for this weight is as the bulk, as the denſity, and as the gravitation of each particle jointly. But *CD* expreſſes the bulk, *cg* the denſity, and $\frac{OA^2}{OC^2}$ the gravitation of each particle. Conſequently $cd \times cg$ is as the preſſure on *C* ariſing from the weight of the ſtratum *DC*; but $cd \times cg$ is evidently the element of the curvilineal area *AmnE* formed by the curve *Efghn*, and the ordinates *AE*, *bf*, *cg*, *ah*, &c. *mn*. Therefore the ſum of all the elements ſuch as *cdhg*, that is the area *cmng* below *cg*, will be as the whole preſſure on *C*, ariſing from the gravitation of all the air above it; but by the nature of air, this whole preſſure is as the denſity which it produces, that is, as *cg*. Hence it appears that the curve *Egn* is ſuch, that the area lying below or beyond any ordinate *cg* is proportional to that ordinate; and this being the property of the logarithmic curve, *Egn* is a curve of this nature. Beſides, this curve is the ſame with *EGN*; for let *B* continually approach to *A*, and ultimately coincide with it. It is evident that the ultimate ratio of *BA* to *Ab*, and of *BF* to *bf*, is that of equality; and if *EFK*, *Efk*, be drawn, they will contain equal angles with the ordinate *AE*, and will cut off equal ſubtangents *AK*, *Ak*. The curves *EGN*, *Egn*, are, therefore, the ſame in oppoſite poſitions. Moreover, if *OA*, *Ob*, *Oc*, *Od*, &c. be taken in arithmetical progreſſion decreaſing, their reciprocals *OA*, *OB*, *OC*, *OD*, &c., will be in harmonical progreſſion increaſing (ſee PROGRESSION): but, from the nature of the logarithmic curve, when *OA*, *Ob*, *Oc*, *Od*, &c. are in arithmetical progreſſion, the ordinates *AE*, *bf*, *cg*, *dh*, &c. are in geometrical progreſſion. Conſequently, when *OA*, *OB*, *OC*, *OD*, &c. are in harmonical progreſſion, the denſities of the air at *A*, *B*, *C*, *D*, &c. are in geometrical progreſſion; and thus the denſities of the air at all elevations may be diſcovered. Thus, to find the denſity of the air at *K*, the top of the homogenous atmoſphere, make $OK : OA :: OA : OL$, and draw the ordinate *LT*; *LT* is the denſity at *K*.

The correction for the diminiſhed gravity of the air ſtated by profeſſor Playfair (Edinb. Tranſ. vol. i. p. 118.) is a third proportional to the ſemidiameter of the earth, and the height as computed by the ordinary rule; and for different mountains, this correction is in the duplicate ratio of their heights. Dr. Horſley finds (Phil. Tranſ. vol. lxiv.), that in a height of 4 Engliſh miles, the diminution of denſity or volume from the accelerative force of gravity would be only $\frac{1}{3000}$th part of the whole, or about 48 feet; and this affect, being in the duplicate ratio of the heights, becomes at one mile high only three feet. Below the ſurface of the earth, it is but half the quantity; gravity within the earth being ſimply as the diſtance from the centre.

As the heights of the mercury in the barometer in all acceſſible elevations indicate the denſities of the air at theſe elevations, the method of taking heights by this inſtrument may be illuſtrated in the following familiar manner.

It has already been obſerved, that if the mercury in the barometer ſtand at 30 inches, and the air and mercury be of the ſame temperature of 32° Fahrenheit, a column of air 87 feet thick has the ſame weight with a column of mercury $\frac{1}{10}$ of an inch thick: and therefore if in aſcending the mercury ſinks to 29.9 inches, the interval of aſcent is 87 feet. Suppoſe the mercury at a higher elevation to ſtand at 29.8 inches, and it be required to know the height to which the barometer has been carried. The ſtratum through which it has been raiſed, as the air is leſs compreſſed and rarer, muſt of courſe be thicker. The denſity of the firſt ſtratum may be called 300, eſtimating the denſity by the number of tenths of an inch of mercury which its elaſticity proportional to its denſity enables it to ſupport. In the ſame manner the denſity of the ſecond ſtratum muſt be 299. But when the weights are equal, the bulks are inverſely as the denſities; and when the baſes of the ſtrata are equal, the bulks are as the thickneſſes. In order therefore to obtain the thickneſs of the ſecond ſtratum, ſay 299 : 300 :: 87 : 87.29, which denotes the thickneſs of the ſecond ſtratum; and therefore the whole interval of the elevation of the barometer has been 174.29 feet. When the barometer at a higher elevation, ſhews the denſity to be 298, ſay 298 : 300 :: 87 : 87.584 the thickneſs of the third ſtratum, and 261.875 will be the whole aſcent. By this method may be computed the following table, in which the firſt column is the height of the mercury in the barometer, the ſecond column is the thickneſs of the ſtratum, or the elevation above the preceding ſtation, and the third column is the whole elevation above the firſt ſtation.

Bar.	Strat.	Elev.
30	00.000	00.000
29.9	87.000	87.000
29.8	87.291	174.291
29.7	87.584	261.875
29.6	87.879	349.754
29.5	88.176	437.930
29.4	88.475	526.405
29.3	88.776	615.181
29.2	89.079	704.260
29.1	89.384	793.644
29	89.691	883.335

In order to meaſure any elevation within the limits of this table, obſerve the barometer at the lower and at the upper ſtations, and write down the correſponding elevations; ſubtract the one from the other, and the remainder is the height required. E. G. Suppoſe that at the lower ſtation the mercurial height was 29.8, and that at the upper ſtation it was 29.1.

29.1 - - - - 793.644
29.8 - - - - 174.291

619.353 the elevation required.

Without the aid of the table, let m repreſent the medium of the mercurial heights, and d their difference in tenths of an inch; then ſay, as m is to 300, ſo is $87d$ to the height required h; or $h = \frac{300 \times 87d}{m} = \frac{26100d}{m}$. Thus in the preceding example, m is 29.45, and $d = .7$; and therefore, $h = \frac{.7 \times 26100}{29.45} = \frac{18270.0}{29.45} = 620.4$, differing only one foot from the former value. The whole error of the elevation 883 feet 4 inches, the extent of the table, eſtimated in either of theſe methods, is only $\frac{4}{5}$ths of an inch. It is needleſs however to recur to approximations, when the ſcientific and more accurate method firſt practiſed by Dr. Halley is equally eaſy. Upon the ſuppoſition of equal gravity, as we have already ſhewn, the denſities of the air are as the ordinates of a logarithmic curve whoſe axis is the line of elevations. It has been alſo ſhewn, that, in the true theory of gravity, if the diſtances from the centre of the earth increaſe in an harmonic progreſſion, the denſities will decreaſe in an arithmetical progreſſion; but if the greateſt elevation above the ſurface be but a few miles, this harmonic progreſſion will ſcarcely differ from an arithmetical one. Thus if Ab, Ac, Ad, are 1, 2, and 3 miles, the correſponding elevations AB, AC, AD, will be ſenſibly in arithmetical progreſſion alſo; for the earth's radius AC, is nearly 4000 miles. Hence it follows that $BC - AB$ is $\frac{1}{4000 \times 4001} = \frac{1}{16004000}$ of a mile, or $\frac{1}{2\frac{1}{3}\frac{5}{9}}$ of an inch, which is a quantity altogether inſignificant. We may therefore aſſume, that in all acceſſible places, the elevations increaſe in an arithmetical progreſſion, while the denſities decreaſe in a geometrical progreſſion. Conſequently the ordinates are proportional to the numbers which are taken to meaſure the denſities, and the portions of the axis are proportional to the logarithms of theſe numbers. Hence it follows, that we may take ſuch a ſcale for meaſuring the denſities, that the logarithms of the numbers of this ſcale ſhall be the portions of the axis, that is, of the vertical line in feet, yards, fathoms, or any other meaſure; and we may, on the other hand, chuſe ſuch a ſcale for meaſuring our elevations that the logarithms of our ſcale of denſities ſhall be parts of this ſcale of elevations; and either of theſe ſcales may be found ſcientifically. For it is a known property of the logarithmic curves, that when the ordinates are the ſame, the intercepted portions of the abſciſſæ are proportional to their ſubtangents. But the ſubtangent of the atmoſpherical logarithmic is known; it is the height of the homogeneous atmoſphere in any meaſure we pleaſe, e. g. fathoms; and we find this height by comparing the gravities of air and mercury, when both are of ſome determined denſity. Thus in the temperature of 32° of Fahrenheit, when the barometer ſtands at 30 inches, it is known, as the reſult of many experiments, that mercury is 10423.068 times heavier than air; therefore the height of the counter-balancing column of homogeneous air will be 10423.068 times 30 inches, that is, 4342.945 Engliſh fathoms. It is alſo known that the ſubtangent of our common logarithmic tables, where 1 is the logarithm of the number 10, is 0.4342945. Conſequently the number 0.4342945 is to the difference D of the logarithms of any two barometric heights as 4342.945 fathoms are to the fathoms F contained in the portion of the axis of the atmoſpherical logarithmic, which is intercepted between the ordinates equal to theſe barometrical heights; or that 0.4342945 : D :: 4342.945 : F, and 0.4342945 : 4342.945 :: D : F; but 0.4342945 is the ten thouſandth part of 4342.945, and therefore D is the ten thouſandth part of F.

Thus it accidentally happens, that the logarithms of the

 denſities,

denſities, meaſured by the inches of mercury which their elaſticity ſupports in the barometer, are juſt the ten thouſandth parts of the fathoms contained in the correſponding portions of the axis of the atmoſpherical logarithmic. Therefore if we multiply our common logarithms by 10000, they will expreſs the fathoms of the axis of the atmoſpherical logarithmic. Our logarithms contain the index or characteriſtic, which is an integer, and a number of decimal places. Let us then remove the integer place four figures to the right hand; thus, the logarithm of 60 is 1.7781513; multiply this by 10000, and we obtain 17781$_{1513}$.

This reaſoning may be eaſily applied to practice, thus; obſerve the heights of the mercury in the barometer and at the upper and lower ſtations in inches and decimals; take the logarithms of theſe, and ſubtract the one from the other; and the difference between them, accounting the four firſt decimal figures as integers in the manner now propoſed, is the difference of elevation in fathoms.

E. G.

Mercurial height at the lower ſtation 29.8 -	1.4742163
At the upper ſtation 29.1 -	1.4638930
Difference of logarithms × 10000 - -	0010323.233

or 1023 fathoms and $\frac{233}{1000}$ of a fathom, which is 619.192 feet or 619 feet 4$\frac{1}{4}$ inches, differing from the approximated value before found about $\frac{1}{2}$ an inch. We have thus availed ourſelves of the familiar and very intelligible illuſtration of the method of meaſuring heights by means of the barometer propoſed and reduced to practice by Dr. Halley, given by an ingenious anonymous writer in the "Encyclopædia Britannica" art. "Pneumatics." By this method it was found that when the temperature of air and mercury was 32° of Fahrenheit, the difference of the logarithms of the mercurial heights was preciſely equal to the number of fathoms of elevation; and it was verified upon the whole in practice, by geometrical ſurveys and meaſurements.

The utility of it, however, was of very limited extent; and it was ſeldom adopted, till M. De Luc firſt and after him ſir George Shuckburgh and general Roy, introduced in conſequence of numerous obſervations and well-conducted experiments ſuch improvements and corrections as were found to be neceſſary for expediting the practice of it and rendering the reſult of it accurate.

M. De Luc's apparatus of portable barometers, and their annexed thermometers, with which he made his obſervations, hath been already deſcribed. In the conſtruction of his barometers he guarded as much as poſſible againſt the imperfections and faults to which thoſe of the common ſort are ſubject. The error ariſing from the repulſion of the mercury by the glaſs tubes he remedied by ſubſtituting a ſiphon barometer inſtead of the ſimple upright tube, ſo that the repulſion of the two legs of the ſiphon might counteract itſelf. Another error reſulting from air and moiſture in the barometrical tube he obviated by boiling the mercury in the tube, and by other precautions. And he alſo ſhews how to correct miſtakes in the eſtimation of heights that are owing to variations of the denſity of the mercury, and alſo of the air, occaſioned by heat and cold, by means of allowances depending on two thermometers, one attached to the frame of the barometer itſelf and the other expoſed to the open air for ſhewing its degree of heat; and theſe thermometers are to be noted both at the top and bottom of the hill. From the uſe of this apparatus in a great variety of obſervations he deduced a rule for calculating the heights of places, which he verified by numerous experiments. Dr. Maſkelyne and biſhop Horſley have reduced his rule from the French to the Engliſh meaſure, and adapted it to the thermometers of Fahrenheit's ſcale. M. De Luc (ſee Recherches, &c. vol. i. p. 362—364) in the winter ſeaſon, heated the air of his room to as great a degree as poſſible, and obſerved the riſe of the barometer occaſioned by the diminution of its denſity or ſpecific gravity by heat; and he alſo noted the height of the thermometer, both before and after the room was heated. Hence he deduced a rule that when the barometer is at 27 French inches, which was the caſe in this experiment, an increaſe of heat from freezing to that of boiling water will raiſe the barometer 6 lines, or $\frac{1}{54}$th part of the whole. But when the barometer is higher than 27 inches, this variation muſt increaſe in the ſame proportion; or it will be always $\frac{1}{54}$th of the height of the barometer. Conſequently if the height be called B, the riſe of the barometer correſponding to an increaſe of heat from freezing to boiling water, will be $\frac{B}{54}$; and as it will be leſs for a leſs difference of heat, if the number of degrees marked on the thermometer between freezing and boiling water be called K, and the riſe of the thermometer from any given point be called H, the correſponding riſe of the barometer will be $\frac{B}{54} \times \frac{H}{K}$, by the increaſe of heat from the given point by the number of degrees H. With a decreaſe of heat, H would ſignify the degrees of decreaſe, and the barometer would ſink by $\frac{B}{54} \times \frac{H}{K}$. The fixed temperature of heat to which M. De Luc reduced his obſervations of the barometer is $\frac{1}{8}$th of the interval from freezing to boiling water above the former point; and if the thermometer was higher than this degree, he ſubtracted $\frac{B}{54} \times \frac{H}{K}$; if it was lower, he added this quantity to the obſerved height of the barometer; and he thus obtained its exact height, or ſuch as it would have been, if the denſity of its quickſilver had been the ſame as anſwers to the fixed degree of temperature. He thus corrected the height of both his barometers, that at the bottom and that at the top of the hill, for the particular degree of heat, indicated by a thermometer attached to the barometer at each ſtation. Theſe corrected heights of the barometers were thoſe which he uſed in his calculations. Then, calling theſe two altitudes of the barometer at the lower and at the upper ſtations, B and b, and uſing log. B, and log. b for their logarithms, taken out of the common tables, and aſſuming the four firſt places of figures after the index as integers, and the three remaining figures as decimals, and putting C for the mean height of a thermometer, expoſed to the air at the top and bottom of the hill, the freezing point being 0, and the point of boiling water at 80, he found by his experiments that the height of the hill would be given in French toiſes, when C was 16$\frac{3}{4}$, by merely taking the difference of the logarithms of the heights of the barometer, or log. B − log. b; and in any other degree of heat, would be greater or leſs in proportion as the rarity of the air was greater or leſs than in the fixed temperature; or greater or leſs, by $\frac{1}{215}$th part of the whole, for every degree of the thermometer reckoned from the fixed temperature 16$\frac{3}{4}$: and conſequently the height of the place would be expreſſed generally in French toiſes by this formula, viz. $\overline{\log. B - \log. b + \log. B - \log. b} \times \frac{C - 16\frac{3}{4}}{215} = \log. B - \log. b \times 1 + \frac{C - 16\frac{3}{4}}{215}$. The reduction of this formula to Engliſh meaſure and to the ſcale of

of Fahrenheit's thermometer is performed by the aſtronom royal (Phil. Tranſ. vol. lxiv. p. 162), in the following manner. The French foot is to the Engliſh foot as 1.06575 to 1 (Phil. Tranſ. vol. lviii. p. 326); and the Fahrenheit's point of freezing is 32, and that of boiling water 212, having an interval of 180 degrees. But M. De Luc's point of boiling water or 80 was marked when the barometer was at 27 French inches, that being its mean height at Geneva; but our Engliſh workmen mark the ſame point on Fahrenheit's ſcale, when the barometer ſtands at 30 inches, which is equal to 28 inches 1.8 lines French meaſure, or 13.8 lines higher than M. De Luc's barometer, when he adjuſted the point of boiling water on his thermometer; and it is well known, that the heat of boiling water varies with the weight of the atmoſphere. M. De Luc from his experiments inferred, that an increaſe of one line in the height of the barometer raiſes the mercury of the thermometer, placed in boiling water, $\frac{1}{1134}$th part of the interval between the freezing point and that of boiling water, though the rule will not apply to large variations of the barometer occaſioned by very great heights above the earth's ſurface. The change of the boiling point in Fahrenheit's ſcale correſponding to a change of one line in the barometer, will be $\frac{180}{1134}$ $=0.16$; and therefore 13.8 lines will produce $0.16\times 13.8=2.2$ degrees of Fahrenheit's ſcale; and a thermometer, whoſe point of boiling water was marked 212, when the barometer ſtood at 30 Engliſh inches $=$ 28 inches 1.8 lines French meaſure, will, when the barometer deſcends to 27 French inches, ſink 2.2 degrees in boiling water, or to 209.8 or in round numbers to 210 degrees, which is diſtant only 178 from 32 the point of freezing. Hence it appears that an extent of 80° of M. De Luc's thermometer correſponds to an extent of 178 of our Fahrenheit's thermometer; and putting F for the degrees of this thermometer, correſponding to C of M. De Luc's, we ſhall have $C : F-32 :: 80 : 178$, and $C=\frac{F-32\times\frac{80}{178}}{}$, which, ſubſtituted in M. De Luc's formula, gives $\log. B-\log. b\times 1+\frac{C-16\frac{3}{4}}{215}=\log. B-\log. b\times 1+\frac{F-32\times\frac{80}{178}-16\frac{3}{4}}{215}=\log. B-\log. b\times 1+\frac{\frac{80}{178}F-32-\frac{178}{10}16.75}{215}=\log. B-\log. b\times 1+\frac{F-32-37.27}{478.38}=\log. B-\log. b\times 1+\frac{F-69.27}{478.38}$ in French toiſes. To reduce theſe to our Engliſh fathoms of 6 feet each, multiply the above expreſſion by 1.06575, and we ſhall have

$\text{Log. } B-\log. b\times 1+\frac{F-69.27}{478.38}\times 1.06575=$

$\text{Log. } B-\log. b\times 409.11+F\times\frac{1.06575}{478.38}=$

$\text{Log. } B-\log. b\times\frac{409.11+F}{448.87}$ or, in round numbers,

$=\log. B-\log. b\times\frac{409+F}{449}=\log. B-\log. b\times 1+\frac{F-40}{449}$, which expreſſes the height between the two ſtations in Engliſh fathoms.

In theſe expreſſions B and b denote heights of the barometer, at the lower and higher ſtations, corrected for the difference of heat between a fixed temperature, viz. $\frac{1}{32}$th of the interval between freezing and boiling water, and the preſent heat, indicated by the thermometer attached to the barometer at each ſtation: but it will be ſufficient, and more convenient, to correct one barometer for the difference of the heat of the two. Suppoſe then the upper barometer is to be corrected, to reduce it to the temperature of the lower one, and that b ſignifies the height of this barometer, as obſerved and not corrected; the correction, from what has been already ſaid, if we call D the difference of height of the thermometer attached to the barometer at the two ſtations, e. g. at the top and bottom of the hill, will be $\pm\frac{D\,b}{54K}$, as the thermometer ſtands higheſt at the lower or upper ſtation; and the upper barometer corrected, inſtead of b, will be $b\pm\frac{D\,b}{54K}$, which ſubſtituted in the formula, gives $\log. B-\log.\left(b\pm\frac{D\,b}{54K}\right)\times 1^{+\frac{F-40}{449}}$. But the correction, on account of the difference of heat of the barometer at the two ſtations, may be reduced to a more eaſy expreſſion, in which the variable quantity b, the height of the upper barometer, ſhall not appear. The fluxion of a logarithm is to the fluxion of its natural number as the modulus of the ſyſtem to the natural number; and 4343 is the modulus of the common logarithms, when the four places, next the index or characteriſtic, are taken as whole numbers, inſtead of decimals, which is meant to be done in the uſe of the preceding formula. Conſequently $\frac{D\,b}{54K}$ being very ſmall with reſpect to b, we ſhall have variation of $\log. b$: variation of $b=\left(\frac{D\,b}{54K}\right)::4343 : b$ very nearly, and hence variation of $\log. b=\pm\frac{D\,b}{54K}\times\frac{4343}{b}=\pm\frac{4343\,D}{54K}=$ (putting $K=178$) ± 0.452 D. Hence $\log.\left(b\pm\frac{D\,b}{54K}\right)=\log. b\pm 0.452$ D; which, being ſubſtituted in the above formula, will give the difference of height of the two ſtations, in Engliſh fathoms, in a more convenient expreſſion, viz. $\log. B-\log. b\mp 0.452$ D $\times 1+\frac{F-40}{449}$; where the upper ſign, —, is to be uſed, when the thermometer of the barometer is higheſt at the lower ſtation, and the lower ſign, +, is to be uſed, when the ſaid thermometer is loweſt at the lower ſtation. When F, the height of Fahrenheit's thermometer, is leſs than 40°, $+\frac{F-40}{449}$, becoming negative or ſubtractive, muſt be accordingly applied in the calculation. In the foregoing formula, B denotes the obſerved altitude of the barometer at the lower ſtation, and b that at the upper ſtation; log. B and log. b denote their logarithms taken out of the common tables, by aſſuming the four firſt figures, next following the index, as whole numbers, and conſidering the three remaining figures to the right hand, as decimals; D ſignifies the difference of height of Fahrenheit's thermometer, attached to the barometer at the top and bottom of the hill; and F ſignifies the mean of the two heights of Fahrenheit's thermometer, expoſed freely for a few minutes to the open air in the ſhade, at the top and bottom of the hill.

The formula, for the meaſure of heights, may be adapted

to thermometers of particular ſcales, for the convenience of calculation; but the ſcales will be different from thoſe of M. De Luc. The thermometer, attached to the barometer, will beſt be divided with the interval between freezing and boiling water, conſiſting of 81.4 degrees (=180×.452); the freezing point may be marked 0, and the point of boiling water will be 81.4; for then, if the difference of height of this thermometer, at the two ſtations, be called d, we ſhall have $d = .452 \times D$, for $d : D :: 81.4 : 180 :: .452 : 1$, and the number of degrees expreſſed by d will ſhew immediately the correction for the difference of heat of the two barometers. If the thermometer, deſigned to ſhew the temperature of the air, be divided with the interval between freezing and boiling water = 200, and the freezing point be marked — 9, and the boiling point + 191, and the heights of this thermometer, at the two ſtations, be called G and I, we ſhall have $\frac{F-40}{449} = \frac{G+I}{2\times 500} = \frac{G+I}{1000}$. For $F-40 = F-32-8$ is the height of Fahrenheit's thermometer, reckoned from 8 degrees above freezing, and $449 : 500 :: 180 : 200 :: 8 : 9$, and the fraction $\frac{F-32-8}{449}$ increaſing both the numerator and denominator in the ratio of 449 to 500, will become $= \frac{\overline{F-32-8}\times\frac{500}{449}}{500} = \frac{\overline{F-32}\frac{500}{449}-9}{500} = \frac{G+I}{2\times 500} = \frac{G+I}{1000}$, becauſe $\frac{G+I}{2}+9 = \overline{F-32}\times\frac{500}{449}$. Hence, if the thermometer of the barometer has the freezing point marked 0, and the point of boiling water 81.4, and the difference of its height, at the two ſtations, be called d; and the thermometer for meaſuring the temperature of the air be divided with the interval of 200 between the freezing point and that of boiling water, and the firſt be marked — 9, and the latter + 191, and the degrees, ſhewn by this, at the the two ſtations, be called G and I; the formula, that will give the height of the upper ſtation above the lower one, in Engliſh fathoms, will be $\overline{\log. B - \log. b \mp d} \times 1 + \frac{G+I}{1000}$, which multiplied by 6, will give the height in Engliſh feet. It is to be obſerved, that + d, or — d, is to be uſed, as the thermometer, attached to the barometer, is higheſt at the lower or upper ſtation; and if G and I ſhould happen to fall below 0 of the ſcale, or to be ſubtractive, they muſt be applied accordingly in the calculation.

The rules, expreſſed in the above formula, will be in common language as follow:

I. The rule adapted to Fahrenheit's thermometer is this. Take the difference of the tabular logarithms of the obſerved heights of the barometer at the two ſtations, conſidering the four firſt figures, excluſively of the index, as whole numbers, and the three remaining figures to the right as decimals, and ſubtract or add $\frac{452}{1000}$th part of the difference of the altitude of the Fahrenheit's thermometer, attached to the barometer at the two ſtations, according as it was higheſt at the lower or upper ſtation: thus you will have the height of the upper ſtation above the lower in Engliſh fathoms nearly. This is to be corrected in the following manner: ſay, as 449 is to the difference of the mean altitude of Fahrenheit's thermometer, expoſed to the air at the two ſtations, from 40°, ſo is the height of the upper ſtation found nearly to the correction of the ſame: which, added or ſubtracted, according as the mean altitude of Fahrenheit's thermometer was higher or lower than 40°, will give the true height of the upper ſtation above the lower, in Engliſh fathoms, and multiplied by 6 in Engliſh feet.

II. The rule adapted to two thermometers of particular ſcales is as follows. Take the difference of the tabular logarithms of the obſerved heights of the barometer, at the two ſtations, conſidering the four firſt figures, excluſively of the index, as whole numbers, and the three remaining figures to the right as decimals; and ſubtract or add the difference of the thermometer, of a particular ſcale, attached to the barometer, at the two ſtations, according as it was higheſt at the lower or upper ſtation, and you will have the height of the upper ſtation above the lower one, in Engliſh fathoms nearly; ſubject to the following correction: ſay, as 1000 is to the ſum of the altitudes of the thermometer of a particular ſcale, expoſed to the air at both ſtations, ſo is the height of the upper ſtation above the lower, found nearly, to the correction of the ſame; which, added or ſubtracted, according as the ſum of the altitudes of the thermometers, expoſed to the air, is poſitive or negative, will give the true height of the upper ſtation above the lower in Engliſh fathoms, and multiplied by 6, in Engliſh feet. Dr. Horſley, the preſent biſhop of St. Aſaph, has given a compariſon of M. De Luc's rules with theory, reduced them to Engliſh meaſures of length, and adapted them to Fahrenheit's ſcale of the thermometer, and added tables and precepts for expediting the practical application of them in the Phil. Tranſ. vol. lxiv. p. 214. See *Atmoſpherical* LOGARITHMIC, and *Fixed Points* of THERMOMETERS.

The ſcene of M. De Luc's firſt obſervations was mount Saleve, near Geneva. Here he ſelected 15 ſtations at different elevations; and the following table abſtracted and abridged from his minute details (Recherches, &c. vol. ii. p. 213, &c.) ſhews the reſult of his operations:

Stations.	Heights by Level. feet.	inches.	Number of Obſervations.	Mean heights by the barometer. feet.
1	216	2	12	230 3/4
2	428	10	13	435 5/12
3	586		13	591 11/12
4	728	8	21	732 1/2
5	917		24	919 12/24
6	1218	8	27	1221 7/27
7	1420		23	1418 5/23
8	1800	6	17	1798 7/17
9	1965	3	17	1962 3/17
10	2211		17	2210 3/17
11	2333		17	2331 5/17
12	2582	4	16	2583 13/16

The laſt and moſt accurate experiments and obſervations relating to this ſubject, are thoſe of ſir George Shuckburgh, and general Roy. In order to render the method of meaſuring altitudes by the barometer more perfect, it is neceſſary to aſcertain by appropriate experiments the expanſion of mercury by any increaſe of temperature, and alſo the expanſion of air by the ſame, or by any change of temperature; and alſo the variations to which its elaſticity is ſubject.

It has been already ſtated, that M. De Luc eſtimates the expanſion of quickſilver, between the temperatures of melting ice and boiling water, to be exactly 6 French lines, or .532875 decimal parts of an Engliſh inch. But he ſuppoſed the barometer to ſtand at 27 Fr. inches, or 28.77525 Eng. inches; whereas, if it had ſtood at 30 inches, it would have been

been .555556, becauſe the expanſion is proportional to the length of the column. It has alſo been ſhewn, that M. De Luc's boiling point is 2.2° lower than that of Engliſh thermometers, reducing it to 209.8 of Fahrenheit and making the interval between freezing and boiling only 177.8 degrees. Hence the expanſion .555556 muſt be augmented in the proportion of 177.8 to 180, which gives for the total .5624297 or .56243, on a difference of temperature of 180°. Thus the expanſion for each degree, ſuppoſing it to be arithmetical, or uniformly the ſame in all parts of the ſcale, will be .00312461. But from information communicated by M. De Luc to general Roy, it appears that the difference of temperature in his experiments amounted to about 31° of Reaumur, or 72° of Fahrenheit, above freezing; and therefore, .00312461 × 72 = .225 nearly will denote the rate of expanſion, from which he deduced that for 180°.

The experiments of general Roy for aſcertaining the expanſion of mercury are minutely detailed in the Phil. Tranſ. vol. lxvii. p. 659—682. He expoſed 30 inches of mercury, ſuſtained in a barometer by the atmoſphere, in a nice apparatus, by which it could be made of one uniform temperature, through its whole length; and he noted the expanſions of it in decimals of an inch. The reſult appears in the following table; of which the firſt column expreſſes the temperature by Fahrenheit's thermometer, the ſecond column expreſſes the bulk of the mercury in conſequence of its expanſion, and the third column ſhews the expanſion of one inch of mercury for an increaſe of one degree in the adjoining temperatures.

Table I.

Temp.	Bulk of 1	Expan. for 1°
212	30.5117	0.0000763
202	30.4888	0.0000787
192	30.4652	0.0000810
182	30.4[illegible]	0.0000833
172	30.4159	0.0000857
162	30.3902	0.0000880
152	30.3[illegible]	0.0000903
142	30.3[illegible]	0.0000923
132	30.3090	0.0000943
122	30.2807	0.0000963
112	30.2518	0.0000983
102	30,2223	0.0001003
92	30.1922	0.0001023
82	30.1615	0.0001043
72	30.1302	0.0001063
62	30.0984	0.0001077
52	30.0661	0.0001093
42	30.0333	0.0001110
32	30.0000	0.0001127
22	29.9662	0.0001143
12	29.9319	0.0001160
2	29.8971	0.0001177
0	29.8901	

By this table the obſerved height of the mercury may be reduced to what it would have been if it were of the temperature 32. Suppoſe that the mercurial height is obſerved to be 29.2, and that the temperature of the mercury is 72°; ſay 30.1302 : 30 :: 29.2 : 29.0738, which would be the true meaſure of the denſity of the air of the ſtandard temperature. In order to obtain the exact temperature of the mercury, the obſervation ſhould be made by a thermometer attached to the frame of the barometer, that it may warm and cool along with it. This, however, may be done, with ſufficient accuracy, without a table; as the expanſion of an inch of mercury for one degree decreaſes very nearly $\frac{1}{360}$th part in each ſucceeding degree. If therefore we take from the expanſion at 32° its thouſandth part for each degree of any range above it, we obtain a mean rate of expanſion for that range. When the obſerved temperature of the mercury is below 32°, this correction muſt be *added*, in order to obtain the mean expanſion. This rule will be more exact if we ſuppoſe the expanſion at 32° to be 0.0001127, as in the table. Then, by multiplying the mercurial height by this expanſion, we obtain the correction to be *ſubtracted* or *added* as the temperature of the mercury was above or below 32°. Thus, in the former example of 72°, take 40, the exceſs of 72° above 32°, from 0.0001127, and we have 0.0001087. Multiply this by 40, and we have the whole expanſion of one inch of mercury = 0.004348. Multiply the inches of mercurial height, viz. 29.2 by this expanſion, and we have for the correction 0.12696; which, ſubtracted from the obſerved height, leaves 29.07304, differing from the exact quantity leſs than the thouſandth part of an inch. This correction may be made by another proceſs, ſtill more ſimple; or by multiplying the obſerved height of the mercury by the difference of its temperature from 32°, and cutting off four cyphers before the decimals of the mercurial height: and this method will ſeldom err one hundredth of an inch. Having thus corrected the obſerved mercurial heights by reducing them to what they would have been if the mercury had been of the ſtandard temperature, the logarithms of the corrected heights are taken; and their difference, multiplied by 10000, will give the difference of elevations, in Engliſh fathoms. Another method of applying this correction, more expeditious and not leſs accurate, is as follows. As the difference of the logarithms of the mercurial heights is the meaſure of the ratio of thoſe heights, ſo likewiſe the difference of the logarithms of the obſerved and corrected heights at any ſtation is the meaſure of the ratio of thoſe heights; and, therefore, this laſt difference of the logarithms is the meaſure of the correction of this ratio. But the obſerved height is to the corrected height as 1 to 1.000102; and the logarithm of this ratio, or the difference of the logarithms of 1 and 1.000102, is 0.0000444. This is the correction for each degree by which the temperature of the mercury differs from 32. Therefore multiply 0.0000444 by the difference of the mercurial temperatures from 32, and the products will be the corrections of the reſpective logarithms. The following method of applying the logarithmic correction is more eaſy than the former. The correction will only be neceſſary, when the temperatures at the two ſtations are different, and it will be proportional to this difference. Therefore, if the difference of the mercurial temperatures be multiplied by 0.0000444, the product will be the correction required on the difference of the logarithms of the mercurial heights. Moreover, ſince the differences of the logarithms of the mercurial heights are alſo the differences of elevation in Engliſh fathoms, it follows, that the correction is alſo a difference of elevation in Engliſh fathoms; or that the correction for one degree of difference of mercurial temperature is $\frac{444}{10000}$ of a fathom =32 inches = 2 feet 8 inches. This correction of 2.8 for every degree of difference of temperature muſt be ſubtracted

tracted from the elevation found by the general rule, when the mercury at the upper ſtation is colder than that at the lower. For in this caſe the mercurial column at the upper ſtation will appear too ſhort, and the preſſure of the atmoſphere too ſmall; ſo that the elevation in the atmoſphere will appear greater than it really is. Conſequently the rule for this correction will be to multiply 0.0000444 by the degrees of difference between the mercurial temperatures at the two ſtations, and to add or ſubtract the product from the elevation found by the general rule, according as the mercury at the upper ſtation is hotter or colder than that at the lower. If the expanſion be conſidered as variable, the logarithmic difference correſponding to this expanſion for the mean temperature of the two barometers may be taken. Theſe logarithmic differences are contained in the following table, carried as far as 112, beyond which it is not probable that any obſervations will be made. The number for each temperature is the difference between the logarithms of 30 inches, of the temperature 32, and of 30 inches expanded by that temperature.

Table II.

Temp.	Log. diff.	Dec. of Fath.	Ft. In.
112°	0.0000427	.427	2.7
102	0.0000436	.436	2.7
92	0.0000444	.444	2.8
82	0.0000453	.453	2.9
72	0.0000460	.460	2.9
62	0.0000468	.468	2.10
52	0.0000475	.475	2.10
42	0.0000482	.482	2.11
32	0.0000489	.489	2.11
22	0.0000497	.497	3.0
12	0.0000504	.504	3.0
0			

Sir George Shuckburgh has given the following table for the expanſion of mercury by heat.

Table III.

Degr. of the Therm.	Height of the barometer in inches.												
	20	21	22	23	24	25	26	27	28	29	30	31	32
1	2.0	2.1	2 2	2.3	2.4	2.5	2.6	2.7	2.8	2.9	3.0	3.1	3.2
2	4.1	4.3	4.5	4.7	4.9	5.1	5.3	5.5	5.7	5.9	6.1	6.3	6.5
3	6.1	6.4	6.7	7.0	7.3	7.6	7.9	8.2	8.5	8.8	9.1	9.4	9.7
4	8.1	8.5	8.9	9.3	9.7	10.1	10.5	11.0	11.4	11.8	12.2	12.6	13.0
5	10.1	10.6	11.1	11.6	12.1	12.7	13.2	13.7	14.2	14.7	15.2	15.7	16.2
6	12.2	12.8	13.4	14.0	14.6	15.2	15.8	16.4	17.0	17.6	18.2	18 8	19.5
7	14.2	14.9	15.6	16.3	17.0	17.7	18.4	19.2	19.8	20.6	21.3	22.0	22.7
8	16.2	17.0	17.8	18.6	19.4	20.2	21.0	21.9	22.7	23.5	24.3	25.2	25.9
9	18.2	19.2	20.1	21.0	21.9	22.8	23.7	24.6	25.6	26.5	27.4	28 3	29.2
10	20.3	21.3	22.3	23.3	24.3	25.3	26.3	27.4	28.4	29.4	30.4	31.4	32.4
11	22.3	23.4	24.5	25.6	26.7	27.8	28.9	30.1	31.2	32.3	33.4	34.5	35.6
12	24.3	25.6	26.8	28.0	29.2	30.4	31.6	32.9	34.1	35.3	36.5	37.6	38.9
13	26.3	27.7	29.0	30.3	31.6	32.9	34.2	35.6	36.9	38.2	39.5	40.8	42.1
14	28.4	29.8	31.2	32.6	34.0	35.4	36.8	38.4	39.8	41.2	42.6	43.9	45 4
15	30.4	31.9	33.4	34.9	36.4	37.9	39.4	41.1	42.6	44.1	45.6	47.1	48.6
16	32.4	34.1	35.6	37.2	38.8	40.5	42.0	43.8	45.4	47.0	48.6	50.3	51.8
17	34.5	36.2	37.9	39.6	41.3	43.0	44.7	46.6	48.3	50.0	51.7	53.4	55.1
18	36.5	38.3	40.1	41.9	43.7	45.5	47.3	49.3	51.1	52.9	54.7	56.5	58.3
19	38.5	40.5	42.3	44 2	46.1	48.1	49.9	52.1	54.0	55.9	57.8	59.7	61.6
20	40.6	42.6	44.6	46.6	48.6	50.6	52.6	54.8	56.8	58.8	60.8	62.8	64.9
21	42.6	44.7	46.8	48.9	51.0	53.2	55.2	57.5	59.6	61.7	63.8	65.9	68.1
22	44.6	46.9	49.1	51.3	53.5	55.7	57.9	60.3	62.5	64.7	66.9	69.0	71.4
23	46.6	49.0	51.3	53.6	55.9	58.2	60.5	63.0	65.3	67.6	69.9	72.2	74.6
24	48.6	51.1	53.5	55.9	58.3	60.8	63.1	65.8	68.2	70.6	73.0	75.4	77.8
25	50.7	53.2	55.8	58.2	60.7	63.2	65.7	68.5	71 0	73.5	76.0	78.5	81.1
26	52.7	55.4	58.0	60.5	63.1	65.8	68.3	71.2	73.8	76.4	79.0	81.6	84.3
27	54.7	57.5	60.3	62.9	65.6	68.3	71.0	74.0	76.7	79.4	82.1	84.8	87.5
28	56.8	59.6	62.5	65.2	68.0	70.8	73.6	76.7	79.5	82.3	85.1	87.9	90.7
29	58 8	61.8	64.7	67.5	70.4	73.3	76.2	79.5	82.4	85.3	88.2	91.1	94.1
30	60.8	63.9	66.9	69.9	72.8	75.9	78.9	82.2	85.2	88.2	91.2	94.1	97.3
31	62.8	66.0	69.1	72.2	75.2	78.4	81.5	84.9	88.0	91.1	94.2	97.4	100.5
32	64.8	68.2	71.4	74.6	77.7	81.0	84.2	87.7	90.9	94.1	97.3	100.5	103.8
33	66.9	70.3	73.6	76.9	80.1	83.5	86.8	90.4	93.7	97.0	100.3	103.6	107.0
34	68.9	72.4	75.8	79.2	82.5	86.1	89.4	93.2	96.6	100.0	103.4	106.7	110.3
35	70.9	74.5	78.0	81.5	84.0	88.6	92.0	95.9	99.4	102.9	106.4	109.9	113.5
36	73.0	76.7	80.2	83.8	86.4	91.1	94.6	98.6	102.2	105.8	109.4	113.1	116.8
37	75.0	78.8	82.5	86.2	88.9	93.6	97.3	101.4	105.1	108.8	112.5	116.2	120.0
38	77.0	80.9	84.7	88.5	91.3	96.2	99.9	104.1	107.9	111.7	115.5	119.3	123.2
39	79.0	83.1	86.9	90 8	93.7	98.7	102.5	106.9	110.8	114.7	118.6	122.5	126.5
40	81.1	85.2	89.2	93.2	97.2	101.2	105.2	109.6	113.6	117.6	121.6	125.6	129.7

Sir George Shuckburgh, in his barometrical obſervations, reckoned the equation for the expanſion of mercury = .00323 of an inch for every degree of Fahrenheit's thermometer in a column of 30 inches, inſtead of .00312 uſed by M. De Luc: but this difference, he ſays, will not occaſion an alteration in the reſult of any one of his obſervations of more than 5 inches; and he conſiders it as of no account. In another part of the ſame paper (Phil. Tranſ. vol. lxvii. p. 567.), he eſtimates this equation, allowing .00042 for the effect of the expanſion of glaſs for 1° upon a column of 30 inches, at .00304 of an inch for each degree, when the barometer ſtands at 30 inches. He adds, that there is ground for the ſuſpicion, that the expanſion of mercury is not directly as the heat ſhewn by the barometer, but in a ratio ſomewhat different; owing, as he conceives, to ſome of the mercury being converted into an elaſtic vapour in the vacuum that takes place at the top of the Torricellian tube, which preſſes upon the column of mercury and thus counteracts in a ſmall degree the expanſion from heat. It does not, however, appear to be a conſiderable quantity, not amounting to above $\frac{1}{16}$th of the whole expanſion in a range of 40° of temperature. General Roy was incommoded in his experiments by the alternate expanſion and condenſation of the elaſtic vapour contained in the upper part of his tube. Lord Charles Cavendiſh found the difference between the expanſion of mercury and glaſs, from 180° of heat, to be .469. And taking into the account Mr. Smeaton's dilatation of glaſs, the total expanſion of 30 inches of mercury, ſays general Roy, will be .544, which gives a rate of expanſion of only .003022 for each degree. Phil. Tranſ. vol. lxvii. p. 671. 673. 678.

After all, there will be a difference in the ſpecific gravity of the mercury that is uſed, which will occaſion irregularities that are not eaſily obviated. Mercury has been thought ſufficiently pure for a barometer, when it is ſo far cleared of all calcinable matter as not to drag or ſully the tube. Nevertheleſs in this ſtate it may contain a conſiderable portion of other metals, particularly of ſilver, biſmuth, and tin, which will diminiſh its ſpecific gravity. It has been obtained by revivification from cinnabar of the ſpecific gravity of 14.229, and it is thought very fine if it be 13.65. The ſpecific gravity of the mercury in the barometers uſed by ſir George Shuckburgh was 13.61 with 68° of heat; but it is ſeldom found ſo heavy. Theſe variations muſt affect the ultimate reſults; and in order to obtain preciſion, it is abſolutely neceſſary to know the denſity of the mercury that is employed. The ſubtangent of the atmoſpherical logarithmic, or the height of the homogeneous atmoſphere, will increaſe in the ſame proportion with the denſity of the mercury; and the elevation correſponding to $\frac{1}{10}$th of an inch of barometric height will vary in the ſame proportion.

Another circumſtance which demands attention in this buſineſs is the temperature of the air; as the change that is produced by heat in its denſity is of much greater moment than that of the mercury. The relative gravity of the two, on which the ſubtangent of the logarithmic curve depends, and conſequently the unit of our ſcale of elevation, is much more affected by the heat of the air than by the heat of the mercury. M. De Luc was led from his obſervations to conclude, that at a certain temperature, marked +16¾ in his ſcale, and nearly 69°¾ of Fahrenheit's, the difference of the logarithms of the heights of the mercury in the barometer, at the upper and the lower ſtations, gave the height of the former of thoſe ſtations above the latter in 1000ths of a French toiſe; but that at every other temperature above or below 69°¾, a correction of .00223 of the whole was to be added or ſubtracted for every degree of the thermometer. By obſervations ſtill more accurate, it has been found, that the temperature at which the difference of the logarithms gives the height in Engliſh fathoms is 32°, and that the correction at other temperatures is .00243 of that difference for every degree of the thermometer. The manner of eſtimating the temperature of the air, adopted in all theſe obſervations, was the ſame; an arithmetical mean was taken between the heights of the thermometer, at the upper and lower ſtations, and was ſuppoſed to be uniformly diffuſed through the column of air intercepted between them. M. De Luc, however, was apprized of the inaccuracy of this ſuppoſition; and general Roy, too, has obſerved, that one of the chief cauſes of error in barometrical computation proceeds from the mode of eſtimating the temperature of the column of air from that of its extremities, which muſt be faulty in proportion as the height and difference of temperature are great. Indeed it ſeldom or never happens, that any particular ſtratum of air is uniformly of the ſame temperature. It is commonly much colder above; and it is alſo of different conſtitutions. Below it is warm, loaded with vapour, and very expanſible; above it is cold, much drier, and leſs expanſible both by its dryneſs and its rarity. Currents of wind, alſo, are often diſpoſed in ſtrata, which retain their places for a conſiderable time; and as they come from different regions, are of different temperatures and conſtitutions. It is neither certain that the whole intermediate ſtratum expands alike, nor that the expanſion is equal in the different intermediate temperatures. Rare air expands leſs than that which is denſer; and there is a particular elevation at which the general expanſion, inſtead of diminiſhing the denſity of the air, increaſes it by the ſuperior expanſion of that which is below. But no general rule has been eſtabliſhed by which we can obtain a more accurate correction than by taking the expanſion for the mean temperature.

Sir George Shuckburgh has exhibited the reſult of ſeveral experiments on the expanſion of air by a change of temperature in the following table; where is ſeen the increaſe in bulk of 1000 parts of air of the temperature of freezing and preſſure of 30¼ inches, by an addition of 1 degree of heat in Fahrenheit's thermometer.

TABLE IV.

Obſervations.		Number of degrees the air was heated.	Expanſion for 1° in 1000ths of the whole.	
With the firſt manometer,	1	14.6	2.30	Mean from the firſt manometer 2.44.
	2	32.2	2.43	
	3	40.3	2.48	
	4	46.6	2.45	
	5	49.7	2.48	
	6	51.1	2.51	
	7	23.7	2.36	
	8	13.1	2.24	
With another manometer,	9	22.0	2.38	Mean from the ſecond manometer 2.42.
	10	28.0	2.50	
	11	21.5	2.34	
	12	30.1	2.44	
	13	22.6	2.44	

The mean of theſe two ſorts of obſervations, made with different inſtruments, is 2.43, viz. 1000 parts of the air at freezing become by expanſion from 1° of heat equal 1002.43 parts or 1002.385 parts with the ſtandard temperature 39°.7.

Whereas

Whereas M. De Luc's experiments reduced, give this quantity equal 1002.23 parts. General Roy compared a mercurial and an air thermometer, each of which was graduated arithmetically; that is, the units of the scales were equal bulks of mercury, and equal bulks of air. Their progress is exhibited in the following table.

TABLE V.

Merc.	Diff.	Air.	Diff.
212	20	212.0	17.6
192	20	194.4	18.2
172	20	176.2	18.8
152	20	157.4	19.4
132	20	138.0	20.0
112	20	118.0	20.8
92	20	97.2	21.6
72	20	75.6	22.6
52	20	53.0	21.6
32	20	31.4	20.0
12		11.4	

As equal increments of heat produce equal increments in the bulk of mercury, the differences of temperature are expreſſed by the ſecond column, and may be conſidered as equal; and the numbers of the third column expreſs the ſame temperatures with thoſe of the firſt. They directly expreſs the bulks of the air, and the numbers of the fourth column expreſs the differences of theſe bulks. Theſe are evidently unequal, and they ſhew that common air expands moſt of all when the temperature is 62 nearly. In order to determine what was the actual increaſe of bulk by ſome known increaſe of heat, general Roy took a tube of a narrow bore, with a ball at one end. He meaſured the capacity of both the ball and the tube, and divided the tube into equal ſpaces, bearing a determined proportion to the capacity of the ball. This apparatus was placed in a long cylinder filled with frigorific mixtures or with water, which might be uniformly heated to the boiling temperature, and it was accompanied by a nice thermometer. The expanſion of the air was meaſured by means of a column of mercury, which roſe or ſunk in the tube. The tube being of a ſmall bore, the mercury did not drop out of it; and the bore being choſen as equal as poſſible, this column remained of an uniform length, whatever part of the tube it chanced to occupy. By this contrivance he was able to examine the expanſibility of air of various denſities. When the column of mercury contained only a ſingle drop or two, the air was nearly of the denſity of the external air. If he wiſhed to examine the expanſion of air twice or thrice as denſe, he uſed a column of 30 or 60 inches in length; and to examine the expanſion of air that is rarer than the external air, he placed the tube with the ball uppermoſt; the open end paſſing through a hole in the bottom of the veſſel containing the mixtures or water. By this poſition the column of mercury was hanging in the tube, ſupported by the preſſure of the atmoſphere; and the elaſticity of the included air was meaſured by the difference between the ſuſpended column and the common barometer.

The following table ſhews the expanſion of 1000 parts of air, nearly of the common denſity, by heating it from 0 to 212. The firſt column ſhews the height of the barometer; the ſecond ſhews this height augmented by a ſmall column of mercury in the tube of the manometer, and therefore expreſſes the denſity of the air examined in inches; the third contains the total expanſion of 1000 equal parts of air by 212°; and the fourth ſhews the mean expanſion for each degree.

TABLE VI.

Barom.	Denſity of Air examined.	Expanſion of 1000 pts by 212°.	Expanſion by 1°.
29.95	31.52	483.89	2.2825
29.67	30.77	482.10	2.2741
29.48	29.90	480.74	2.2676
29.90	30.73	485.86	2.2918
29.96	30.92	489.45	2.3087
29.69	30.55	476.04	2.2455
29.95	30.69	487.55	2.2998
30.07	30.60	482.80	2.2774
29.48	30.00	489.47	2.3087
Mean	30.62	483.21	2.2840

If this expanſion be ſuppoſed to follow the ſame rate that was obſerved in the compariſon of the mercurial and air thermometer, we ſhall find that the expanſion of a thouſand parts of air for one degree of heat at the different intermediate temperatures will be as in the following table.

TABLE VII.

Temp.	Total Expanſion.	Expanſion. for 1°.
212	484.210	2.0099
192	444.011	2.0080
172	402.452	2.1475
152	359.503	2.2155
132	315.193	2.2840
112	269.513	2.3754
92	222.006	2.4211
82	197.795	2.5124
72	172.671	2.5581
62	147.090	2.6037
52	121.053	2.5124
42	95.929	2.4211
32	71.718	2.3297
22	48.421	2.2383
12	26.038	2.1698
0		

In order to have a mean expanſion for any particular range, as between 12° and 92°, which is the moſt likely to comprehend all the geodætical obſervations, we need only take the difference of the bulks 26.038 and 222.006 = 195.968, and divide this by the interval of temperature, 80°, and we obtain 2.4496, or 2.45, for the mean expanſion for 1°.

This table, which in its preſent form ſhews the expanſibility of air originally of the temperature 0, may be eaſily adapted to a maſs of 1000 parts of air of the ſtandard temperature 32°, by ſaying (for 212°), 1071.718 : 1484.210 :: 1000 : 13489; and ſo of the reſt. Thus the following table is conſtructed.

TABLE VIII.

Temp.	Bulk.	Differ.	Expan. for 1°.
212	13849		
192	13474	375	18.7
172	13087	387	19.3
152	12685	402	19.6
132	12272	413	20.6
112	11846	426	21.3
92	11403	443	22.1
82	11177	226	22.6
72	10942	235	23.5
62	10704	238	23.8
52	10461	243	24.3
42	10226	235	23.5
32	10000	226	22.6
22	9783	217	21.7
12	9574	209	20.9
0	9331	243	20.2

Hence we have the mean expanſion of 1000 parts of air between 12° and 92° = 2.29.

The following table ſhews the reſult of general Roy's experiments on airs much exceeding the common denſity. The firſt column contains the denſities meaſured by the inches of mercury which they will ſupport when they are of the temperature 32°; the ſecond column ſhews the expanſion of 1000 parts of ſuch air by being heated from 0 to 212°; and the third column is the mean expanſion of 1°.

TABLE IX.

Denſity.	Expanſion for 212.	Expanſion for 1°.
101.7	451.54	2.130
92.3	423.23	1.996
80.5	412.09	1.944
54.5	439.87	2.075
49.7	443.24	2.091
Mean 75.7	434	2.047

General Roy made many experiments on air much below the common denſity, and he found, in general, that their expanſibility by heat was analogous to that of air of ordinary denſity, being greateſt about the temperature of 60°. He alſo found, that its expanſibility with heat decreaſed with its denſity; but he was not able to aſcertain the law of gradation. When reduced to about 5th of the denſity of common air, its expanſion was as follows.

TABLE X.

Temp	Bulk.	Difference.	Expanſion for 1°.
212	1141.504		
192	1134.429	7.075	0.354
172	1122.165	12.264	0.613
152	1108.015	14.150	0.708
132	1093.864	14.151	0.708
112	1079.636	14.228	0.711
92	1064.690	14.237	0.747
72	1043.788	20.911	1.045
52	1017.845	25.943	1.297
32	1000.000	17.845	0.892
		Mean expanſion	0.786

From the experiments to which we have above referred it appears, that the expanſibility of air is greateſt when the air is about its ordinary denſity, and that in ſmall denſities it is greatly diminiſhed. It appears, upon the whole, that there is little difference in the actual expanſion or elaſtic force of air, rarefied with an atmoſphere + or − one third part; yet, when it is rendered extremely rare, its elaſticity is wonderfully diminiſhed. It ſhould ſeem, indeed, that the elaſtic force of common air is greater than when its denſity is conſiderably augmented or diminiſhed by an addition to or ſubtraction from the weight with which it is loaded; and this obſerved difference contradicts the experience of Boyle, Marriotte, &c. It alſo appears that the law of compreſſion is altered; for in the preceding ſpecimen of the rare air half of the whole expanſion happens about the temperature of 99°, but in air of ordinary denſity at 105°. As this is the caſe, the experiments of M. Amontons, in the Memoirs of the Academy at Paris for 1702, &c. are not inconſiſtent with thoſe of general Roy. Amontons found that whatever was the denſity of the air, at leaſt in caſes where it was much denſer than common air, the change of 180° of temperature increaſed its elaſticity in the ſame proportion; for he found, that the column of mercury, which it ſupported, when of the temperature 50, was increaſed ⅓ at the temperature 212; and hence he haſtily inferred, that its expanſibility was increaſed in the ſame proportion: but this is by no means the caſe, unleſs we are certain that in every temperature the elaſticity is proportional to the denſity; which ſtill remains to be decided.

From another claſs of experiments made by general Roy, we learn that the elaſtic force of moiſt air is greatly ſuperior to that of dry air; and that a very uniform increaſing progreſſion is perceived to take place from the zero of Fahrenheit, as far as 152° or 172°, and even to the boiling point. From the mean reſult of theſe experiments, which are arranged in a table, it appears, that the expanſion of air, however moiſt, having that moiſture condenſed or ſeparated from it by cold, differs not ſenſibly from that of dry air. Thus the rate for 32° below freezing 2.22799 is nearly the ſame as in dry air; but as ſoon as the moiſture begins to diſſolve and mix with the air, by the addition of 20° of heat, the difference is perceptible; for inſtead of 2.46675, the rate for 20° above 32° in dry air, we have 2.588 for that which is moiſt. In the next ſtep of 20°, the rate for dry air is 2.5809; whereas that for moiſt is 2.97. In this manner the progreſſion goes on continually increaſing, ſo as to give 7.86854 for the mean rate on each degree of the 212°, which is near 3½ times the expanſion of dry air. And, laſtly, the rate for the 20° between 192° and 212° is twice and one-half the mean rate, and about nine times that which correſponds to the zero of the ſcale, but the compariſon being drawn from the mean of ſome particular experiments, as being probably neareſt the truth, the total expanſion of moiſt will be more than four times that of dry air; and the rate for the temperature at boiling will be nearly 15 times that which correſponds to the zero of Fahrenheit. This circumſtance will probably account for the deviations from the rules eſtabliſhed for determining heights by the barometer, which take place in the province of Quito in Peru, and at Spitzbergen, within 10 degrees of the pole. In the former ſituation, which is at a great elevation above the level of the ocean, the heights obtained by theſe rules fall conſiderably ſhort of the real heights; and at the latter place they conſiderably exceed them. Near the ſurface of the earth there is a greater degree of humidity and heat in the air than there is in the higher regions of the atmoſphere; and the elaſticity or expanſion of the lowermoſt ſection of

every column of air, whether long or ſhort, will conſequently be greater than the uppermoſt ſection of it. For the heat, by diſſolving the moiſture, produces a vapour lighter than air, which, mixing with its particles, removes them farther from each other, increaſes the elaſticity of the general maſs, and diminiſhes its ſpecific gravity comparatively more than it doth that of the ſection immediately above it, where there is leſs heat and leſs moiſture. Hence general Roy infers, that the equation for the air, in any aſſigned vertical, will gradually decreaſe as the elevation of the place above the ſea increaſes, and that it will vaniſh at the top of the atmoſphere. Between the tropics there is a great degree of humidity in the air; and, on the contrary, the polar atmoſpheres are very dry. The heat and moiſture being greateſt at the equator, there the elaſticity or equation will likewiſe be the greateſt at the level of the ſea; and the zero of the ſcale will neceſſarily deſcend to a lower point of the thermometer, than that to which it correſponds in middle latitudes. As the elaſticity of the air at the level of the ſea, or equal heights above it, with the ſame degree of heat, will always be proportionable to the quantity of moiſture diſſolved in it, it will therefore gradually decreaſe from the equator towards the poles; that is, the zero of the ſcale will aſcend in the thermometer, coincide with the 32d degree in the middle latitudes, and in its motion upwards, will give the equation to be applied with the contrary ſign, in high latitudes. At Spitzbergen, it would ſeem that the ſpecific gravity of air to mercury is about 1 to 10224, and in Peru about 1 to 13100. This difference is with great probability aſcribed to the greater dryneſs of the circumpolar air; ſo that the denſity of the air was greater than could have been inferred merely from its compreſſion and its temperature.

From the above account of the expanſion of air, it is plain that the height through which we muſt riſe in order to produce a given fall of the mercury in the barometer, or the thickneſs of the ſtratum of air equiponderant with a tenth of an inch of mercury, muſt increaſe with the expanſion of air; and hence, if .00229 be the expanſion for one degree, we muſt multiply the exceſs of the temperature of the air above 32° by 0.00229, and the product by 87, in order to obtain the thickneſs of the ſtratum where the barometer ſtands at 30 inches: or whatever be the elevation indicated by the difference of the barometrical heights, upon the ſuppoſition that the air is of the temperature of 32°, we muſt multiply this by .00229 for every degree that the air is warmer or colder than 32. The product muſt be added to the elevation in the firſt caſe, and ſubtracted in the latter. Sir George Shuckburgh deduces .0024 from his experiments as the mean expanſion of air in the ordinary caſes: and this is probably near the truth; becauſe general Roy's experiments were made on air which was more free from damp than the ordinary air in the fields; and it ſufficiently appears from his experiments, as already ſtated, that a very ſmall quantity of damp increaſes its expanſibility by heat in a prodigious degree. We ſhall now refer for a more particular account of the ſubject of this article to the papers of the aſtronomer royal and of Dr. Horſley, Philoſ. Tranſ. vol. lxiv. p. 158, &c. Id. p. 214, &c. and for the papers of ſir George Shuckburgh and general Roy to the Phil. Tranſ. vol. lxvii. p. 513, &c. and p. 653, &c. and alſo to profeſſor Playfair's paper on the cauſes which affect the accuracy of barometrical meaſurements in the Edinb. Tranſ. vol. i. p. 87, &c.: and ſubjoin in one view a ſummary of the moſt approved and eaſy rules for the practice of this mode of meaſurement illuſtrated by examples.

The firſt is M. De Luc's method, already given in another form.

1. Subtract the logarithm of the barometrical height at the upper ſtation from the logarithm of that at the lower, and count the index and four firſt decimal figures of the remainder as fathoms, the reſt as a decimal fraction. Call this the *elevation*.

2. Note the different temperatures of the mercury at the two ſtations, and the mean temperature. Multiply the logarithmic expanſion correſponding to this mean temperature (in Table II.) by the difference of the two temperatures, and ſubtract the product from the elevation, if the barometer has been coldeſt at the upper ſtation; otherwiſe, add it. Call the difference, or the ſum, the *approximated elevation*.

3. Note the difference of the temperatures of the air at the two ſtations by a detached thermometer, and alſo the mean temperature and its difference from 32°. Multiply this difference by the expanſion of air for the mean temperature, and multiply the approximated elevation by 1 ± this product according as the air is above or below 32°. The product is the correct elevation in fathoms and decimals.

Example.

Suppoſe that the mercury in the barometer at the lower ſtation was at 29.4 inches, that its temperature was 50°, and the temperature of the air 45°; and let the height of the mercury at the upper ſtation be 25.19 inches, its temperature 46, and the temperature of the air 39. Here we have

Merc. heights	Temp. merc.	Mean	Temp. air.	Mean
29.4	50	48	45	42
25.19	46		39	

1. Log. of 29.4	1.4683473
Log. of 25.19	1.4012282
Elevation in fathoms	671.191
2. Expanſion for 48° .173	
Multiply by 4 4	1.892
Approximated elevation	669.299
3. Expanſion of air at 42 0.00238	
Mult. by 42 − 32 = 10° 10	
0.0238	
Multiply	669.299
By	1.0238
Product = the correct elevation	685.228

II. Sir George Shuckburgh's method.

1. Reduce the barometric heights to what they would be if they were of the temperature of 32°.

2. The difference of the logarithms of the reduced barometrical heights will give the approximate elevation.

3. Correct the approximate elevation as before.

Example, the ſame as before.

1. Mean expanſion for 1° from Table I.	0.000111
18 × 0.000111 × 29.4 = 0.059	
Subtract this from 29.4	
Reduced barometric height 29.341	
Expanſion from Tab. I. is	0.000111
14 × 0.000111 × 25.19 0.039	
Subtract from 25.190	
Reduced barometric height 25.151	
2. Log. 29.341 1.4674749	
Log. 25.151 1.4005553	
Approximated elevation 669.196	
3. This multiplied by 1.0238 gives 685.125	

Sir

Sir George Shuckburgh has computed a ſeries of tables, and given precepts for eſtimating the heights of mountains by means of theſe tables; for which we refer to his own account, ubi ſupra.

Obſ. 1. If 0.000101 be ſuppoſed the mean expanſion of mercury for 1°, the reduction of the barometric heights will be had with ſufficient exactneſs by multiplying the obſerved heights of the mercury by the difference of its temperatures from 32, and cutting off four more decimal places: thus $29.4 \times \frac{18}{10000}$ gives for the reduced height 29.347, and $25.19 \times \frac{14}{10000}$ gives 25.155, and the difference of their logarithms gives 669.4 fathoms for the approximated elevation, which differs from that given above by no more than 15 inches.

Obſ. 2. If 0.0024 be taken for the expanſion for 1°, the correction for this expanſion will be had by multiplying the approximated elevation by 12, and this product by the ſum of the differences of the temperatures from 32°; counting that difference as negative when the temperature is below 32°, and cutting off four places: thus, $669.196 \times 12 \times 13 + 07 \times \frac{1}{10000} = 16.061$, which added to 669.196 gives 685.257, differing from the former only 9 inches.

III. Another rule may be derived from the ſame premiſes; and it will be ſufficiently exact for all geodætical purpoſes. It requires no tables, and may be eaſily remembered.

1. The height through which we muſt riſe in order to produce any fall of the mercury in the barometer, is inverſely proportional to the denſity of the air; that is, to the height of the mercury in the barometer.

2. When the barometer ſtands at 30 inches, and the air and quickſilver are of the temperature 32, we muſt riſe through 87 feet, in order to produce a depreſſion of $\frac{1}{10}$th of an inch.

3. But if the air be of a different temperature, the 87 feet muſt be increaſed or diminiſhed by 0.21 of a foot for every degree of difference of the temperature from 32°.

4. Every degree of difference of the temperatures of the mercury at the two ſtations makes a change of 2.833 feet, or two feet ten inches in the elevation. Hence is deduced the following rule.

1. Take the difference of the barometric heights in tenths of an inch; and call it *d*.

2. Multiply the difference *a* between 32, and the mean temperature of the air by 21, and take the ſum or difference of this product and 87 feet. This is the height through which we muſt riſe to cauſe the barometer to fall from 30 inches to 29.9: call this height *h*. Let *m* be the mean between the two barometric heights. Then $\frac{30dh}{m}$ is the approximated elevation very nearly. Multiply the difference *δ* of the mercurial temperatures by 2.83 feet, and add this product to the approximated elevation, if the upper barometer has been the warmeſt; otherwiſe ſubtract it. The reſult, that is the ſum or difference, will be the corrected elevation.

Example, as before.

$d = 294 - 251.9 = 42.1$

$h = 87 + 10 \times 0.21 = 89.1$

$m = \frac{29.4 + 15.19}{2} = 27.29$

Approximated elevation $= \frac{30 \times 42.1 \times 89.1}{27.29} = 4123.24$ feet.

Correction for temp. of mercury $= 4 \times 2.83 = 11.32$

Corrected elevation in feet - - - -	4111.92
The ſame in fathoms - - - -	685.32

differing from the former only 15 inches

This rule may be expreſſed by the following formula, which is ſimple and eaſily remembered; *a* being the difference between 32° and the mean temperature of the air, *d* the difference of barometric heights in tenths of an inch, *m* the mean barometric height, *δ* the difference between the mercurial temperatures, and E the correct elevation. $E = \frac{30(87 \pm 0.21\,a)d}{m} \pm \delta \times 2.83$. Encycl. Brit. art. Pneumatics. See *Height of the* Atmosphere, and *Atmoſpherical* Logarithmic.

BAROMETERS, Animal. See Sea-Anemonies.

BAROMETRICAL Phosphorus. See Phosphorus.

BAROMETZ, in *Botany*. See Polypodium.

BARON, a perſon who holds a barony.

Baron is a term whoſe origin and primary import are much conteſted. Some will have it originally denote a *man*, *vir*; ſome a *hero*, or *valiant man*; ſome a *libertinus*, or *freeman*; ſome a *great or rich man*; ſome a *vaſſal* or *liege-man*. —Menage derives it from the Latin *baro*, which we find uſed in the pure age of that language for *vir*, a *ſtout* or *valiant man*; whence, according to this author, it was that thoſe placed next to the king in battles were called *barones*, as being the braveſt men in the army; and as princes frequently rewarded the bravery and fidelity of thoſe about them with fees, the word came to be uſed for any noble perſon who holds a fee immediately of the king.—Iſidore, and after him Camden, take the word in its original ſenſe, to ſignify a *mercenary ſoldier*. Meſſieurs of the Port Royal derive it from βαρος, *weight*, or *authority*. Cicero uſes the word *baro*, for a ſtupid brutal man; and the old Germans make mention of *buffeting a baron*, i. e. a *villain*; as the Italians ſtill uſe the word *barone*, to ſignify a *beggar*.—M. De Marca derives baron from the German *bar*, *man* or *freeman*; others derive it from the old Gauliſh, Celtic, and Hebrew languages. But the moſt probable opinion is, that it comes from the Spaniſh *varo*, a *ſtout, noble perſon*; whence wives come to call their huſbands, and princes their tenants, *barons*. In the Salic law, as well as the laws of the Lombards, the word *baron* ſignifies a *man* in the general, and the old gloſſary of Philomenes tranſlates baron by *vir, mon*.

Baron, the title of a lord or peer of parliament, being the next degree below that of a viſcount. A baron hath the title of Right Honourable, and in all acts and proceedings is ſtyled Moſt noble Lord. The parliamentary robe of a baron is ſcarlet cloth, lined with white ſattin, having on the right ſide two *gards of Minever*, or ermine, which ſignifies his degree. The coronet of a baron is a rim of gold, having thereon ſix pearls: this coronet was granted them by Charles II. by patent bearing date 6th July 1661, before which they wore a crimſon cap turned up with ermine, and on the top a taſſel of gold, now called a baron's cap. A baron may appoint three chaplains. In ancient records, the word barons included all the nobility of England, becauſe regularly all noblemen were barons.

The word baron of itſelf originally did not, more than peer, ſignify an immediate vaſſal of the king; for lords palatine had their barons, that is, their immediate tenants; and in old records, the citizens of London are ſtyled barons, and ſo are the repreſentatives of the cinque ports called to this day. Baron, therefore, at firſt ſignified only the immediate tenant of that ſuperior whoſe baron he is ſaid to be; but by length of time it became reſtrained to thoſe who, properly and exactly ſpeaking, were *barones regis & regni*: and even not to all of theſe, but to ſuch only as had manors and courts therein; for though, by the principles of the feudal conſtitution, every immediate military tenant of

the crown, however ſmall his holding, was obliged to aſſiſt the king with his advice, and entitled likewiſe to give or refuſe his aſſent to any new law or ſubſidy, that is, to attend in parliament; this attendance was too heavy and burthenſome upon ſuch as had only one or two knight's fees, and could not be complied with without their ruin. Hence an immunity from attending writs to each, and which, being for their eaſe, they acquieſced in, attendance in parliament being conſidered at that time as a burthen. Thus they loſt that right they were entitled to by the nature of their tenure, until the method was found out of admitting them by repreſentation. Hence aroſe the diſtinction between tenants by barony or tenure, and tenants by knight's ſervice in the capite of the king. The former were ſuch military tenants of the king, as had eſtates ſo conſiderable as qualified them without inconvenience to attend in parliament, and who were therefore entitled to be ſummoned: the quantum of this eſtate was regularly thirteen knight's fees and one third, as that of a count or earl was twenty; that is, as a knight's fee was then reckoned at 20l. *per annum*, the baron's revenue was 400 marks, or 266l. 13s. 4d.

Such was the nature of all the baronies of England, for about two hundred years after the conqueſt: and they are called baronies by tenure, becauſe the dignity and privileges were annexed to the lands they held; and if theſe were alienated with the conſent of the king (for without that they could not), the barony went over to the alienee. Of theſe Matthew Paris tells us there were 250 in the time of Henry III.; and whilſt they ſtood purely on this footing, it was not in the king's power to increaſe the number of the baronies: though of barons perhaps he might; for as William the Conqueror was obliged to gratify ſeveral of his great officers, according to the number of men they brought, with two or more baronies, whenever theſe fell into the hands of the crown by eſcheat, either for want of heirs, or by forfeiture, it was in the king's power, and it was his intereſt, to divide them into ſeparate hands. The ſame thing likewiſe happened, when, by an intermarriage with an heireſs, more baronies than one came into the hands of a nobleman, and eſcheated to the crown.

But the number of theſe feudal baronies could not, ſtrictly or properly ſpeaking, be increaſed by the king; for they could be created only out of lands, and there were no lands vacant to create new ones out of, for the king's demeſnes were in thoſe days unalienable. However we find, at the end of Henry the Third's reign, and even in John's, that the number of baronies were actually increaſed, and a diſtinction made between the *barones majores* and *minores*.

The *majores* were thoſe who ſtood on the old footing of William, and had lands ſufficient in law, namely, the number of the knight's fees requiſite. The *minores* were ſuch as held by part of a barony; and when an old barony deſcended to, and was divided among ſiſters, in which caſe, when the huſband of the ſiſter whom the king pleaſed to name was the baron of parliament, or elſe was newly carved out of the old baronies that had fallen in by eſcheat; as ſuppoſing the king had granted ſix knight's fees of an old barony to one to hold with all the burthens and to the ſervice of an entire barony, and the remaining ſeven and one-third to another on the ſame terms. But the attendance of theſe minor barons alſo at length became too burthenſome for their circumſtances, and many of them were glad to be excuſed. The king took then the power of paſſing by ſuch as he thought unable, by not ſending them writs of ſummons; and John extended his prerogative even to omit ſummoning ſuch of the *majores* as he imagined were inclined to oppoſe him: this however at length he was obliged to give up; for in his magna charta it is ſaid, "ad habendum commune conſilium regni faciemus ſummoneri archiepiſcopos, epiſcopos, abbates, comites, & majores barones regni, ſigillatim per literas noſtras."

The *barones majores* were there fully and plainly diſtinguiſhed from the *minores;* and we apprehend it will not be doubted they were ſuch as had the full complement of knight's fees that made up an ancient barony; and accordingly we find, in 1255, when Henry the Third had neglected ſummoning ſome of theſe, the others refuſing to enter on any buſineſs, "quia omnes tunc temporis non fuerunt, juxta tenorem magnæ chartæ ſuæ, vocati; et ideo, ſine paribus ſuis tunc abſentibus, nullum voluerunt tunc reſponſum dare, vel auxilium concedere, vel preſtare." No king ſince ever omitted to ſummon all the greater nobility, until Charles the Firſt was prevailed upon to forbid the ſending a writ to the earl of Briſtol, by Buckingham, who was afraid of being accuſed by that nobleman; but on the application of the houſe of lords, and their adjourning themſelves from day to day and doing no buſineſs, the writ at laſt was iſſued.

In the reign of Henry the Third alſo, the king's prerogative of ſummoning or omitting the leſſer barons was likewiſe aſcertained by an act of parliament ſince loſt, as we find by theſe words from hiſtory: "Ille enim rex (ſcilicet Henricus Tertius) poſt magnas perturbationes & enormes vexationes inter ipſum regem, Simonem de Monteferti & alios barones, motas & ſapitas ſtatuit et ordinavit, quod omnes illi comites & barones regni Angliæ, quibus ipſe rex dignatus eſt brevia dirigere, venerent ad parliamentum ſuum, & non alii, niſi forte dominus rex alia illa brevia illis dirigere voluiſſet:" and from henceforth no nobleman could ſit in parliament without a writ. But there was this difference between the greater and the leſſer barons, that the former had a right to their writ *ex debito juſtitiæ*, to the latter it was a matter of favour; but when ſummoned, they being really barons, had the ſame rights with the reſt, though ſitting not by any inherent title, but by virtue of the writ. The other leſſer barons, who were generally omitted to be ſummoned, by degrees mixed with the other king's tenants *in capite*, and were thenceforth repreſented by the knights of the ſhires.

But theſe baronies by tenure being long ſince worn out among the laity, it is proper to proceed to the two ways now in being of creating peers; by writ, and by letters patent. It was lord Coke's opinion, and in this he has been followed ever ſince, that a writ to any man, baron or no baron, to ſit in parliament, if once he hath taken his ſeat in purſuance thereof, gains a barony to him and the heirs of his body; and though the law, principally on the authority of that great lawyer, is now ſo ſettled, certainly it is comparatively but a novel opinion, and very ill to be ſupported by reaſon. The words of the writ are: "Rex tali ſalutem quia de adviſamento & aſſenſu conſilii noſtri, pro quibuſdam arduis & urgentibus negotiis ſtatum & defenſionem regni noſtri Angliæ concernentibus, quoddam parliamentum noſtrum apud Weſtmonaſt. tali die talis menſis proximo futuro teneri ordinavimus & ibidem vobiſcum, ac cum prelatis magnatibus & proceribus dicti regni noſtri, colloquium habere & tractatum; vobis in fide & ligeantia quibus nobis tenemini firmiter injungendo mandamus, quod conſideratis dictorum negotiorum arduitate & periculis imminentibus, ceſſante excuſatione quacunque, dictis die & loco perſonaliter interſitis nobiſcum, ac cum prelatis magnatibus & proceribus ſuper dictis negotiis tractaturi, veſtrumque conſilium impenſuri, & hoc ſicut nos, & honorem noſtrum, ac expeditionem negotiorum prædictorum diligitis, nullatenus omittatis."

That this writ muſt be obeyed there is no doubt, for every ſubject is by his allegiance obliged to aſſiſt the king with faithful counſel; but what right the party ſummoned acquired thereby, is the queſtion. The words are not only perſonal to him, but reſtricted likewiſe to a particular place and time; and, accordingly, in ancient times we find many perſons ſummoned to one parliament, omitted in the next, and ſummoned perhaps to the third. There is not a word therein that hints at giving the leaſt right to an heir; and what reaſon can be aſſigned why a man by this writ ſhould gain an eſtate of inheritance in a peerage, when in letters patent it is admitted that he gains only an eſtate for life, without the word *heirs*. That anciently there was no ſuch notion appears from the ſummons to parliament, where frequently we find the grandfather ſummoned, the father paſſed by, and the grandſon afterwards ſummoned; nay, in the rolls there are inſtances of ninety-eight perſons being ſummoned a ſingle time only, and neither themſelves nor any of their poſterity ever taken notice of afterwards. Or if we were to allow that this writ created an inheritance, what reaſon can be given why it ſhould be an eſtate tail only, and be confined to the heirs of the body, and not, as all other new inheritances created generally, go to the collateral heirs?

But in order to diſcover plainly what privileges perſons ſo called by writ had, or could obtain in thoſe times, it will be proper to diſtinguiſh them into three kinds of perſons: firſt then, they were either ſome of the *minores barones by tenure*, and theſe, when called, had certainly all the privileges of the greater, or elſe they were not barons at all, but plain knights or gentlemen; and in reſpect to theſe, it is plain they had a right to deliberate, debate, and adviſe; but the better opinion is, they had no right to vote, but were aſſiſtants and adviſers only, as the judges are at preſent, for it is abſurd to ſuppoſe that in thoſe times, when the commons were low and inconſiderable, and the barons were more powerful than the crown, that the latter ſhould ſuffer their reſolutions to be over-ruled at the pleaſure of the king, by calling in ſuch numbers as we find he often did, which muſt have been the caſe if all he had ſummoned had votes. But theſe two kinds of perſons gained by their writ or ſitting in conſequence of it, originally, no farther right than to be preſent at that time. However, by many of theſe perſons and their heirs having been conſtantly ſummoned, eſpecially ſince Henry the Seventh's reign, and the ancient practice of omitting any who had been very frequently ſo going into diſuſe, the diſtinction between the greater and leſſer barons was forgot, and that opinion prevailed which my lord Coke had adopted, and which is now the law, that a man having once ſat in parliament in purſuance of the king's writ, acquires thereby an eſtate tail to him and the heirs of his body.

There was yet another kind of perſons, not peers, that might be ſummoned by writ: theſe were the eldeſt ſons of peers, to whom the father's barony muſt deſcend; and in ſuch caſe, if the heir was called by the name of a barony that was in his father, he was a baron to all intents and purpoſes. But it ſeems very plain that this was not a new creation of a barony, for in that caſe the ſon ſo called ſhould have been the loweſt peer, whereas the practice is contrary; and we find no inſtance of a baron's ſon ſitting on ſuch a ſummons, unleſs the father had another barony by which he might ſit: if the father indeed had a higher title, that has been reckoned ſufficient to ſupport his ſeat, though his only barony was transferred to the ſon. This then being no new creation, but a temporary transfer only of an old peerage, it ſhould ſeem that this title, when once merged in the greater by the father's death, ſhould go according to the old limitation; but of late we find them conſidered as new creations. On the death of the earl of Derby, ſir Edward Stanley, his ſixth couſin, ſucceeded, and ſat in parliament as baron Strange by Henry the Seventh's creation: but an eldeſt ſon of a former earl of Derby, having been called by writ while his father was living, the duke of Athol, as his heir by the female line, ſat by the ſame title of baron Strange of king Charles the Firſt's creation.

The deſcent of theſe two kinds of baronies is directed by the rules of the deſcent of other inheritances at common law; and, conſequently, females are capable of ſucceſſion, but with two exceptions: firſt, that half-blood is no impediment, and, conſequently, the half-brother excludes the ſiſter; ſecondly, that the honour is not diviſible; and, therefore, if there be two or more ſiſters heireſſes, the title is in abeyance, that is, is ſuſpended until the king makes choice of one of them and her heirs; though by conſtant uſage the law ſeems to be verging faſt to a conſtant deſcent to the eldeſt.

The third method of creating peers is by letters patent, which is the moſt uſual, and eſteemed the moſt advantageous way; becauſe a peerage is thereby created, though the new nobleman has never taken his ſeat, which is not the caſe of a barony by writ. As to the manner of theſe creations, there has a notable difference intervened ſince the acceſſion of Henry the Seventh, from what was the practice before Richard the Second. In his eleventh year began this method of creating by patent, in favour of John de Beauchamp, who, though ſummoned, never ſat there, but was attainted by the next parliament, and afterwards executed. But the attainder out of the caſe, his patent in law could never have been deemed valid, becauſe Michael de la Pole was the lord chancellor who affixed the ſeal to it, which had been before taken from him by act of parliament, and he declared incapable of ever having it again. This then was a ſingle and ineffectual attempt of that weak prince to create a new peer without the aſſent of parliament, which was the uſual way, above thirty having been made ſo in that very reign.

His ſucceſſors were too wiſe to follow his example; for every barony newly created, till the union of the roſes, which were about fourteen, was every one of them, as appears on the face of the patents, by authority of parliament; if we except two or three: and even theſe, on a cloſe examination, will appear not to be new baronies, but regrants of old feudal baronies by tenure, which undoubtedly were all in the ſole diſpoſition of the king.

But Henry the Seventh having trodden down all oppoſition, was fortunate enough to carry the point Richard had vainly attempted; and acquired for his ſucceſſors that prerogative which they have ſince enjoyed, of creating peers at pleaſure. The deſcent of theſe titles created by patent is directed by the words of the creation: if heirs are not mentioned, it is only an eſtate for life; if to a man and heirs of his body, females are not excluded: but the general way is, to the heirs male of the body lawfully begotten of the grantee, perhaps with remainders over, and they deſcend as other eſtates entailed. The caſe of the duchy of Somerſet was ſingular: Edward Seymour having three ſons by two venters, was created duke of Somerſet, and his heirs male of his ſecond marriage, remainder to his heirs male by his firſt. This title continued near two hundred years in the younger branch, until upon its failure in Charles the ſixth duke of Somerſet, ſir Edward Seymour, the heir by the prior marriage, ſucceeded by virtue of the remainder.

BARONS *by Ancient Tenure* were thoſe who held by certain territories of the king, who ſtill reſerved the tenure in chief

to

to himſelf. We alſo read of *barons by temporal tenure*; who are ſuch as hold honours, caſtles, manors, as heads of their barony, that is, by grand ſergeanty; by which tenure they were anciently ſummoned to parliament. But at preſent a baron by tenure is no lord of parliament, till he be called thither by writ.

The barons by tenure, after the Conqueſt, were divided into *majores* and *minores*, and were ſummoned accordingly to parliament; the *majores*, or greater barons, by immediate writ from the king; the *minores*, or leſſer barons, by general writ from the high ſheriff, at the king's command.

The ancients diſtinguiſhed the greater barons from the leſs, by attributing high and even ſovereign juriſdiction to the former, and only inferior juriſdiction over ſmaller matters to the latter. By the late juriſdiction act (20 Geo. II.) the civil juriſdiction of a baron in Scotland is reduced to the power of recovering from his vaſſals and tenants the rents of his lands, and of condemning them in mill-ſervices; and alſo of judging in cauſes where the debt and damages do not exceed 40s. ſterling. His criminal juriſdiction is, by the ſame ſtatute, limited to aſſaults, batteries, and other ſmaller offences, which may be puniſhed by a fine not exceeding 20s. ſterling, or by ſetting the offender in the ſtocks in the day time not above three hours; the fine to be levied by poinding, or by one month's impriſonment. The juriſdiction formerly competent to proprietors of mines and coal or ſaltworks over their workmen, is reſerved; and alſo that which was competent to proprietors who had the right of fairs or markets, for correcting the diſorders that might happen during their continuance; provided that they exerciſe no juriſdiction inferring the loſs of life or demembration.

Barons *of the Exchequer* are four judges, one of whom is called the chief baron, and the other three puiſne barons, to whom the adminiſtration of juſtice is committed in cauſes between the king and his ſubjects touching matters belonging to the exchequer, and the king's revenue. They are called *barons*, becauſe barons of the realm were uſed to be employed in that office.

The lord chief baron is created by letters patent to hold this dignity *quamdiu ſe bene geſſerit*, wherein he hath a fixed eſtate; for the law intends this an eſtate for life. He alone without the other *barons* ſits at Guildhall the afternoon in term time upon *niſi prius* in London, takes audits, accompts, recognizances, preſentations of offices, and many other things of importance. In the abſence of the lord chief baron, the other three barons ſupply his place according to their ſeniority.

Their office is alſo to look to the accounts of the king, to which end they have auditors under them; as well as to decide cauſes relating to the revenue, brought by any means into the exchequer: ſo that of late they have been conſtantly perſons learned in the law; whereas formerly they were *majores & diſcretiores in regno, ſive de clero eſſent, ſive de curia*. See *Court of* Exchequer.

Barons *of the Cinque Ports*, are members of the houſe of commons, elected by the five ports, two for each port. See Cinque *Ports*.

Thoſe who have been mayors of Corfe-caſtle in Dorſetſhire, are alſo denominated barons; as were formerly likewiſe the chief citizens of London.

Baron, in *Law*, is alſo uſed for the huſband in relation to the wife; which two, in law, are called *baron* and *feme*, and are conſidered as one perſon, ſo that in trials of any ſort they are not allowed to be evidence for or againſt each other. See Husband and Wife.

Baron *and Feme*, in *Heraldry*, are terms uſed to expreſs the arms of huſband and wife; as thus, he beareth *baron and femme*. The modern expreſſion is, he beareth *impaled*.

Baron, *Court*. See Court.

Baron, *prender de*. See Prender.

Baron, *Robert*, in *Biography*, a dramatic author, who lived during the reign of Charles I. and the protectorate of Oliver Cromwell. From Cambridge, where he received part of his education, he removed to Gray's Inn, of the honourable ſociety of which he became a member. At the univerſity he wrote a novel called the "Cyprian Academy," containing two dramatic pieces, intitled "Deorum Dona," a maſque, and "Cripus and Hegio," a paſtoral. His tragedy of "Mirza," which is a more regular play, was probably written at a riper age.

Baron, *Michael*, a celebrated French actor, was the ſon of a ſhop-keeper of Dundun, who himſelf went upon the ſtage, and born at Paris in 1652. He firſt joined the company of Raiſin, and afterwards that of Moliere, in which connection he was univerſally admired and applauded. Baron was equally ſucceſsful both in tragedy and comedy; although it is ſaid he acquired his principal reputation in the former department. Racine, on occaſion of introducing his Andromache on the ſtage, gave inſtructions to the other actors with reſpect to the performance of their ſeveral parts; but addreſſing Baron who was to act Pyrrhus, he ſaid to him, "To you, ſir, I have no inſtructions to give; your own heart will tell you more than my leſſons can inform you." Preachers are ſaid to have attended in a grated box to ſtudy his action; "and thence (ſays Voltaire) went to declaim againſt the theatre." Such was his vanity, that in alluſion to the title that was beſtowed upon him of the "Roſcius" of his age, he ſaid, that "every century produced a Cæſar, but that it required 2000 years to produce a Baron." He was highly careſſed by perſons of diſtinction, although he ſometimes was mortified by their reflections. At length, diſguſted by this circumſtance, or influenced by ſome other motive, he withdrew from the ſtage in 1691, and enjoyed a penſion from the king. After an interval of 29 years he reſumed his profeſſion, and at the age of 68 was as much applauded as ever. In September 1729, his infirmities reduced him to the neceſſity of retiring, and he ſurvived only two months. Baron was a writer as well as an actor, and compoſed ſeveral comic pieces for the theatre; which are ſaid to be lively and amuſing, and to exhibit much knowledge of the ſtage and of the world. He alſo wrote ſome poems. A collection of his works was printed at Paris, in two vols. 12mo. in 1736; and in three vols. in 1760. But ſome of the pieces contained in this collection are ſuppoſed not to be his. Voltaire's Age of Lewis XIV. Nouv. Dict. Hiſtor.

Baron, *Bonaventure*, whoſe true name was *Fitzgerald*, was a native of Clonmell, in the county of Tipperary, in Ireland, and educated under the care of his uncle Luke Wadding, a Franciſcan friar at Rome, who induced him to aſſume the habit of this order. He reſided at Rome, where he was for a conſiderable time prælector of divinity in the college of St. Iſidore, founded by his uncle in 1625, about 60 years, and died there, after having loſt his ſight, and at an advanced age, in the year 1696. He was diſtinguiſhed by the purity of his Latin ſtyle, and wrote many books both in proſe and verſe in that language. His chief work was his "Theologia," in 6 vols. printed at Paris in 1676. Biog. Brit.

Baronet of England, an hereditary dignity by patent, next to that of a baron inſtituted by king James the Firſt on the 22d of May 1611. The firſt baronet that was created was ſir Nicholas Bacon of Redgrave in Suffolk, whoſe

whoſe ſucceſſor is therefore ſtyled *Primus Baronetorum Angliæ*. At the firſt inſtitution of this order the king engaged that the number ſhould not exceed two hundred, and that each ſhould pay into the exchequer as much as would pay thirty foot ſoldiers at eight-pence per diem to ſerve in the province of Ulſter in Ireland; and for their diſtinction, as an honourable augmentation, they bear in their coat of arms either in a *canton*, or in an eſcutcheon of pretence, the arms of the ancient kings of Ulſter, being *argent a hand, ſiniſter, couped at the wriſt, extended in pale gules*. Baronets and their eldeſt ſons have this peculiar privilege, that they may be knighted if they pleaſe, upon knowledge thereof given to the lord chamberlain of the houſehold, or vice-chamberlain for the time being, or in their abſence, to any other officer attending his majeſty's perſon; and in all commiſſions, writs, and other deeds, the ſtyle of *baronet* is to be placed at the end of their ſurnames, as a neceſſary and legal addition of dignity, as the addition of *Sir* to be placed before their Chriſtian names, and to their wives the title of *Lady* or *Dame*. Baronets have precedency before all knights, except thoſe of the garter, and knights bannerets. No patent for creating a baronet can now paſs the great ſeal until the following certificate is obtained:

"To all and ſingular to whom theſe preſents ſhall come, we, the king's heralds and purſuivants of the College of Arms, London, do hereby certify that the family, arms, and pedigree of
have been duly regiſtered in this college purſuant to the tenor of his majeſty's warrant under his royal ſignet and ſign manual, bearing date the day of 1783, for correcting and preventing abuſes in the order of baronets. In witneſs, &c."

BARONETS *of Ireland*, an hereditary dignity inſtituted 30 Sept. 1619, the ſame as thoſe in England, and bearing likewiſe the arms of Ulſter as an augmentation.

BARONET *of Nova Scotia*. This order is alſo hereditary, and was inſtituted in Scotland by king Charles I. 28th May 1625, for advancing the plantation of Nova Scotia in America, and for ſettling a colony there, to which the aid of theſe baronets was deſigned. As an augmentation to their arms, they bear either in a canton or in an in-eſcutcheon the enſign of Nova Scotia, being *argent a croſs of St. Andrew azure charged with an eſcutcheon of the royal arms of Scotland; ſupported on the dexter by the royal unicorn, and on the ſiniſter, by a ſavage, or wild man, proper; and for the creſt, a branch of laurel, and a thiſtle iſſuing from two hands conjoined, the one being armed and the other naked, with this motto, Munit hæc et altera vincit:* and for their greater honour and dignity they were, by royal ſign manual, bearing date 17th Nov. in 1629, allowed to "wear and carry about their necks in all time coming an orange-tawny ſilk ribbon, whereon ſhall hang pendant in an eſcutcheon *argent a ſaltier azure thereon an eſcutcheon of the arms of Scotland with an imperial crown above the eſcutcheon, and inſcribed with this motto, Fax mentis honeſtæ gloria.*"

BARONIE CAPUT. See CAPUT.

BARONIUS, CÆSAR, in *Biography*, a learned cardinal, was born at Sora, in the kingdom of Naples, in 1538, and educated firſt at Veroli, and then at Naples. Having finiſhed his ſtudies at Rome, he entered in 1560 into the congregation of the oratory founded by St. Philip de Neri, and having received the order of prieſthood, he was elected ſuperior-general of the congregation, upon the death of its founder in 1583. Pope Clement VIII. choſe him for his confeſſor, made him apoſtolical prothonotary, and in 1596 raiſed him to the dignity of cardinal. He was afterwards made librarian of the Vatican. On the death of Clement, he had many votes in the conclave for the pontificate; but the Spaniſh party prevented his election, becauſe he had aſſerted in his annals, that the crown of Spain founded its title to Sicily on falſe evidence. His aſſiduous application at length ſo debilitated his frame, that he died in 1607 at the age of 68 years. His character was diſtinguiſhed for piety and probity, and mildneſs of diſpoſition, as well as for extenſive erudition. His chief work was his "Eccleſiaſtical Annals," which he began at the age of 30, and proſecuted through the greateſt part of his life. Of theſe he lived to publiſh 12 vols. in folio, the firſt of which was printed in 1588, and the laſt in 1607; and he brought down the hiſtory of the church to 1198. This voluminous and elaborate work was undertaken with a view of counter-acting the influence of the proteſtant compilation by the centuriators of Magdeburgh, which was intended to expoſe the abuſes and inconſiſtencies of the Romiſh church; and the author, adhering rigidly to his main object, and approving himſelf a bigoted partizan of the ſee of Rome, has on many occaſions ſacrificed truth to the prejudices and intereſts of a party. He has been charged even with intentional miſrepreſentations; and he has been betrayed by his imperfect acquaintance with the Greek language into many errors, and by his credulity into the recital of many fables, which have been rejected by many judicious writers of his own party. The work, however, is a monument of aſſiduity and labour. It is methodically conducted, and upon the whole is an uſeful, though ſometimes a fallacious, guide in the chronological hiſtory of the events that happened under the Roman emperors. The ſtyle, though not pure and elegant, is generally perſpicuous. Amongſt the critics and cenſurers of this work, we may reckon both proteſtants and catholics. The learned Iſaac Caſaubon undertook a refutation of the Annals of Baronius, in a work intitled "Exercitationes, &c.;" and though he cloſed it with the 34th year of the Chriſtian æra, he pointed out a great number of palpable errors into which the Roman annaliſt had fallen during that ſhort interval. Even the Roman catholic literati acknowledge the inaccuracies and faults of Baronius; and hence Pagi, Norris, and Tillemont, &c. have been employed to correct them. Accordingly, a new edition of theſe "Annals" was publiſhed at Lucca, in 1733, with the corrections of theſe reviewers at the foot of every page. The original work was firſt printed at Rome, and ſoon after at Antwerp by Plantin; and editions have alſo been publiſhed at Cologne and Venice. Abridgments of it have alſo been publiſhed by ſeveral perſons. About two years before the appearance of the "Annals," Baronius publiſhed a kind of prelude, intitled, "Martyrologium Romanum reſtitutum." &c. or "Notes on the Roman Martyrology," folio, 1586; and afterwards often printed with corrections. Moſheim's Eccl. Hiſt. vol. iv. p. 206. Cave's Hiſt. Lit. tom. i. Prolegomena, p. 6, &c.

BARONIUS, *Theodore*, of Cremona, in Italy, publiſhed in 1609, in 4to, "De operationis meiandi triplici læſione et curatione, libri duo, in quibus morbi omnes renum, et veſicæ, ex Galeni præſertim mente, pertractantur." He was a ſtrenuous defender of the doctrines of Galen, with whom, he is ſaid to have declared, it is more creditable to err, than to reaſon right on any other ſyſtem: but he has in ſome points left his guide. He recommends the uſe of cantharides internally in affections of the kidnies and bladder, a practice it is probable Greenveldt learned from him: he alſo injected medicated liquors into the bladder, with the view of facilitating the egreſs of calculi, or of diſſolving them. Hall. Bib. Med.

BARONIUS, *Vincentius*, a celebrated Italian phyſician, publiſhed in 1636, 4to. "De Peripneumia, anno 1633, et aliis temporibus, Florentiam, aliaſque regiones, populiter infeſtante, ac annexis hactenus obſervatis, libri duo, Forolivii," a work of conſiderable merit, giving a particular account of the diſeaſe, and of the method found moſt ſucceſsful in combating it, with the appearances obſerved on diſſecting the bodies of thoſe who died of the complaint. The epidemic was attended with fever, pain in the cheſt, cough, difficulty of breathing, and an inextinguiſhable thirſt. Thoſe who expectorated freely, early in the complaint, particularly if they had been plentifully blooded, uſually, he ſays, recovered. The lungs of thoſe who died were univerſally inflamed; ſometimes, but not always, the pleury was alſo affected; and in ſome of the ſubjects, ſerum was found effuſed in the cavity of the thorax. The diſeaſe was not, he ſays, contagious. Haller. Bib. Med.

BARONTHALA, in *Geography*. See LASSA.

BARONY, BARONIA, or BARONAGIUM, the lordſhip or fee of a baron, either temporal or ſpiritual; in which ſenſe barony amounts to the ſame with what is otherwiſe called *honour*.

A barony may be conſidered as a lordſhip held by ſome ſervice in chief of the king, coinciding with what is otherwiſe called *grand ſergeanty*.

Baronies, in their firſt creation, moved from the king himſelf, the chief lord of the whole realm, and could be holden immediately of no other lord. For example, the king enfeoffed a man of a great ſeigneurie in land, to hold to the perſon enfeoffed and his heirs, of the king and his heirs, by baronial ſervice, to wit, by the ſervice of twenty, forty, ſixty knights, or of ſuch other number of knights, either more or fewer, as the king by his enfeoffment limited or appointed. In the ages next after the Conqueſt, when a great lord was enfeoffed by the king of a large ſeigneurie, ſuch ſeigneurie was called a *barony*, but more commonly an *honour*: as the honour of Glouceſter, the honour of Wallingford, the honour of Lancaſter, the honour of Richmond, and the like. There were in England certain honours, which were often called by Norman or other foreign names; that is to ſay, ſometimes by the Engliſh, and ſometimes by the foreign name. This happened when the ſame perſon was lord of an honour in Normandy or ſome other foreign country, and alſo of an honour in England. For example, William de Forz, de Force, or de Fortibus, was lord of the honour of Albemarle in Normandy, he was alſo lord of two honours in England, to wit, the honour of Holdernеſſe, and the honour of Skipton in Cravene. Theſe honours in England were ſometimes called by the Norman name, the honour of Albemarle, or the honour of the earl of Albemarle. In like manner, the earl of Britannie was lord of the honour of Britannie in France, and alſo of the honour of Richmond in England: the honour of Richmond was ſometimes called by the foreign name, the honour of Britannie, or the honour of the earl of Britannie. This ſerveth to explain the terms, honour of Albemarle in England, *honor Albemarliæ*, or *comitis Albemarliæ in Anglia*; *honor Britanniæ*, or *comitis Britanniæ in Anglia*, the honour of Britannie, or the earl of Britannie in England. Not that Albemarle or Britannie were in England, but that the ſame perſon reſpectively was lord of each of the ſaid honours abroad, and of each of the ſaid honours in England. The baronies belonging to biſhops are by ſome called *regalia*, as being held ſolely on the king's liberality. Theſe do not conſiſt in one barony alone, but in many; for, *tot erant baroniæ, quot magna prædia*. See BISHOP.

A barony, according to Bracton, is a right indiviſible: wherefore, if an inheritance be to be divided among the coparceners, though ſome capital meſſuages may be divided, yet if the capital meſſuage be the head of a county or barony, it may not be parcelled; and the reaſon is, leſt by this diviſion many of the rights of counties and baronies by degrees come to nothing, to the prejudice of the realm, which is ſaid to be compoſed of counties and baronies.

BARONY is in Ireland the name of the diviſions of the counties, anſwering to the Engliſh hundreds. According to theſe, county taxes are aſſeſſed; and they are often noticed in the proceedings of parliament. The number of baronies in Ireland is 252.

BARONYCHIA, in *Botany*. See ASPLENIUM *ruta muraria*.

BAROPHTHAS, in *Ancient Geography*, a town of Perſia proper, according to Zoſimus.

BAROPTIS, or BAROPTINUS LAPIS, in *Natural Hiſtory*, a name given by the ancient naturaliſts to a ſpecies of ſtone, ſuppoſed to have wonderful virtues againſt venomous bites, externally applied. Pliny has left us but a very ſhort deſcription of it: he ſays, it was black in colour, but variegated with large ſpots of red and white.

BAROS, in *Ancient Geography*, a place of Aſia, in Meſopotamia.

BAROSCOPE, derived from βαρος, *onus*, and σκοπεω, *video*, a machine contrived to ſhew the alteration in the weight of the atmoſphere. See BAROMETER.

BAROSELENITE of Kirwan, in *Mineralogy*. See PONDEROUS SPAR.

BAROVSK, in *Geography*, a diſtrict of the government of Kaluga in Ruſſia, ſituate on the river Protva, which falls into the Occa.

BAROWECZ, a town of Poland, in the palatinate of Lublin, 36 miles north of Lublin.

BAROZZI, JAMES, in *Biography*. See VIGNOLA.

BARPANA, in *Ancient Geography*, *Corſoli*, an iſland of Italy, in the Tuſcan ſea, according to Pliny.

BARQUES POINT, in *Geography*, a cape on the north-eaſt of Sagana bay in lake Huron.

BARQUETTE, or BARCHETTA, in the Mediterranean, denotes a leſſer ſort of barks, uſed for the ſervice of gallies much as boats and ſhallops are for other ſhips, as to fetch proviſions, water, carry perſons aſhore, and the like.

BARR. See BAR.

BAR, BARRA, or BARRO, in *Commerce*, denotes a Portugueſe long meaſure, uſed in the menſuration of cloths, ſtuffs, and the like; ſix whereof are equivalent to ten *cavidos* or *cabidos*; each *cavido* equal to $\frac{4}{7}$ of a Paris ell.

The Spaniſh *Barra* is the ſame with the yard of Seville.

BARR *of Valentia* is equal to $\frac{1}{12}$ of the Paris ell; the barr of Caſtile is equal to $\frac{5}{7}$ of the Paris ell; and the barr of Arragon is equal to $\frac{3}{4}$ of the Paris ell. Savar. Dict. Com. p. 273. See MEASURE.

BARR is alſo uſed by the Portugueſe in the Eaſt Indies for a weight, more frequently called BAHAR.

BARR or *Baar*, in *Geography*, a town of France, in the department of the Lower Rhine, and chief place of a canton, in the diſtrict of Benfelden; 7 miles W.N.W. of Benfeld.

BARR-*Dice*, a ſpecies of falſe dice ſo formed as that they will not eaſily lie on certain ſides, or turn up certain points.

Barr-Dice ſtand oppoſed to flat dice, which come up on certain points oftener than they ſhould do.

BARRA, in *Geography*, an iſland of Africa, in the mouth of the river Gambia.

BARRA or *Bar*, a kingdom of Africa, near the river Gambia, extending on the borders of it about 20 leagues.

BARRA or *Barray*, one of the weſtern iſlands annexed to Inver-

Inverneſsſhire, in Scotland, has remained for many ages in the poſſeſſion of the Macnicls of Barray or Barra. It is well ſtored with black cattle, and fruitful in barley and oats. The manufacture of kelp is carried on with conſiderable profit in this iſland. Cod and ling are caught on the eaſt coaſt in great quantities; and the fiſhermen alſo take ſome dry-fiſh, the oil of which they burn in their lamps, and they ſell that which is not conſumed by themſelves at 7d. or 8d. the Scots pint. Shell-fiſh, and particularly cockles, are abundant: the cockles are found in the great ſand at the north end of the iſland, and afford a very plentiful ſupply of ſubſiſtence to the inhabitants. The fiſhery, however, has been much neglected. This iſland is ſomewhat hilly; in extent it is nearly 8 miles long and 4 broad; it is populous, notwithſtanding the late emigrations to America, and it is ſaid to contain about 1604 inhabitants. The natives are in general Roman Catholics. It is ſituated nearly ſouth from South Uiſt, and almoſt communicates with Benbecula at low water, and on this account they are both comprehended ſometimes under the name of Long iſland. Its coaſt on the weſt ſide is low and flat, but on the eaſt ſide ſteep and irregular. N. lat. 57° 2′. W. long. 7° 30′.

Barra *Lough*, a lake of Ireland, in the county of Donegal, through which the river Gubarra flows: 20 miles north of Donegal.

BARRABA. See Berbera.

BARRABOA, a town of Africa, in the country of Magadoxa.

BARRAC *Lough*, a lake of Ireland, in the county of Monaghan, on the weſtern ſide of which is ſituated the town of Caſtle Blayney.

BARRACKS. See Baracks.

BARRACOL, in *Ichthyology*, a name given by Artedi, from the Venetians, to expreſs the ſpecies of ray-fiſh, called by Bellonius and Geſner *maraletus*, and by others *raia oculata laevis*.

The ſpecific name of Artedi carries in it a much better character of the fiſh; he calls it the *ray*, with a ſmooth back and belly, and with the eyes ſurrounded with a ſeries of ſpines, and three other rows of them on the tail.

BARRA-Conda, in *Geography*, a town of Africa, in the country of Nigritia, ſeated on the river Gambia.

BARRACOO, or as the ſailors call it, Berka, or Berku, lies on the weſt coaſt of Africa, 6 or 7 leagues W.S.W. from Acra, and is known at ſea by two very high mountains behind it, one of which is double at the top with a ſaddle, and they are covered with trees. Some rocks lie off in the ſea juſt before it, and form a kind of haven.

BARRACOPE, lies on the weſt coaſt of Africa, ſeven leagues E.S.E. from St. Mary's, and at the ſame diſtance from the river Junk in the ſame direction on the other hand. This coaſt abounds with negroe towns, and alſo with trees and water.

BARRAD, a town of Arabia, 40 miles ſouth-eaſt of Saade.

BARRADY. See Barady.

BARRAGAN, or Barracan, in *Commerce*, a kind of ſtuff belonging to the claſs of camblets, only of a grain much coarſer than the reſt, manufactured in divers parts of France and Flanders, chiefly at Abbeville, Amiens, Rouen, and Liſle, and now in England.

The word is barbarous Latin, formed, as ſome ſuppoſe, from *barra*, q. d. *barrarum formam referens*. Du-Cange. The chief uſe of *barragans*, called alſo by the French *bouracans*, is for ſurtouts, or upper garments againſt the rain, being, when good, of ſo cloſe a grain, that the water will not ſoak through, but only run upon them.

For the woof, its thread is ſingle, twiſted, and fine ſpun; that of the warp is double or triple, i. e. compoſed of two or three threads well twiſted together. The uſual matter it is made of, is wool; though there are ſome made at Rouen, where the warp is hemp, and the woof wool. Some *barragans*, again, are made of wool, dyed before it comes to the loom; others are woven white, and dyed afterwards, red, black, blue, brown, &c. They are not fulled, but only boiled two or three times in fair water, when they come from the loom; then calendered to make them ſmooth and even; and laſtly, made into rolls called pieces of *barragan*.

BARRAL, Peter, in *Biography*, a French abbé, was born at Grenoble, and removing to Paris, at an early period of his life, took up the office of a ſchool-maſter. He died there July 21, 1772. His chief literary work is a "Dictionnaire hiſtorique, littéraire, et critique des Hommes celèbres," 6 vols. 8vo. 1759. It was nicknamed the Martyrology of Janſeniſm, compiled by a convulſionnaire. Although this work betrays too much of the ſpirit of party, the articles of learned authors, poets, orators, and literary men, are generally compiled with judgment and taſte. Barral has alſo publiſhed an abſtract of the letters of madame de Sevigné in 12mo. under the title of "Sevigniana;" and a valuable abridgment of the "Dictionnaire des Antiquités Romaines," by Pitiſcus, in 2 vols. 8vo. He was a man of erudition, and of lively converſation; and the ſtyle of his writings is vigorous and manly, though ſometimes negligent and incorrect. Biog. Dict.

BARRA-MAHAL, or Barra-Maul, denoting the "twelve places," in *Geography*, a valley called alſo Vaniambaddy, in the peninſula of India, containing 12 fortreſſes of ſome note: viz. Kiſtnagheri, Jegadivy, Candely, Congoonda, Vaniambaddy, Mahrauzegar, Cochingur, Cooturagur, Bazingur, Tripatore, Tadcull, and Gigangurry.

BARRAN, a town of France, in the department of the Gers, and chief place of a canton in the diſtrict of Auch, containing about 700 inhabitants; 2 leagues W.S.W. of Auch.

BARRANCA, a town of South America, in Peru, with a harbour, in the Pacific ocean. The juriſdiction of Guaura begins at this town. The number of houſes does not exceed 60 or 70, and yet the town is populous, many of its inhabitants being Spaniards. Near the town is a river of the ſame name, which divides into three branches. The port is to leeward of a ſmall low point. S. lat. 10° 30′. W. long. 42° 4′.

BARRARDA, in *Ancient Geography*, a town of Aſia, in Paropamiſus. Ptolemy.

BARRATI, *barred*, an appellation given to the Carmelites after they were obliged to lay aſide the white cap, and wear cowls ſtriped black and white.

BARRATRY is uſed for bribery or corruption in a judge giving a falſe ſentence for money.

Barratry, in *Commerce*. See Baratry.

This term comprehends any ſpecies of fraud, knavery, deceit, or cheating, committed by the maſter or mariners of a ſhip, by which the owners ſuſtain an injury; as by running away with the ſhip, wilfully carrying her out of the courſe preſcribed by the owners, ſinking or deſerting her, embezzling the cargo, ſmuggling, or any other offence, whereby the ſhip or cargo may be ſubject to arreſt, detention, loſs, or forfeiture. Hence, in caſes of inſurance, if the breach aſſigned in the declaration on a policy was the loſs of the ſhip "by the fraud and negligence of the maſter," this was determined to be a ſufficient averment of a loſs by barratry. At Amſterdam, Hamburgh, Middleburgh, and ſome other maritime towns, inſurers are, by poſitive law,

made responsible for the barratry of the master and mariners. With us the law permits the owner of the ship to be insured against the misconduct of the captain and crew, though they are his own agents, and the persons of his own choice. If the captain be the insured, no agreement on the part of the insurers can make them liable for barratry committed by himself; but they may be liable, in such case, for the barratry of the sailors, in which he has no part. With us no fault of the master or mariners amounts to barratry, unless it proceed from an intention to defraud the owners of the ship. Therefore if the master from ignorance, unskilfulness, or from any motive which is not fraudulent, depart from the proper course of the voyage; this will be a deviation which will avoid the policy, but it will not amount to barratry. In France if by the policy the insured be protected against the barratry of the master, the underwriters are answerable for the misconduct of the mariners also; because the term master (*patron*) comprehends all the persons on board who are in the ship's pay. Our policies are more explicit, and distinctly specify barratry of the master and mariners. Hence it has been concluded, that with us, as in France, the mariners may commit barratry, without the concurrence of the master, or against his will. Nevertheless it has been held by lord C. J. Lee, at Nisi Prius, that a deviation to which the master was compelled by a very daring act of violence and disobedience on the part of the seamen, did not amount to barratry, because the ship was not actually run away with in order to defraud the owners. The insurers, therefore, were held to be answerable, and the plaintiff had a verdict. This learned judge seems to have thought, that nothing short of running away with the ship, with intent to defraud the owners amounted to barratry: and yet in another case, the conduct of the master was held to be barratry, though certainly much more venial than that of the sailors in the former case. Hence it has been inferred, that though the captain conceive that what he does is for the benefit of the owners, yet if it be contrary to his duty to them, it is barratry. An owner himself cannot commit barratry; neither can it be committed against the owner, with his consent. If the master of the ship be also the owner, he cannot commit barratry, because he cannot commit a fraud against himself. Although it be a maxim in law, that fraud shall never be presumed, but must be strictly proved; and it is a rule in questions of insurance, that he who charges barratry must substantiate it by conclusive evidence; yet a case has occurred, in which it was determined, that proof of the master's having carried the ship out of the regular course of the voyage for fraudulent purposes of his own is *prima facie* sufficient to entitle the plaintiff to recover, without shewing negatively that he was not the owner, or that any other person was the owner, or that this was not done with the owner's consent. Though the words "in any lawful trade," be inserted in the policy, still the insurer is liable, if the captain commit barratry by smuggling on his own account. It appears, that if a loss do not happen within the time prescribed by the policy for the duration of the risk, the insurer will not be liable for it, though it be the undoubted consequence of the act of barratry.

The offence of barratry, in itself so mischievous, and so injurious to commerce, is punishable as a public offence, according to the guilt of the offender, by every commercial state in Europe. In France, any fraud practised by the master or mariners, with or without the privity of the owners, and frauds committed by the owners themselves, are accounted barratry, and very severely punished. The captain of a ship was sentenced to the gallies for life, for figuring false bills of lading in order to change the voyage and carry away the goods; and the owner, who was convicted of being an accomplice in this crime, and of robbery in causing the ship to be carried to a wrong port, and converting the goods on board to his own use, was sentenced to the gallies for five years. With us the stat. 1 Ann. st. 2. c. 9. § 4 & 5, makes it felony to destroy any ship to the prejudice of the owners of the ship or goods on board; and takes away the benefit of clergy from such offences, committed on the high seas. By stat. 4 Geo. I. c. 12. § 3. if any owner, captain, master, mariner, or other officer of any ship, shall wilfully cast away, burn, or otherwise destroy the ship of which he is owner, or to which he belongs, or in any manner direct or procure the same to be done, to the prejudice of the person or persons that shall underwrite any policy of insurance thereon, or of any merchant that shall load goods thereon, he shall suffer death: and the stat. 11 Geo. I. c. 29. takes away clergy from such offenders in all cases. Marshall's Treatise on the law of Insurance, vol. ii. chap. 13. See PIRATE.

BARRATRY is also used in the law of England for the offence of stirring up frequent suits and quarrels among his majesty's subjects. The term, however, is of foreign origin; and in Italy and other countries seems ordinarily to have been applied to the traffic of ecclesiastical benefices; but was afterwards used in a more general sense, as applicable to all corrupt buying and selling of justice. In Scotland it signified the corrupt purchasing of benefices or offices of collection, from the see of Rome, by persons who left the realm for that purpose: a practice, which had become frequent, and was in various respects injurious to the realm; as a means of carrying money out of it, without any return of value, as prejudicial to the right of patronage in the king or others, and to the free elections of the monks in the monasteries, both which the pope by prevention pretended to exclude, and as contributing to raise the rate of taxation upon benefices, by the false accounts which those suitors for the office of collector carried to the pope.

BARRE. See BAR.

BARRE, *Lewis-Francis Joseph De La*, in *Biography*, was born at Tournay in 1688, and educated at Paris; where he applied to the study of the ancient languages and to the collation of MSS with such assiduity, that he was recommended to Anselm Banduri, the learned Benedictine, as a proper assistant in his antiquarian researches. In consequence of their joint labours, they published the "Imperium Orientale," and the collection of the medals of the Roman emperors from Decius. For these services Barre had a pension from the grand duke of Tuscany. He also gave a new edition of the "Spicilegium" of Luke d'Achery, in 3 vols. fol. printed at Paris in 1723. He had also a considerable share in the new edition of "Moreri's Dictionary" of 1725. In 1727, he was elected a member of the Academy of Inscriptions, the memoirs of which he enriched by several valuable papers, historical, chronological, geographical, and miscellaneous. He also published, in 1729, in one vol. 4to. "Memoirs for the History of France and Burgundy," known under the title of the "Journal of Charles VI." Besides other publications of a less important nature, he finished more than 100 select articles of a new and ample dictionary of Greek and Roman antiquities; but he was prevented by death, in 1738, from completing his undertaking. Moreri.

BARRE, *Joseph*, a learned historian, was born in 1692; and entering into the church, he became first a regular canon of St. Genevieve, and afterwards chancellor of the university of Paris. He was distinguished for piety and erudition, and for his industry as a writer. His principal works

works are "Vindiciæ librorum deutero-canonicorum Veteris Teſtamenti," 1730, 12mo.; "A General Hiſtory of Germany," 11 vols. 4to. 1748; "The Life of Marſhal de Fabert," 2 vols. 12mo. 1752; and the "Hiſtory of the Laws and Tribunals of Juſtice," 4to. 1756. Nouv. Dict. Hiſtor.

Barre', in *Geography*, a town of France, in the department of the Lozerre, and chief place of a canton in the diſtrict of Florac, 2 leagues S. of Florac, and 6½ W.N.W. of Alais.

Barre, *La*, a town of France, in the department of the Eure, and chief place of a canton in the diſtrict of Bernay, 3 leagues S S.E. of Bernay, and 6½ W.S.W. of Evreux.

Barre', a townſhip of America, in Worceſter county, and ſtate of Maſſachuſetts, containing 1613 inhabitants; 24 miles N.W. of Worceſter, and 66 W. of Boſton; deriving its name from that of the late Col. Barré, a Britiſh ſenator, and an advocate for the cauſe of America, in the war which terminated in the ſeparation of the two countries. The townſhip has good paſtures, fattens a multitude of cattle, and produces more butter and cheeſe for the market than any other of the ſame extent in the ſtate.

Barre' is alſo a townſhip of Huntingdon county in Pennſylvania.

BARREA, a circar or diſtrict of Hindoſtan, in the country of Guzerat.

BARREE Bay. See Baxa.

BARREGES Les Bains. See Bareges.

BARREL, an oblong veſſel, of a ſpheroidal, or rather a cylindroidal figure, uſed for the holding divers ſorts of goods both liquid and dry.

Barrels are of divers uſes in *Artillery*, as for powder, ſmall ſhot, flints, ſulphur, ſalt-petre, roſin, pitch, quick-match, and many other things.

Barrels filled with earth ſerve to make a parapet to cover the men, like gabions and canvas bags.

Fire-barrels are caſks of divers capacities, filled with bombs, grenadoes, fire-pots mixed with great quantities of tow ſoaked in petrol, turpentine, pitch, &c. uſed by the beſieged to defend breaches. Theſe are ſometimes alſo called *thundering barrels*, being to be rolled down on the enemy on their entering the breach.

Barrel is alſo uſed for a certain quantity, or weight of ſeveral merchandizes; which is various as the commodities vary.

The Engliſh barrel, wine meaſure, contains the eighth part of a tun, the fourth part of a pipe, and the moiety of a hogſhead, that is, thirty-one gallons and a half; of beer it contains thirty-ſix gallons, and of ale thirty-two gallons.

The barrel of beer, vinegar, or liquor preparing for vinegar, is to contain 34 gallons, according to the ſtandard of the ale quart. 10 and 11 W. III. cap. 21.

The barrel of herrings is to contain 32 gallons, wine meaſure; being about 28 gallons, old ſtandard: uſually amounting to about 1000 full herrings, 13 Eliz. cap. 11.

The barrel of ſalmon is to contain 42 gallons, 5 G. cap. 18.—And the barrel of eels the ſame, 22 Ed. IV. cap. 2.

The barrel of ſoap is to contain 256 pounds, 10 A. cap. 19.

A barrel of Eſſex butter weighs 106 pounds, and of Suffolk butter 256 pounds.

In ſome parts of Ireland, particularly in the city of Cork, coals and ſalt are meaſured by the barrel. The barrel uſed to contain 7 buſhels Wincheſter, but that lately introduced for coal is, according to law, 4 buſhels; i. e. 40 Engliſh, or 50 Iriſh gallons. Salt is ſtill meaſured in the barrel of 7 buſhels, but *ſtrike* meaſure; whereas the coal was ſold by *heap* meaſure, which put it into the power of the meaſurer to cheat either the ſeller or buyer at pleaſure. The abuſe was found ſo great that this kind of meaſurement has been aboliſhed.

The barrel or barille of Florence is a liquid meaſure containing 20 flaſques, flaſks, or one-third of a ſtar or ſtaio.

The barrel, barique, of Paris, contains 210 pints, or 26 ſeptiers and a half; four bariques make three muids, or one tun.

Barrel, in *Anatomy*, denotes a pretty large cavity ſituated behind the drum of the ear, lined with a membrane in which there are ſeveral veins and arteries. It is ſaid to be full of a purulent matter in children; and in its cavity there are four ſmall bones; viz. the *malleolus*, the *incus*, the *ſtapes*, and the *os orbiculare*.

Barrel *of a Clock*, in *Mechanics*, is a cylindrical part, about which the ſtring is wound. And the barrel of a watch is the cylinder which contains the ſpring, and about which the chain coils.

Barrel *of a Gun, Piſtol*, &c. is the cylindrical tube through which the ball is diſcharged.

Barrel *of a Jack*, is the cylindrical part whereon the line is wound.

Barrel *of a Pump*, is the wooden tube which makes the body of the engine, and wherein the piſton moves.

BARRELET, in *Heraldry*. See Barrulet.

BARRELIER, James, in *Biography*, a Dominican monk, was born at Paris, in 1606, of a noble family. Having received a liberal education, and being well ſkilled in Latin, Greek, and ſeveral modern languages, he applied himſelf to the ſtudy of medicine; but entering among the Dominicans, in 1635, he now confined himſelf to acquiring a knowledge of plants. With this view, he embraced an opportunity offered him, of accompanying the head or general of the Jacobins, as an aſſiſtant, with whom he travelled over a great part of France and Spain, collecting every where whatever rare plants could be found, of which he procured drawings to be made. At the end of 23 years, a great part of which was ſpent in Italy, he returned to Paris. He now applied himſelf in arranging the plants he had collected, propoſing to publiſh accounts and delineations of them, in the manner adopted by Tournefort, and had proceeded ſo far as to get engravings of 1324 of the plants finiſhed, when he died of aſthma in 1672. His manuſcripts, drawings, and plates, were depoſited, after his death, in the library of the Jacobins at Paris, where they remained until the year 1714, when Antonine Juſſieu undertook to publiſh them, under the title of "Plantæ per Galliam, Hiſpaniam, et Italiam obſervatæ, et iconibus æneis exhibitæ, a R. P. Jacobo Barreliero, opus poſthumum;" Pariſiis, 2 vol. fol. The engravings are on a ſmall ſcale, frequently borrowed from other works, Haller ſays, and many of them repetitions of the ſame plants. Many of them, however, he adds, are new, and of ſcarce and valuable plants, which entitles theſe volumes to a place in all botanical libraries. Haller. Bib. Botan. Eloy. Dict. Hiſt.

BARRELLING, the art of putting up certain commodities in caſks or barrels.

Gun-powder for the land ſervice is often barrelled double, the barrel it is put in being incloſed in another barrel, partly to prevent the powder catching moiſture in the ſubterraneous places it is kept in, and partly to enable it the better to bear the motion and jolting of carriages, when it is to be conveyed to another place.

Barrelling *of Herrings*, imports the cutting off their heads as they are thrown into the buſs, and afterwards pull-

ing out the guts, ſalting them, and putting them up in barrels. There are two ſorts of barrelled herrings; one wherein they are laid orderly, layer over layer, called by ſome packed herrings; the other wherein they are thrown at random, called herring in wrack.

The difference ariſes thus: as faſt as the fiſhermen catch the herrings, they throw them on the deck of the veſſel; where having gutted and ſalted them, they throw them at random into the barrel, to be carried home: this is the herring in wrack.

When arrived aſhore, they take the fiſh out of theſe barrels, caſt them into a tub, and ſalting them anew, range them handſomely in their barrels again, laying ſalt over them, to preſerve them; theſe are the packed herrings. And it is in this ſtate they are uſually ſold.

BARRELL's Sound, in *Geography*, lies on the N.W. coaſt of America, and is called by the natives *Conget-hoi-toi*. It is ſituated about 6 leagues from the ſouthern extremity of Waſhington or Charlotte iſlands, in a N.W. direction, about N. lat. 52°. W. long. 131°. It has two inlets, one on the eaſt, the other on the weſt ſide of the iſland; the latter is the beſt, the other is dangerous. The ſhores are of a craggy black rock; and the banks are lined with trees of various kinds; as pines, ſpruce, hemlock, alder, &c. This ſound was firſt viſited by Capt. Gray in the Waſhington in 1789, and derived its name from Joſeph Barrell Eſq. of Charleſtown.

Barrels, the name given to rocks near the ſouth coaſt of the county of Wexford, in the Iriſh ſea, 5 miles S.W. of Carnſore point.—Alſo, to rocks near the ſouth coaſt of Ireland, in Courtmaſchery bay.

BARRE'ME, a town of France, in the department of the Lower Alps, and chief place of a canton in the diſtrict of Digne, 10 miles S.S.E. of Digne.

BARREN, is a term of Saxon origin, and means, applied to animals or vegetables, unfruitful, ſteril, incapable of producing or propagating its like. Land is called barren, on which no plants, fit for the ſuſtenance or nouriſhment of man or animals, will grow. Metaphorically applied to the human mind, it means dull, ſtupid, uninventive.

In man and animals barrenneſs is uſually occaſioned by ſome defect in the organs of generation. Both ſexes are liable to this deficiency; but it is thought to be more incident to the female than the male. It is remarkable, that hybrid animals, as the mule, are incapable of propagating their like. See Hybrids.

Barrenneſs may alſo be occaſioned by general debility, or ill health; and yet women in nearly the laſt ſtage of conſumption, are not unfrequently found to conceive, to carry the fruit to its full term, and at length produce it in a ſound and healthy ſtate; the progreſs of the conſumption being ſtopped during the time of utero-geſtation. See Consumption.

Defects, occaſioning barrenneſs or ſterility, are either external or internal. The moſt uſual external deficiency in men, is, a penis too ſhort, ſlender, or feeble. This ſtate of that organ is often attended with a degree of curvature, the end being held down by a ſtrong bridle. In theſe caſes, the orifice of the urethra, inſtead of being at the end is in the under part of the penis, within half an inch of its extremity; whence there is not only conſiderable difficulty in introducing it into the vagina of the female, but in the venereal orgaſm, the ſemen, inſtead of being thrown forwards towards the os uteri, is ejected backwards, and ſo loſt.

In the female, ſtraitneſs of the vagina, or coheſion of its ſides, preventing the intromiſſion of the male organ, may occaſion barrenneſs. Theſe defects may ſometimes be remedied by appropriate operations. (See Vagina, *Diſeaſes of.*) The ſame effect, a ſtraitneſs of the vagina, may be occaſioned by ſcirrhous affections of its ſides (ſee as above). But a more common caſe is an expanſion of the membrane called the hymen, ſhutting up the entrance of the vagina, and only having, at the anterior part, a ſmall hole for the paſſage of the urine. Midwives are therefore cautioned, on the birth of female children, to examine whether the paſſage into the vagina be open, and if they find it covered by a thin membrane, to ſeparate it with their nails, and to inſpect the part for a few ſubſequent days, that it may not coaleſce again. If this caution has been neglected, the membrane, which at the birth of the child is ſo tender as to yield to the ſlighteſt force, becomes, in a few years, thick, firm, and fleſhy, and can only then be divided by a painful and troubleſome operation. See Hymen, *Imperforated.*

The vagina is alſo ſometimes found divided into two canals or paſſages, by a ſtrong, fleſhy, membranous partition, running its whole length, or nearly ſo, rendering the introduction of the male organ difficult or impracticable. Theſe two paſſages ſometimes communicate at the upper end, and receive a ſingle os uteri; at others, they continue ſeparate, terminating, or each of them leading to an os uteri; the uterus having, in theſe caſes, two cavities, or there being two uteri. (See the articles Vagina, and Uterus.) Theſe, however, may be conſidered as cauſes rendering impregnation difficult, but not impoſſible. More certain and inevitable cauſes of barrenneſs in women are, impervioufneſs, ſcirrhus, or other diſeaſes of the os uteri, Fallopian tubes, or of the ovaries, which are generally incurable.

Debility, occaſioning barrenneſs in men particularly, is moſt commonly cauſed by the too early, or too frequent, and inordinate uſe of venery, by manſtrupation, or ſelf-pollution (ſee Onanism), by repeated attacks of gonorrhœa or ſiphylis; by gleets, and by frequent and long continued courſes of mercury. For the cure of thoſe complaints, ſee Gonorrhoea, Lues Venerea, Gleets; ſee alſo Conception, *Cauſes impeding.*

Barren *Corn*, in *Agriculture*, a term applied to a diſtemper in corn, in which the ears of ſuch kinds as are affected, as wheat and rye, which are the moſt ſubject to it, are long, lean, and white; in ſome, the ſtamina, or ſmall threads in the middle of the flower, are dry, tranſparent, and horned; the female organs are ſmall, whiter, and leſs velvety than in healthy ears; in others, the filaments are ſwelled, the apices or knobs on the tops of the ſtamina void of duſt or farina, and the ſtigma badly unfolded. The ſtigmata of all the bloſſoms of an ear are ſometimes dried and parched, and at other times the apices are much ſwelled out. This diſtemper of corn has been aſcribed to various cauſes; ſuch as its too ſudden growth, the influence of froſt or of hot gleams of ſunſhine after heavy ſhowers; and ſometimes, though rarely, to inſects. Count Ginnani imputes it to the faultineſs of the ſoil; and he recommends particular attention to the amendment of it by ſuch means as are beſt ſuited to its nature; and he alſo directs to change the ſeed every year.

Barren *Earth*, a term given by ſome writers to particular ſterile ſoils, and alſo to the under ſtratum of earth, or that which lies immediately below the bed of mould, which is moſt frequently turned up and cultivated for the nouriſhment and ſupport of plants. The idea of the under ſtrata of ſoils being improper for the growth and ſupport of plants ſeems to have originated in error, as it is now well known that every kind of earth, whether placed near the ſurface

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or at a conſiderable depth below it, is capable of affording the ſupport of plants, when well broken down and rendered ſufficiently mellow by ploughing, and the influence of the atmoſphere.

Barren *Lands*, are ſuch as either naturally, or for want of proper tillage and cultivation, do not on being ſown produce good crops or ſuch as are ſufficient for repaying the expences of the cultivator.

Barren *Money*, in the *Civil Law*, denotes that which is not put out to intereſt.

Barren *Soils*, in *Agriculture*, are thoſe which, from the nature of their conſtituent ingredients, are incapable of affording full crops. The materials which enter into the compoſition of ſuch ſoils are, according to Mr. Kirwan, ſilex, argill, and calx, in the following proportions.

Silex from	42 to	88
Argill	20	50
Calx	4	20

From which he concludes the troy pound to contain, allowing 120 grains for water, of

Silex from	2368 to	4963
Argill	1128	1622
Calx	225	600

The ſpecific gravity in ſuch ſoils has not been fully aſcertained, but the ſame writer ſuppoſes it to be either much above or greatly below that of other kinds, according as they are too cloſe or too open and porous. That of barren ſandy land was found by M. Fabroni to be 2.21. See Soil.

Barren *Springs*, in *Rural Economy*, ſuch ſprings as are injurious to lands when ſuffered to flow or run over them. Waters that flow from coal mines, or through mineral ſtrata, have frequently been obſerved to have this pernicious quality; and ſuch alſo as contain either aluminous or ferruginous materials in a ſtate of ſolution in them.

Barren *Flowers* or *Florets*, called alſo *abortive*, in *Botany*, are ſuch as produce no perfect ſeeds. The barren flowers are ſuch as have ſtamens, but no piſtils; and they are alſo called male flowers. Flowers which have only piſtils, are ſometimes barren, owing to the abſence of other flowers, which bear the ſtamens. In the umbelliferous flowers, it is not uncommon to have ſeveral of the florets barren, though they are furniſhed both with ſtamens and piſtils; perhaps owing to ſome imperfection in the piſtils; but future obſervations muſt determine this matter.

Barren *Creek*, in *Geography*, riſes in the N.W. corner of Delaware ſtate in America, runs about 9 miles S.W. and diſcharges itſelf into Nanticoke river. A triangular tract of land in the N. part of Somerſet county, Maryland, is incloſed between this creek on the S., Delaware ſtates E., and Nanticoke river on the W. and N.W.

Barren *Iſland*, a ſmall iſle in Cheſapeak bay, N.E. from the mouth of Patuxent river, which is ſeparated from Hooper's iſland by a narrow channel on the eaſt.

Barren *Iſland* is alſo an iſland in the Eaſt Indian ocean, about 6 leagues in circumference. The whole iſland has a ſingular and volcanic appearance; and there is upon it a violent volcano, which emits immenſe volumes of ſmoke, and ſhowers of red-hot ſtones, ſome of which weigh 3 or 4 tons, and are thrown ſome hundred yards beyond the foot of the cone. The baſe of the cone is the loweſt part of the iſland, and very little higher than the level of the ſea. It riſes with an acclivity of 32° 17′, to the height of 1800 feet nearly, which is alſo the elevation of the other parts of the iſland. Thoſe parts of the iſland that are diſtant from the volcano, are thinly covered with withered ſhrubs and blaſted trees. It is ſituated in N. lat. 12° 15′, and 15 leagues to the eaſt of the eaſternmoſt cluſter of the Andaman iſlands, and may be ſeen at the diſtance of 12 leagues in clear weather. At a quarter of a mile from the ſhore, there is no ground with 150 fathoms of line. Aſiatic Reſearches, vol. iv. p. 395, &c.

Barren *Iſles*, lie on the N.W. coaſt of America, at the entrance of Cook's inlet. Theſe iſles, ſituated in N. lat. 58° 48′, and E. long. 208° 30′, and cape Elizabeth, ſituated in N. lat. 59° 9′, and E. long. 208° 53′, according to Vancouver's chart, form a channel into Cook's inlet.

Barren *River*, a name given to each of the S.E. branches of Green river, in Kentucky; between which lies *Blue Spring*.

BARRENNESS. See Sterility.

BARRENWORT, in *Botany*. See Epimedium.

BARREONE, in *Geography*, a river of Piedmont, which runs into the Veſubia, near St. Martin, in the county of Tenda.

BARRERE, Peter, in *Biography*, profeſſor of medicine, phyſician to the military hoſpital at Perpignan, his native country, reſided three years at Cayenne, as botaniſt to the king of France, and employed himſelf in acquiring a diſtinct knowledge of the plants and animals indigenous to that country, of which he publiſhed accounts on his return. He died November 1ſt 1755. In 1741, he publiſhed "A Diſſertation on the Cauſes of the Colour of the Skin in Negroes," which he thought was occaſioned by the bile being in them blacker than in Europeans; and in 1746, "Obſervations on the Origin and Formation of figured Stones." But his principal works were, "Eſſai ſur l'Hiſtoire Naturelle de la France Equinoxiale," Paris, 1741, 12mo. in which he gives deſcriptions of the plants he had collected at Cayenne, many of them not before known, with their uſe in medicine, diet, &c. "Nouvelle Rélation de la France Equinoxiale," Paris, 1743, 12mo.; republiſhed, much improved, 1753: a continuation of the former work. In this he gives accounts of the method of cultivating the ſugar-cane, of preparing ſugar, coffee, aloes, and other valuable articles. In the "Hiſtoire de l'Academie des Sciences," 1743, the method of cultivating rice; and in 1751, at Perpignan, 8vo. "Diverſes Obſervations Anatomiques tirées des Ouvertures des Cadavres," containing ſome curious and inſtructive caſes. Haller. Bib. Anat. et Botan. Eloy. Dict. Hiſt.

BARRERIA, in *Botany*, a tree ſo named from Peter Barrere, profeſſor of medicine at Perpignan. Lin. g. Schreb. 1366. Scop. gen. 767. Poraqueiba. Aubl. Guian. Claſs, *Syngeneſia monogamia*. Gen. Char. *Cal.* perianth one-leafed, five-toothed, ſmall. *Cor.* one-petalled, five-parted; parts oblong, acute, convex beneath, concave above, with a double pit; the ſuperior ovate, bifid, the wedge-ſhaped one trifid; excavated for the reception of the ſtamens. *Stam.* filaments five, aſcending linear, wider above, thick, triangular, bordered, curved; anthers erect, four-cornered, marginated, coaleſcing into the form of a mill-wheel; each, in the cloſed flower, anſwering, together with the filaments, to the pits of the two petals. *Piſt.* germ roundiſh; ſtyle ſhort; ſtigma trifid.

Eſſ. Gen. Char. *Cal.* five-toothed, very ſmall. *Cor.* five-parted; ſtyle ſhort; ſtigma trifid.

Species, B. *guianenſis*. Poraqueiba Guian. Aublet. Guian. t. 47. A tree forty or fifty feet high, and two feet and a half in diameter; the bark is aſh-coloured, and the wood is hard and compact, of a reddiſh-brown colour. From the top proceed many branches, ſpreading in all directions; theſe ſend forth numerous twigs, with alternate, entire, ſmooth, firm, ovate leaves, ending in a long point; petioles ſhort, convex beneath, channelled above. The flowers are

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in ſmall axillary ſpikes, alternate, and almoſt ſeſſile. A native of Guiana, in the extenſive foreſts, near the banks of the river Sinemari, fifty leagues from its mouth. It flowers in November.

BARRET, GEORGE, in *Biography*, a painter of landſcape, was born about the year 1732, in the city of Dublin, and exhibited at a very early age a ſtrong diſpoſition to the art in which he afterwards became eminent. Having gained a premium of 5*l.* offered by the Dublin ſociety for the beſt landſcape in oil, he viſited London in 1762, and in the ſecond year after his arrival, obtained a ſimilar prize from the Society for the encouragement of arts, &c. The eſtabliſhment of the Royal Academy of Arts, &c. is ſaid to have been much indebted to the efforts of Mr. Barret, who formed the plan, and became one of its members. He had two decided manners of painting, both with regard to colour and touch; his firſt was rather heavy in both, his latter was much lighter. Scarcely any painter equalled him in his knowledge or execution of the details of nature, the latter of which was particularly light, and well calculated to mark moſt decidedly the true characters of the various objects he repreſented, foreſt-trees in particular. His attention was chiefly directed to the true colour of Engliſh ſcenery, with regard to which he was very happy in his beſt works. His beſt pictures, in this country, executed according to his firſt manner, are to be found in the houſes of the dukes of Buccleugh and Portland, &c. and thoſe of his latter in his great work at Norbury Park in Surry, conſiſting of a large room, painted with a continued ſcene entirely round. The idea in general characteriſes the northern part of this country; and for compoſition, breadth of effect, truth of colour, and boldneſs of manner in the execution, has not been equalled by any modern painter. Barret alſo excelled in water-colours; and his drawings in chalk, Indian ink, and black-lead pencil, have great merit. In all his ſtudies from nature he was very correct and minute. He alſo performed ſome ſlight but ſpirited etchings in landſcapes. He died at Paddington near London in 1784. Pilkington and Strutt.

BARRET *Bank, Great*, in *Geography*, lies at the S. and S.E. end of the iſland of Oleron, on the coaſt of France, and forms the N.W. ſide of the Maumuſon paſſage, as Point de Gardour, on the main land, forms the S.E. ſide.

BARRETRY. See BARATRY, and BARRATRY.

BARRETSTOWN, in *Geography*, a plantation in Hancock county, in the diſtrict of Maine, in North America, having 173 inhabitants.

BARRICADE, or BARRICADO, a military term for a fence or retrenchment, haſtily made with veſſels or baſkets of earth, carts, trees, paliſades, or the like, to preſerve an army from the ſhot or aſſault of an enemy.

The moſt uſual materials of barricades are pales, or ſtakes which are croſſed with battoons, and ſhod with iron at the feet; uſually ſet up in paſſages or breaches, to keep back the horſe as well as the foot.

BARRICADE, in the *Marine*, is a ſtrong wooden rail, ſupported by pillars, and extending as a fence acroſs the foremoſt part of the quarter-deck. In ſhips of war, the intervals between the pillars are commonly filled with cork, junks of old cable, or plaited cordage. About a foot above the rail, there extends a double rope netting, ſupported by cranes of iron; and between the two parts of the netting are ſtuffed hammocks, filled with the ſeamen's bedding, to intercept ſmall ſhot fired by ſwivel-guns and muſkets, in time of battle.

BARRICOURT, in *Geography*, a town of France, in the department of the Ardennes, and chief place of a canton in the diſtrict of Grandpré, 6 leagues S. of Sedan, and 3 N.E. of Grandpré.

BARRIER, in *Fortification*, a kind of fence made at a paſſage, retrenchment, gate, &c. to ſtop up the entry thereof. See DEFENCE. It is uſually made of great ſtakes, about four or five feet high, placed at the diſtance of eight or ten feet from one another, with overthwart rafters; ſerving to ſtop either horſe or foot that would ruſh in. In the middle is a moveable bar of wood, which opens and ſhuts at pleaſure.

BARRIER *Iſlands*, in *Geography*, iſlands which lie off the river Thames, on the E. coaſt of New Zealand, and ſo called becauſe they ſhelter it from the ſea. They ſtretch from S.E. to N.W. for 10 leagues.

BARRIERS, correſponding to what the French call "jeu de barres," i. e. *paleſtra*, have been uſed to ſignify a martial exerciſe of men, armed, and fighting together with ſhort ſwords, within certain rails or bars, by which they were incloſed from the ſpectators; now diſuſed in this country.

BARRIERS, or BARRIERES, a name given, in the chief cities of France, and particularly at Paris, to the places where the cuſtom-houſes are eſtabliſhed, and where the officers receive the duties of importation, according to the tariff ſettled by the king's council. They are called barriers becauſe the paſſages, through which the carriages and merchandiſes liable to pay duties are to paſs, are ſhut up with a wooden bar, which turns upon a hinge, and is opened and ſhut at the will of the cuſtom-houſe officers.

There are at Paris ſixty of thoſe barriers, all placed at the entrance of the ſuburbs.

There are alſo *barrier towns*, or places of defence, on the frontiers of kingdoms.

BARRILE, in *Geography*, a town of Italy, in the kingdom of Naples, and province of Baſilicata; 7 miles W.S.W. of Venoſa.

BARRING *a Vein*, in *Farriery*, now obſolete. See BAR *a Vein*.

BARRINGDIN, in *Geography*, a town of Africa, in the country of Barra.

BARRINGTON, JOHN SHUTE, LORD VISCOUNT BARRINGTON, in *Biography*, a learned nobleman, particularly diſtinguiſhed by his attention to theological ſubjects, was the youngeſt ſon of Benjamin Shute, merchant, by a daughter of the famous Mr. Caryll, author of the commentary on Job, and deſcended from the ancient family of Shute in the county of Leiceſter, of Roman extraction. He was born at Theobald's in Hertfordſhire, in 1678, and received part of his education in the univerſity of Utrecht. Upon his return to England he devoted himſelf to the ſtudy of the law in the Inner Temple; and in 1701 commenced his literary career as a writer, if we except his Latin oration "De Studio Philoſophiæ conjungendo cum Studio Juris Romani," publiſhed at Utrecht in 1698; by an "Eſſay upon the Intereſts of England in reſpect to Proteſtants diſſenting from the Eſtabliſhed Church," 4to. to which claſs of Britiſh ſubjects he belonged. This was followed ſome time afterwards by another piece in 4to. intitled "The Rights of Proteſtant Diſſenters, in two parts." At the age of 24, during the proſecution of his legal ſtudies, he was appointed by the recommendation of lord Somers, to the arduous undertaking of engaging the Preſbyterians of Scotland to favour the union of the two kingdoms, and in 1708 he was rewarded for his ſervices by the office of commiſſioner of the cuſtoms. From this ſituation he was removed by the Tory adminiſtration of queen Anne, in 1711, on account of his avowed oppoſition to their principles and conduct. In the mean time his fortune was greatly improved by the bequeſt of two conſiderable

ſiderable eſtates; one left him by John Wildman, Eſq. of Becket in Berkſhire, who adopted him for his ſon after the Roman cuſtom, and the other by Francis Barrington Eſq. of Tofts, whoſe name and arms he aſſumed by act of parliament. On the acceſſion of George I., he was choſen member of parliament for the town of Berwick upon Tweed; and in 1720, he was advanced by the king to an Iriſh peerage under the title of viſcount Barrington of Ardglaſs. In conſequence of his unfortunate connection with the Harburgh company, as ſub-governor under the prince of Wales, and of a lottery projected for defraying the expence of opening the port and a ſubſcription for this purpoſe commenced during his abſence, and in oppoſition to his opinion and advice, he underwent, in 1723, the very ſevere and unmerited cenſure of expulſion from the houſe of commons, which has been attributed to his lordſhip's oppoſition to the reigning miniſter, ſir Robert Walpole. In 1725, he publiſhed in two volumes 8vo. his "Miſcellanea Sacra, or a new method of conſidering ſo much of the hiſtory of the apoſtles, as is contained in ſcripture, in an abſtract of their hiſtory, an abſtract of that abſtract, and four critical eſſays." This work traces, with judicious diſcrimination, the methods taken by the apoſtles, and firſt preachers of the goſpel, for propagating Chriſtianity, and explains the ſeveral gifts of the ſpirit by which they were enabled to diſcharge that office. Hence he deduced an argument for the truth of the Chriſtian religion which is ſaid to have ſtaggered the infidelity of Mr. Anthony Collins. A ſecond edition of this work, with large additions and corrections, was publiſhed by his ſon the preſent biſhop of Durham, in 1770, 3 vols. 8vo. In the interval between its firſt publication and the death of the author in 1734, he reviewed, corrected, and enlarged it; and introduced ſuch improvements, as add new force to his arguments and elucidation to his criticiſms. In the ſame year, 1725, he alſo publiſhed "An Eſſay on the ſeveral Diſpenſations of God to Mankind, in the order, which they lie in the bible; or a ſhort ſyſtem of the religion of Nature and Scripture." He was alſo the author of ſeveral other tracts, chiefly on ſubjects connected with toleration in matters of religion, which he ably and zealouſly defended. He died in 1734, in the 56th year of his age. Lord Barrington had three daughters and ſix ſons, five of whom have been advanced to high ſtations in the church, the law, the army, and the navy. His lordſhip was a diſciple and friend of Mr. Locke, and adopted his ſentiments as to the right and advantage of free inquiry, and the value of civil and religious liberty. As a theological writer, he diſcovers a high ſenſe of the value of the ſacred writings and great judgment in interpreting them; and he contributed in a very eminent degree to the diffuſion of a ſpirit of liberal criticiſm. In his ſentiments and diſpoſition he was diſtinguiſhed by his catholiciſm and moderation; and though he was a rational and ſteady diſſenter, he was an occaſional frequenter and communicant of the eſtabliſhed church. Biog. Brit.

Barrington, Daines, the fourth ſon of lord Barrington, was educated for the profeſſion of the law, and in 1757 was appointed a Welſh judge, and ſome time afterwards ſecond juſtice of Cheſter. Although he never attained to diſtinguiſhed eminence at the bar, he evinced his acquaintance with the law by a valuable publication, entitled, "Obſervations on the Statutes, chiefly the more ancient, from Magna Charta to 21 James I. c. 27; with an Appendix being a Propoſal for new-modelling the Statutes," 4to. 1766. This work, which paſſed through five editions, has been reſpectfully quoted by many hiſtorians and conſtitutional antiquaries. In 1773, he publiſhed "Oroſius," with Alfred's Saxon verſion, and an Engliſh tranſlation and notes of his own, which underwent a ſevere animadverſion from ſome of our critics. His "Tracts on the Probability of reaching the North Pole," 1775, 4to. were occaſioned by the voyage of captain Phipps (now lord Mulgrave) towards the north pole in 1773. His other writings may be found in the Tranſactions of the Royal and Antiquarian Societies, of which he was an aſſiduous member, and of the latter vice-preſident. In ſeveral of theſe the author manifeſts ſome tendency towards ſingularity and paradox; nevertheleſs they indicate both diligence and extent of reſearch, and evince his talents as a naturaliſt and antiquarian. Many of his tracts were collected by himſelf in a 4to. volume, entitled "Miſcellaneous Tracts on various ſubjects," 1781. His experiments and obſervations on the ſinging of birds" (ſee Song of Birds in this Dictionary), and his "Eſſay on the Language of Birds" are amongſt the moſt curious and ingenious of his papers. In private life he was a man of worth and integrity, unambitious, and devoted to ſtudy and literary converſation. He reſigned his office of juſtice of Cheſter in 1785, and from that time to his death, March 14, 1800, lived in retirement in the Inner Temple. Gen. Biog.

Barrington, in *Geography*, a township in Queen's county Nova Scotia, on the ſouth ſide of the bay of Fundi, ſettled by Quakers from the iſland of Nantucket.

Barrington, a townſhip in Strafford county, New Hampſhire, about 22 miles N. W. from Portſmouth, incorporated in 1722, containing 2470 inhabitants. Allum is found in this townſhip, and the firſt ridge of the "Froſt-hills," one of the 3 interior ſummits of Agamenticus, is continued through it. Its ſituation is very healthy, and favourable to longevity.

Barrington, a townſhip in Briſtol county, Rhode iſland, on the ſouth weſtern ſide of the N. W. branch of Warren river, about 2½ miles N. W. of Warren, and about 7 S. E. from Fox point, in the town of Providence. It contains 683 inhabitants, including 12 ſlaves.

Barrington, *Great*, is the ſecond townſhip in rank in Berkſhire county in the Maſſachuſetts. It contains 1373 inhabitants, and lies 140 miles W. from Boſton.

Barrington, *Cape*, is the ſouth-eaſt point of lord Egmont's iſland, or New Guernſey, the largeſt of the Queen Charlotte's iſlands. It is ſeparated by a narrow channel from cape Proby, on lord Howe's Iſland or New Jerſey.

BARRINGTONIA, in *Botany*, a beautiful tropical tree named by Forſter from the Hon. Daines Barrington. Lin. g. Schreb. 1150. Forſt. gen. 38. L. ſupp. 50. Thunb. nov. gen. 47. Gærtn. t. 101. *Mammeæ* ſpec. Edit. prior. *Commerſona*. Sonnerat Nov. Guin. 8. *Butonica* Rumph. Claſs, *Monadelphia Polyandria*. *Polyandria Monogynia*, Forſt. and Thunb. Nat. Order. *Heſperidæ*.—*Myrti*, Juſ.

Gen. Char. *Cal.* Perianth two leaved, ſuperior; leaflets roundiſh, concave, coriaceous, permanent. *Cor.* Petals four, equal, ovate, ſpreading, coriaceous, larger than the calyx; nectary conic, tubular, coating the baſe of the ſtyle, toothed at the tip; teeth ſeveral, unequal. *Stam.* Filaments very many, monadelphous, (or conjoined from the very baſe into a cylinder ſeated on the receptacle), capillary, longer than the corolla; anthers ſmall, roundiſh. *Piſt.* Germ inferior, turbinate; ſtyle filiform, length of the ſtamens; ſtigma ſimple. *Per.* Drupe large, ovate, conic-quadrangular, crowned by the calyx. *Seed*, nut long, ovate, outwardly wrinkled-fibroſe, four-celled; kernels ovate, wrinkled.

Eſſ. Gen. Char. *Cal.* ſimple, two-leaved, ſuperior, permanent; fruit a dry four-cornered drupe, incloſing a nut one to four-celled.

Species,

Species, *Barringtonia ſpecioſa*, laurel-leaved B. Lin. Syſt. Supp. Cook. Voy. i. 157. 24. 58. Ford. J. F. Miller. ic. 7. A lofty tree and the handſomeſt in the whole equinoctia flora, abounding with thick, ſhady bunches of leaves, every where intermixed with beautiful purple and white flowers; trunk lofty, thick, ſtraight, covered with a dark grey, ſmooth bark, ſcored with little chinks; branches expanding widely, variouſly divided, ſomewhat bending downwards, and beſet with many leaves at the ends; leaves crowded, the upper in a kind of whorl, ſeſſile, wedge-ſhaped, obtuſe, quite entire, expanding from a foot to fifteen inches in length, thick, coriaceous, very ſmooth, dark green, ſhining with yellow veins; flowers on a ſolitary erect thyrſe, a foot in length; pedunele ſmooth, a foot long; pedicels five, to twenty, one-flowered, three or four inches long; bractes roundiſh, ſolitary at the baſe of the pedicels; flowers large, white, tranſparent; filaments and ſtyle diaphanous, purple at the top; anthers gold-coloured; drupe reddiſh brown. The flowers open during the night, and fall at ſun-riſe. The ſeed is ſaid to inebriate fiſh in the ſame manner as cocculus indicus, &c. It grows within the tropics, eſpecially on the ſhores of the ocean and at the mouths of rivers, in the Eaſt Indies from the ſouthern coaſts of China through the Molucca iſles to Otaheite and the other Society iſles. It is cultivated in the governor's garden at St. Helena. Introduced here in 1786, by Mr. A. Hove.

BARRISTER, in *Law*, a perſon qualified and impowered to plead, and defend the cauſes of clients in the courts of juſtice. The word is formed from *bar*, *barra*, a name given the place where they ſtand to plead.

Barriſters, in the Engliſh law, amount to the ſame with *licentiates*, and *advocates*, in other countries and courts, where the civil, &c. laws obtain.

Anciently they were denominated among us, *apprentices of the law*, *apprentici juris nobiliores*; now uſually *counſellors at law*: and they ſeem to have been firſt appointed by an ordinance of king Edward I. in parliament, in the twentieth year of his reign.

Before they were called to the bar they were formerly obliged to ſtudy eight years, now reduced to five; the exercifes required (if they were not called *ex gratia*) were twelve grand moots performed in the inns of chancery, in the time of the grand readings, and twenty four petty moots, in term time before the readers of the reſpective inns, and a barriſter newly called was to attend the ſix (or four) next long vacations the exerciſe of the houſe, viz. in Lent and ſummer, and was thereupon for thoſe three (or two) years ſtyled a *vacation barriſter*. They are alſo called *Utter barriſters*, i. e. pleaders *ouſter* or without the bar; to diſtinguiſh them from benchers, or thoſe that have been readers, who are ſometimes admitted to plead within the bar; as the king's, queen's, or prince's, counſel are; hence called *inner barriſters*, 5 El. cap. 1.

Barriſters, according to Forteſcue, might be called to the ſtate and degree of *ſerjeants*, when they were of ſixteen years ſtanding. See COUNSEL and SERJEANT.

Barriſters who conſtantly attend the kings bench, &c. are to have the privilege of being ſued in tranſitory actions in the county of Middleſex. But the court will not change the venue, becauſe ſome of the defendants are barriſters. Pleas before they are filed, muſt be ſigned by a barriſter or ſerjeant.

To become a barriſter in Ireland it is neceſſary in the firſt place that a memorial be preſented by the perſon deſirous of becoming ſo, to the Benchers of the Honourable Society of the King's Inns, Dublin, ſtating his parentage and previous education, and requeſting admiſſion into the ſociety as a ſtudent. This memorial certified by a practiſing barriſter of ten years ſtanding who is not a bencher, muſt be lodged in the office of the treaſurer of the ſociety before the eſſoin day of term; and on its being granted, a certain fine muſt be paid. After this admiſſion the ſtudent muſt keep eight terms commons in Ireland, and the ſame number in England. Formerly a ſtudent was required to attend fewer terms if he had taken a degree in any univerſity, and this was a ſtrong inducement to thoſe who intended their ſons for the bar to give them a college education. It has been regretted that this encouragement was diſcontinued; but the advantages of ſuch an education are ſo evident, that it is to be ſuppoſed few will neglect it; eſpecially as they can attend terms at the ſociety of the King's Inns, at the ſame time that they are members of the univerſity.

BARRISTER *Aſſiſtant*, the name given to an inferior judge eſtabliſhed in every county of Ireland, except that of Dublin, whoſe buſineſs it is to ſit twice every year to try civil bills, for the more ſpeedy adminiſtration of juſtice.

BARRITUS, in *Antiquity*, a military ſhout raiſed by the Roman ſoldiers at the firſt charge on the enemy. This cuſtom, however, was not peculiar to the Romans; but prevailed among the Trojans according to Homer, among the Germans, the Gauls, the Macedonians, and the Perſians. See CLASSICUM.

BARROCHES, in *Geography*, are two great ranges of rocks cloſe by the weſt end of Alderney, Avigny or Ornay, towards the Caſkets.

BARROS, JOHN DOS, in *Biography*, an eminent Portugueſe hiſtorian, was born at Viſeo, in 1496, and educated at the court of king Emanuel, with the royal children. In 1522 he was appointed to the government of St. George del Mina, on the coaſt of Guinea; and upon his return to Portugal, after an abſence of three years, he was made treaſurer of the Indies. When king John conferred upon him the lordſhip of Paraiba in Braſil, on condition of his expelling the native Indians, and peopling it with Portugueſe, he ſet out with an expedition for this purpoſe; but his fleet being almoſt wholly deſtroyed, the project failed. Upon this he determined to write the hiſtory of the Indies, under the title of "Decades d'Aſia;" and the firſt decad was publiſhed in 1552, the ſecond in 1553, and the third in 1563. For the completion of this work he retired to Pompal, where he died in 1570, leaving ſeveral children. His fourth decad, compiled from his MSS. by order of Philip III. did not appear till 1615. The work has been continued by others as far as the thirteenth decad; and the laſt edition of it was printed at Liſbon in 1736, in 3 vols. folio. The hiſtory of dos Barros, applauded by ſome and cenſured by others, is deemed, notwithſtanding the author's diſpoſition to exaggerate, a work of authority. It was tranſlated into Spaniſh by Alphonſo Ulloa. Barros was the author of ſeveral other writings, moral, grammatical, &c. compoſed principally for the uſe of his pupil prince John, ſon of king John III. In ſome editions of his "Decads," there is an apology for his life and writings, written by himſelf. Moreri. Nouv. Dict. Hiſtor.

BARROW, ISAAC, a very eminent divine and mathematician, was the ſon of Mr. Thomas Barrow, a citizen and linen draper of London, and born in this city in the year 1630. Although at the Charter-houſe, where his education commenced, he gained no reputation, and was remarkable only for fighting and idleneſs, his ſubſequent application and literary progreſs in a ſchool at Felſtead in Eſſex, whither he was removed, were ſuch as to retrieve his character, and to induce his maſter to recommend him to the office of private tutor to a young noble-

nobleman under his care. In 1643 he was admitted a penſioner of Peter-houſe in Cambridge, under his uncle Mr. Iſaac Barrow, afterwards biſhop of St. Aſaph, and then fellow of that college; and in 1645 he was entered a penſioner of Trinity college, as his uncle had been ejected together with others who had written againſt the covenant. The ejection of his uncle, and the loſſes ſuſtained by his father on account of his attachment to the royal cauſe, involved our young ſtudent in difficulties; and he was indebted to the liberality of Dr. Hammond for his chief ſupport. Such were the ſweetneſs of his diſpoſition and his reſpectful conduct towards his ſuperiors, that he preſerved their eſteem and good-will, though he ſteadily adhered to the cauſe for which his family had ſuffered and refuſed to take the covenant. His proficiency in all branches of literature, and particularly in natural philoſophy, was ſo conſiderable, and his merit ſo generally acknowledged, that he was elected, notwithſtanding the obnoxiouſneſs of the party to which he belonged, fellow of his college in the year 1649; and now perceiving that the circumſtances of the times were unfavourable to perſons of his opinions in matters of church and ſtate, he determined to devote himſelf to the medical profeſſion. With this view he directed his attention to anatomy, botany, and chemiſtry, and made ſome progreſs in theſe preparatory ſtudies: however, upon further conſideration, aided by his uncle's advice, he reſumed the ſtudy of divinity in connection with that of mathematics and aſtronomy. With theſe ſeverer ſtudies he alſo blended the amuſements of poetry, to which he had a ſtrong propenſity. In 1652 he commenced maſter of arts, and was incorporated in that degree at Oxford. Diſappointed with regard to the Greek profeſſorſhip at Cambridge (to which he was recommended) on account of a ſuſpicion of his Arminian principles, and perhaps influenced by the aſpect of public affairs, he reſolved to travel abroad; and in order to obtain a neceſſary ſupply for this purpoſe, he ſold his books. Accordingly he ſet out in the year 1655; and in this year his firſt work, which was an edition of "Euclid's Elements," was publiſhed during his abſence. He viſited France and Italy; and in 1656 he ſet ſail from Leghorn to Smyrna; and in the courſe of his voyage he had an opportunity of manifeſting his natural intrepidity by ſtanding to his gun, and defending the ſhip on which he had embarked, againſt the attack of an Algerine corſair, and of beating off the enemy. Of his intrepidity, as well as bodily ſtrength, another inſtance occurred on a very different occaſion. As he was once leaving the houſe of a friend early in the morning before a fierce maſtiff was chained up, the dog flew at him with violence; but he had the reſolution to ſeize the dog by the throat, and after much ſtruggling to overpower him, and to hold him faſt on the ground till ſome of the domeſtics roſe and parted them. From Smyrna he proceeded to Conſtantinople, where he read over with peculiar ſatisfaction the works of St. Chryſoſtom, the biſhop of that ſee; and having remained a year in Turkey, he returned to Venice, and in 1659 he paſſed through Germany and Holland into England. Soon after his return he was ordained by biſhop Brownrig; and when the king was reſtored, his friends expected that his attachment to the royal cauſe would have been rewarded by ſome conſiderable preferment: but their expectations were diſappointed. On this occaſion Barrow wittily remarked in one of his poems,

"Te magis optavit rediturum, Carole, nemo,
Et nemo ſenſit te rediiſſe minus."
"Thy reſtoration, Royal Charles, I ſee,
By none more wiſh'd, by none leſs felt, than me."

However, he wrote an ode on his majeſty's reſtoration, in which he introduces Britannia congratulating the king upon his return. In this ſame year, 1660, he was choſen Greek profeſſor at Cambridge; and in conſequence of this appointment, he read lectures on the Rhetoric of Ariſtotle. In 1662 he was recommended by Dr. Wilkins, and elected to the profeſſorſhip of geometry in Greſham college; and he alſo diſcharged the duty of the aſtronomical profeſſor, who was abſent. About this time he declined a valuable preferment which was offered him, from ſcruples of conſcience; becauſe it was annexed to the condition of educating the patron's ſon, which Barrow conſidered as a kind of ſimoniacal contract. In 1663 he was included in the firſt choice of members made by the Royal Society after receiving their charter: and in the ſame year he was appointed Lucaſian profeſſor of mathematics at Cambridge, on which occaſion he delivered an excellent oration on the excellence and uſe of mathematical ſcience. At this time he reſigned both his Greek and Greſham profeſſorſhips. Although the ſtation to which he had attained was peculiarly adapted to his diſtinguiſhed talents and acquirements as a mathematician, he determined in 1669 to exchange his mathematical ſtudies for thoſe of divinity; and accordingly, as ſoon as he had publiſhed his "Lectiones Opticæ," he reſigned his profeſſor's chair to the illuſtrious Newton. In 1670 he was created doctor in divinity by mandate; and in 1672 he was nominated to the maſterſhip of Trinity college by the king, who obſerved "that he had beſtowed it on the beſt ſcholar in England." To the patent of his appointment was annexed a clauſe which allowed him to marry; but as this privilege was inconſiſtent with the ſtatutes of the college, he inſiſted on the clauſe being eraſed. On this occaſion he reſigned the preferments of a ſmall ſinecure in Wales, and of a prebend in the cathedral of Saliſbury, which he had previouſly enjoyed and the profits of which he had diſtributed to charitable uſes. In 1675 he was choſen vice-chancellor of the univerſity; but his ſervices in this high and honourable ſtation were ſpeedily terminated by his death, occaſioned by a fever, in London, May 1677, in the 47th year of his age. His remains were interred in Weſtminſter Abbey; and a monument, with an appropriate epitaph, was erected for him at the expence of his friends. Dr. Barrow had nothing in his perſon or external appearance, that was likely to command any degree of attention and reſpect. He was of a low ſtature, and of a meagre, pale aſpect; and he was ſingularly negligent with regard to his dreſs. Pope, his biographer, mentions a circumſtance to this purpoſe, which ſhews the effect of his inattention to outward appearance. Being engaged to preach for Dr. Wilkins at St. Lawrence Jury in London, his ſlovenly and awkward gait and meagre aſpect prepoſſeſſed the audience ſo much againſt him, that, when he mounted the pulpit, the congregation withdrew and he was left almoſt alone in the church. Mr. Richard Baxter, the nonconformiſt divine, however, was one of thoſe few that remained: and his teſtimony was highly honourable to the preacher, for he declared that he had never heard a better ſermon, and that he could with pleaſure have liſtened all day to ſuch preaching; upon which thoſe perſons who complained to Dr. Wilkins of his ſubſtitute were aſhamed of their conduct in deſerting the church, and reduced to the neceſſity of acknowledging that their prejudice was ſolely the reſult of his uncouth appearance. His ſermons were diſtinguiſhed not only by their excellence, but by their length. He took great pains in compoſing them, and in tranſcribing them three or four times, as he found it extremely difficult to pleaſe himſelf. M. le Clerc (Biblioth. Univ. t. iii. p. 325) ſays

ſays of them, that they were treatiſes or exact diſſertations rather than harangues to pleaſe the multitude; and Dr. Tillotſon, who publiſhed them, obſerves in his preface, that "their own excellence and eloquence will praiſe them beſt," and king Charles II. uſed facetiouſly to call him "an unfair preacher," becauſe he exhauſted every ſubject, and left nothing for any perſon that came after him to ſay. The delivery of his Spital ſermon concerning charity, before the lord mayor and aldermen, took up 3½ hours; and being aſked upon his leaving the pulpit, whether he was not tired, he replied "yes indeed, I began to be weary with ſtanding ſo long." In his compoſitions he ſeems, as it were, to labour for words to expreſs the amplitude and energy of his conceptions; and, on this account, his ſtyle is involved and interrupted by parentheſes, though he ſometimes introduces paſſages of ſublime and ſimple eloquence. Dr. Barrow, as we may naturally imagine from the courſe of his ſtudies and the character as well as the number of his writings, was unremitting in his application. He ſlept little, and generally roſe in the winter months before day. He is ſaid to have been intemperate in the uſe of fruit, alleging that if it kills hundreds in autumn, it preſerves thouſands; and he was much addicted to the uſe of tobacco, calling it his "panpharmacon," or univerſal medicine, and imagining that it helped to compoſe and regulate his thoughts. In his general diſpoſition and conduct he was ſingularly amiable and pleaſing. Such were his modeſty and diffidence, that when he underſtood that his optical and geometrical lectures were to be printed in the Philoſophical Tranſactions, he requeſted that they might be introduced with merely a ſimple and ſhort account of them, without any thing in commendation or diſcommendation of them; and on the occaſion above referred to, when his congregation deſerted him, he accounted for it to a friend by ſaying, "I thought they did not like me, or my ſermon; and I have no reaſon to be angry with them for that." In converſation he was unreſerved and communicative, often facetious and cheerful, and always anxious to adapt his diſcourſe to different capacities. He was charitable in a mean eſtate, diſintereſted in a flouriſhing one, ſerene and content in all fortunes, of the ſtricteſt integrity, above all artifice and diſguiſe, friendly and courteous. With theſe private virtues he combined the character of the greateſt ſcholar of his times; and as Dr. Pemberton obſerves in his preface to the "View of ſir I. Newton's Philoſophy," "he may be eſteemed as having ſhewn a compaſs of invention equal if not ſuperior to any of the moderns, ſir Iſaac Newton only excepted." The chief property which he had accumulated conſiſted of books, which were well choſen, and ſold after his death for more money than they coſt. His own MSS in theology, were committed to the care of Dr. John Tillotſon and Mr. Abraham Hill, with permiſſion to publiſh ſuch of them as they thought proper. They firſt appeared in 1685, in 3 vols. folio; there have been ſeveral editions ſince, and the laſt was in 1741. They conſiſt of ſermons, of expoſitions of the creed, the Lord's prayer, and the decalogue; of the doctrine of the ſacraments, and of treatiſes on the pope's ſupremacy and the unity of the church. A fourth volume in Latin, intitled "Opuſcula," was publiſhed in 1687; and conſiſts of Determinationes, Conciones ad Clerum, Speeches, Latin poems, &c.

Dr. Barrow was no leſs diſtinguiſhed as a mathematician than as a divine. The principal of his mathematical works are the following: viz. "Euclidis Elementa," Camb. 1655. 8vo., and tranſlated into Engliſh and publiſhed at London in 1660. 8vo. In this edition of all the books and propoſitions of Euclid, the demonſtrations are diſtinguiſhed by their conciſeneſs. "Euclidis Data," Camb. 1657. 8vo., ſubjoined to the Elements in later editions. "Lectiones Opticæ XVIII.; Cantabrigiæ in ſcholis publicis habitæ, &c." Lond. 1669. 4to: this work was reviſed and enlarged by Newton, and has been highly commended by the beſt judges. "Lectiones Geometricæ XIII. in quibus præſertim generalia linearum curvarum ſymptomata declarantur;" Lond. 1670. 4to.: publiſhed in 1672 and 1674 with the "Optics." "Archimedis Opera; Apollonii Conicorum Libri IV.; Theodoſii Sphærica, methodo nova illuſtrata, et ſuccincté demonſtrata:" Lond. 1675, 4to. After Dr. Barrow's deceaſe, were publiſhed his "Lectio in qua theoremata Archimedis de Sphæra et Cylindro, per methodum indiviſibilium inveſtigata, ac breviter demonſtrata, exhibentur," Lond. 1678, 12mo.; and "Mathematicæ Lectiones, habitæ in ſcholis publicis Academiæ Cantabrigienſis," Lond. 1683, 8vo. Beſides theſe, Dr. Barrow left ſeveral curious papers, written with his own hand, and communicated by William Jones, eſq. to Dr. Ward. Hill's Life prefixed to Barrow's Works. Ward's Lives of the Profeſſors of Greſham college, p. 157, &c. Biog. Brit.

Barrow, in *Geography*, a noble river of Ireland, ſuppoſed to be the *Birgus* or *Brigus* of Ptolemy. It riſes in the mountain of Sliebh-bloom in the King's county, and running for a ſhort ſpace north-eaſt, makes a kind of elbow; and continuing afterwards a ſouth-eaſt courſe, it divides the King's and Queen's counties from that of Kildare. At Athy, in the latter county, a branch of the grand canal from Dublin to the Shannon has formed a junction with it; which contributes much to the advantage of the adjoining country. It proceeds next through the heart of the county of Carlow, and then ſeparates thoſe of Kilkenny and Wexford. A little before it reaches the town of Roſs, it receives the Nore; and then varying its courſe ſomewhat to the weſt, mingles its waters with thoſe of the Suire, forming with it the haven of Waterford. The navigation of this river has been deemed of ſuch great importance that 11000 pounds have been granted by parliament to remove ſome obſtructions in it; and a corporation eſtabliſhed for the purpoſe has been enabled to raiſe 20000 l. more to render it completely navigable. It is now (1802) expected that boats will ſoon regularly ply from Waterford to Athy, and thence by the grand canal to Dublin. The circumſtance of the three rivers Barrow, Nore, and Suire, all riſing in the ſame mountain, proceeding from it by different courſes, and uniting their ſtreams before they fall into the ſea, has been mentioned by many writers. Amongſt others, Spenſer has noticed it in his epiſode of the marriage of the Thames and Medway (Fairy Queen, book iv. cant. 11.); in which he repreſents them as three brothers, ſons of the giant Blomius and the nymph Rheusa. He ſpeaks of the Barrow as abounding in ſalmon:

"The third, the goodly Barrow which doth hoord
Great heapes of ſalmon in his deepe boſome."

Campbell's Political Survey, &c. &c.

Barrow *Little*, a river of Ireland, which runs into the Barrow about 4 miles eaſt of Portarlington.

Barrow *Harbour* is an extenſive bay in that of Bonaviſta in the iſland of Newfoundland, divided by Keel's head on the E. from the port of Bonaviſta, and from Bloody bay on the W. by a large peninſula joined to the iſland by a narrow iſthmus, which forms Newman's ſound; which, as well as Clode ſound, are within Barrow harbour.

Barrow *Point*, a cape on the ſouth coaſt of Ireland, in the county of Cork, 5 miles eaſt of Kinſale.

Barrows, or *Tumuli*, in *Topography*, a name uſually given to thoſe hillocks or mounds of earth which were anciently

ciently raiſed over the bodies of deceaſed heroes and perſons of diſtinguiſhed character. This mode of interment may be traced to the remoteſt antiquity, and inſtances of it occur in all quarters of the world. A learned antiquarian, well known for his induſtrious and indefatigable reſearch (ſee Gough's Sepulchral Monuments of Great Britain), conſiders barrows as the moſt ancient ſepulchral monuments in the world. Homer is one of the earlieſt authors who mentions the conſtruction of barrows, in deſcribing the funeral rites attending the interment of Patroclus and Achilles. The body of Patroclus was firſt laid on the top of a great pile of wood about one hundred feet ſquare, and covered with the fat of animals offered in ſacrifice: the carcaſes of the beaſts, and the bodies of the Trojan captives cruelly ſlain in cold blood on the occaſion, were then thrown on the pile round its edges, and the whole reduced to aſhes. The remains of the fire were next day extinguiſhed by pouring wine on the embers; and as many fragments of the bones of the deceaſed as could be collected, were wrapped up in fat, and put into a rich urn, having a linen veil flung over it. The whole army then threw earth upon the ſpot where the pile had been conſumed, ſo as to cover the bones of the Trojans, of the beaſts, and all the aſhes that remained, and thus reared a high rude hill, under which, nearly in the centre, the urn was placed. After this ceremony, ſolemn games were performed, and chariot races were exhibited round the barrow, in honour of the deceaſed. To this purpoſe, the elegant tranſlator of Homer, in his account of the funeral of Patroclus, expreſſes part of the funeral ceremony:

"High in the midſt they heap the ſwelling bed
Of riſing earth, memorial of the dead."
Iliad, xxiii. 319.

In Plutarch's Life of Alexander, we find that when that great conqueror arrived at the ruins of Troy, he anointed with much ceremony the ſtone placed on the barrow of Achilles, poured out libations, and, as the cuſtom was, ran naked round the ſepulchre, and crowned the ſtone with garlands.

Herodotus, the father of hiſtory, mentions the barrow of Alyattes, the ſecond of that name, king of Lydia, and father of Crœſus, raiſed 2365 years ago, and ſeen by Dr. Chandler in A. D. 1764, five miles from Sart, the ancient Sardis. This tumulus or barrow, formed by the joint exertions of the merchants, the labourers, and the proſtitutes, was about a mile in circumference, 1300 feet broad, and terminated by a piece of water called the Gygæan lake, ſtill remaining. Dr. Chandler, in his "Travels through Aſia Minor," vol. i. p. 42. deſcribes this and other barrows in their preſent ſtate; and Herodotus ſtates, that the lower part of it was a maſs of large ſtones, but that the reſt of the ſepulchre was a tumulus of earth.

It was cuſtomary among the Greeks to place on barrows, either the image of ſome animal, or ſtele, termini, or round pillars with inſcriptions. Pauſanias deſcribes the famous barrow of the Athenians in the plain of Marathon, on which were pillars of this kind: and on that of Alyattes were five ſtones, on which were engraved letters, denoting how much each claſs of the perſons concerned had performed towards it, and it appeared that the greater portion was done by the young women. An ancient monument in Italy, near the Appian way, called without reaſon the ſepulchre of the Curiatii, has the ſame number of termini with that of Alyattes, the baſement, which is ſquare, ſupporting five round pyramids. We are informed in the ſcriptures, that when the king of Ai was ſlain by Joſhua, his carcaſe was placed at the entrance of the city, and upon it was raiſed a great heap of ſtones. Several other paſſages of the ſacred writings lead us to conclude, that though the Jews were prohibited from adopting the ſuperſtitious cuſtoms of the gentile nations, they did not think themſelves reſtrained from conſtructing theſe memorials to their deceaſed relatives. Diodorus Siculus, ſpeaking of the Bullians, ſays, that after preſſing together the limbs of a dead body with boards, they caſt it into a hollow receptacle, and placed over it a large heap of ſtones. Virgil alludes to this mode of interment as uſed in Italy in the times to which the Æneid refers. Xenophon relates that it obtained among the Perſians; the Roman hiſtorians record it as taking place among their countrymen; and it prevailed no leſs among the ancient Germans, Britons, and other nations.

According to Herodotus, the Gerrhi, a people of Scythia, raiſed barrows; and the cuſtom of erecting them in various parts of the world continued through a long ſeries of ages. Gough ſays, that they continued in uſe till the 12th century.

The ancient barrows are of various ſizes, ſome of them being ſmall, and perhaps deſigned for children, or the younger branches of the royal family, or for perſons of meaner rank; others diſtinguiſhed by their height and bulk, and viſible like hills at a great diſtance, which might probably have been the ſepulchre of ſome renowned monarch or warrior, or general burying-places.

Stahlenberg, in his deſcription of the northern and weſtern parts of Europe and Aſia, informs us, that great numbers of tumuli, called by the Ruſſians "bogri," are found in Siberia, and in the deſerts which border on that country ſouthward; and that in theſe tombs are found many plates, ornaments, and trinkets of gold. Some of them are raiſed by earth as high as houſes, and appear in the diſtant plains like a ridge of hills; whilſt others are ſet round with rough-hewn ſtones. Archæologia, vol. ii. p. 236.

The cuſtom of interring with the dead their arms, their jewels, and ſometimes their horſes and ſervants, is traced by M. Legrand D'Auſſy (Mem. de l'Inſtitut National des Sciences, &c. Paris, vol. ii.) to the mythology of the northern Aſiatic nations, which taught them to believe that they ſhould make an appearance in another world, correſponding to the ornaments and attendants depoſited in their tombs; and the remains of this ſuperſtition have deſcended through many ages. According to this writer, a great part of the riches acquired by the northern nations in their irruptions, has been interred in the tombs of the conquerors. Treaſures have been frequently found in the barrows ſo common in Tartary; and, in attempting to ranſack theſe monuments, the Siberians have had ſo many conflicts with the Tartars, that the Ruſſian government has been obliged to put a ſtop to their reſearches.

Denmark, Sweden, Lower Saxony, and many other countries on the continent, abound with ſepulchral monuments of this kind. Mr. Coxe, in his "Travels in Poland," (vol. i. p. 130.) mentions two large barrows in the vicinity of Cracow; one by tradition called the burial-place of Cracus, duke of Poland, who is ſuppoſed to have built the town in the year 700; and the other called the ſepulchre of his daughter Venda, who is reported to have drowned herſelf in the Viſtula to avoid a marriage with a perſon whom ſhe deteſted. As popular tradition records theſe as favourite characters in their country, it has honoured them with interment under the moſt conſpicuous of thoſe monuments called barrows.

The barrows of England are very numerouſly ſcattered over the plains of Wiltſhire, the downs of Dorſetſhire, Kent, and Surry. Monuments of the ſame appropriation

are alſo abundant in the northern counties of England, North Wales, Scotland, and Ireland; but moſt of theſe conſiſt of vaſt piles of ſtones, and are deſignated by the name of "carn," or "cairn." (See CARN.) The moſt conſiderable barrow in England is that of Silbury Hill in Wiltſhire. (See AVEBURY.) A barrow in Derbyſhire, ſituate on the ſummit of a hill called "Fin-cop," has been carefully inveſtigated by Mr. Hayman Rooke. (See Archæologia, vol. xii.) It diſcloſed two or three ſkeletons, one of which had an oblong piece of dreſſed black Derbyſhire marble faſtened by a ſtrong cement to the ſkull: ſome urns alſo appeared, with aſhes and burnt bones, together with arrow-heads of flint, and a ſpear-head ſhaped out of a piece of lime-ſtone, and made very ſharp at the point. Mr. Rooke conjectures, that this elevated ſpot, ſecured by a double fence, may have been the ſite of a Britiſh town or fortreſs, and that the barrow was the ſepulchre of the chieftain and his relatives; the weapons of flint and of lime-ſtone undoubtedly ſuggeſt a very remote period, and, when found as theſe were, appear to indicate the relics of a primitive and barbarous people. Dr. Plott takes notice of two ſorts of barrows in Oxfordſhire, one placed in the military ways, the other in the fields, meadows, woods, &c.: the former he ſuppoſed were of Roman erection, and the latter were more probably erected by the Britons or Danes. Some of theſe barrows appear rude, and conſtructed only of earth; others are more regular, and trenched round, ſome of them with two or three circumvallations, and ſurmounted with monumental ſtones. (Plott's Nat. Hiſt. Oxfordſhire, ch. x. § 48.) We have an examination of the barrows in Cornwall by Dr. Williams, in the "Philoſophical Tranſactions," N° 458.; from whoſe obſervations we find, that theſe barrows are compoſed of foreign or adventitious earth; that is, ſuch as does not occur on the ſpot, but muſt have been fetched from ſome diſtance. In one of them was found an urn made of burnt or calcined earth, very hard, and very black within; it had four ſmall handles, and in it were found ſeven quarts of burnt bones and aſhes. As it was the ancient practice to burn the dead, it appears from theſe barrows, how the people that uſed this mode of burial expreſſed their reſpect for the dead; it was by erecting over them theſe tumuli or barrows, compoſed of earth or ſtone brought from diſtant places; and the barrow was generally proportioned to the rank and power of the deceaſed perſon. Each ſoldier, or friend, might bring ſome of the earth or ſtones from diſtant places where they lived, and thus compoſe the tumulus. Many paſſages might be quoted from ancient authors to this purpoſe. The contents of theſe barrows, as well as their ſize and form, have been very various: in ſome have been found ſtone cheſts containing entire bones; and in others, bones neither lodged in cheſts nor depoſited in urns: arms of various ſorts, amber beads, &c. have not been uncommon.

The links or ſands of Skail in Sandwick, one of the Orkney iſlands, abounds in round barrows, ſome formed of earth alone, and others of ſtone covered with earth. In the former was found a coffin made of ſix flat ſtones, and as it was too ſhort to receive a body at full length, the ſkeletons had their knees preſſed to the breaſt, and the legs doubled along the thighs. A bag made of ruſhes has been found at the feet of ſome of theſe ſkeletons, which contained the bones, probably, of another perſon of the ſame family. In one of theſe were diſcovered multitudes of ſmall beetles; and as ſimilar inſects have been found in the bag which incloſed the ſacred Ibis, it may be ſuppoſed that the Egyptians, and the nation to which theſe tumuli belonged, might have had the ſame ſuperſtition reſpecting them. Some of the corpſes interred in this iſland appear to have been burned; as the aſhes depoſited in an urn which was covered with a flat ſtone, have been found in the cell of one of the barrows. This coffin, or cell, was placed on the ground, then covered with a heap of ſtones, and caſed with earth or ſods. This barrow and its contents evince them to be of a different age from the former. Theſe tumuli appeared to be a kind of family vaults, two tiers of coffins having been found in them; and it is not improbable, that on the death of any one of the family, the tumulus was opened, and the body interred near its kindred bones.

Barrows are very numerous in Ireland. Ledwich ſuppoſes them to have been of Scythian origin, and to have been introduced in Britain after the Romans had left it. It was a law of Odin the great Gothic legiſlator, that large barrows ſhould be raiſed to perpetuate the memory of celebrated chiefs: theſe were compoſed of ſtone and earth, and were formed with great labour and ſome art. At New Grange in the county of Meath is a mount of this kind, the altitude of which from the horizontal floor of the cave is about 70 feet, the circumference at the top is 300 feet, and the baſe covers two acres of land. It is founded on an aſtoniſhing collection of ſtones, and covered with gravel and earth. In the "brende-tiid," or fiery age, which was the firſt among the Northerns, the body was ordered by Odin to be burned with all its ornaments, and the aſhes to be collected in an urn and laid in a grave; but in the "hoelſt-tiid," or age of hillocks, being the ſecond, the body, untouched by fire, was depoſited in a cave or ſepulchre under a barrow; and this mode was practiſed till the third epoch, called "chriſtendomts-old," or the age of Chriſtianity. Governor Pownall, who has given an account of New Grange, in the ſecond volume of the "Archæologia," obſerves, that the mode of burial, and the ſpecies of ſepulchral monument at New Grange, may be traced through Denmark, Sweden, Ruſſia, Poland, and the ſteppes of Tartary; and he conjectures that this mount was a Daniſh work; which was alſo the opinion of ſir Thomas Molyneux, M. D. in his "Eſſay on Daniſh Mounts," publiſhed with "Boate's Natural Hiſtory of Ireland." About 1699, a Mr. Campbell, who reſided in the village of New Grange, obſerving ſtones under the green ſod, carried many of them away, and at length arrived at a broad flat ſtone that covered the mouth of the gallery. At the entrance, this gallery is 3 feet wide and 2 high; at 13 feet from the entrance, it is but 2 feet 2 inches wide: the length of the gallery, from its mouth to the beginning of the dome, is 62 feet; from thence to the upper part of the dome, 11 feet 6 inches; the whole length being 71½ feet. The dome or cave, with the long gallery, exhibits the exact figure of a croſs, the length between the arms of which is 20 feet: the dome forms an octagon, 20 feet high, with an area of about 17 feet; it is compoſed of long flat ſtones, the upper projecting a little below the lower, and cloſed in and capped with a flat flag. There are two large oval rock baſons in this cave, one in each arm of the croſs; from which, and the cruciform ſhape of the ſtructure, it is ſuppoſed to be the work of ſemi-chriſtian Oſtmen in the ninth century. The cuſtom of burying the treaſure acquired by piracy, in the barrows of great men, accounts for the Roman coins found at New Grange. For a more particular account, the reader is referred to Mr. Ledwich's Antiquities of Ireland, p. 307—328. General Vallancy, however, and other antiquarians, conſider this cave at New Grange to have been "antrum Mithræ," or a cave for the worſhip of the ſun, introduced by

by the Perſo Scythic colony, which they ſuppoſe to have come to Ireland from Spain, and to have eſtabliſhed the cuſtoms of the eaſtern nations.

Tumuli or barrows are alſo found in great numbers in America; and the American Indians are ſaid to practiſe a ſimilar mode of burial at this time, generally depoſiting with the bodies the inſtruments of war and agriculture uſed by the deceaſed. Mr. Jefferſon, in his "Notes on the State of Virginia," p. 156. has given a particular account of the American barrows. They are of different ſizes, and formed of different material; ſome of earth, and ſome of looſe ſtones. That they were repoſitories of the dead is generally allowed; but the particular occaſion on which they were conſtructed has been a ſubject of diſcuſſion. Some have thought that they covered the bones of thoſe who fell in battles fought on the ſpot of interment. Some aſcribe them to the cuſtom prevalent among the Indians, of collecting at certain periods all their dead, wherſoever depoſited at the time of their death. Others again have ſuppoſed that they were general ſepulchres for towns, conjectured to have been ſituate on or near thoſe grounds: and this is an opinion that has been ſupported by the quality of the lands in which they are found, thoſe conſtructed of earth being generally in the faireſt and moſt fertile meadow grounds, on the ſides of rivers; and alſo by a tradition deſcending from the aboriginal Indians, which reports, that when they ſettled in a town, the firſt perſon who died was placed erect, and in this poſture covered and ſupported by earth: that when another died, a narrow paſſage was dug to the firſt, the ſecond reclined againſt him, and the cover of earth replaced, and ſo on. Mr. Jefferſon examined one of theſe barrows, ſituate in his own neighbourhood, on the low grounds of the Rivanna, oppoſite to ſome hills on which had been an Indian town; and has particularly deſcribed its form, which was ſpheroidical; and alſo its contents, which were collections of human bones in a diſjointed and ſcattered ſtate. This barrow, he conjectured, might have contained a thouſand ſkeletons. The circumſtances which he has recited militate againſt the opinion that it covered the bones only of perſons fallen in battle; and againſt the tradition, which would make it the common ſepulchre of a town, in which the bodies were placed upright and touching each other; and indicate, that it has derived both origin and increaſe from the cuſtomary collection of bones, and the depoſition of them together. But in what way ſoever this tumulus was formed, it ſeems to have been well known to the Indians; a party of whom, ſome years ago, proceeded through the woods directly to it, without any inquiry; and having remained near it for ſome time with expreſſions of ſorrow, they returned to the high road, from which they had departed about ſix miles for the purpoſe of this viſit, and then purſued their journey. There are many other ſimilar barrows in other parts of the country. For further particulars relating to ſepulchral monuments of this kind, we refer to Gough's Sepulchral Monuments of Britain; Douglas's Nenuia Britannica; King's Munimenta Britannica; Archæologia, vol. ii. & xii.; and Britton's Beauties of Wiltſhire, vol. ii.

Barrows, in the *Salt Works*, are caſes made with flat cleft wickers, in the ſhape almoſt of a ſugar-loaf, with the bottom uppermoſt, wherein the ſalt is put as it corns, and ſet to drain. Phil. Tranſ. N 53. p. 1065. Hought. Collect. N° 211. p. 81.

BARROWBY, William, in *Biography*, ſon of Dr. William Barrowby, a phyſician of conſiderable repute and eminence in London. At a proper age he was admitted of Emanuel college in Cambridge, and in 1733 took his degree of Bachelor in Medicine. Soon after, he was made fellow of the Royal College of Phyſicians in London, and one of the phyſicians to Bartholomew's hoſpital. He died ſuddenly, after eating a hearty meal, December 30, 1752, being only forty-two years of age, and even in great practice. There is a fine print of him, engraven in mezzotinto by Müller, after a painting by Hayman. His father, who ſurvived him, died October 14th, 1758, being then ſenior member of the college of phyſicians. One diſſertation publiſhed, in 1737, a tranſlation into Engliſh of Astruc's treatiſe "De Morbo Gallico," London, 2 vols. 8vo. Eloy. Dict. Hiſt.

BARROWISTS, in *Ecclęſiaſtical Hiſtory*. See Brownists.

BARRULET, or Barrulet, in *Heraldry*, ſignifies a diminution of the bar, conſiſting of its fourth part.

BARRULY denotes the field of the ſhield of arms, when it is divided bar-ways into many equal parts.

BARRY, Edward, in *Biography*, a native of Dublin, received his medical education at Leyden, under the celebrated Boerhaave, and was created doctor of phyſic there in 1719. After practiſing ſome years at York, he went to Dublin, and was made profeſſor of medicine in the univerſity of that city, firſt phyſician to the army there, and fellow of the Royal Society in London. In 1727, he publiſhed "a treatiſe on a conſumption of the lungs, with a previous account of nutrition, and of the ſtructure and uſe of the lungs," 8vo. London, in which he maintains the doctrine of his preceptor. To the third edition of this work, enlarged and improved, publiſhed 1759, he gave the title of "A treatiſe on the three Digeſtions and Diſcharges of the Human Body, and the Diſeaſes of their principal Organs." Haller. Bib. Anat. Eloy. Dict. Hiſt.

Barry, Girald, commonly called *Giraldus Cambrenſis*, i. e. Girald of Wales, in *Biography*, a writer of the twelfth century, was born near Pembroke in South Wales about the year 1146, and deſcended from a noble family allied to the princes of the country. After an early education at home, he was ſent for further improvement to France, where he obtained great reputation for his proficiency in the rhetoric of the age in which he lived. Upon his return in 1172, he obtained ſeveral eccleſiaſtical preferments, of which the principal were the archdeaconry of Brechin, and the canonry of Hereford. As he was active in church affairs, he acquired a reputation which induced the chapter of St. David's to elect him biſhop of that ſee at the age of 30 years; but as he had reaſon for apprehending the jealouſy of king Henry II., he declined this eccleſiaſtical dignity. However, he was mortified by being under a neceſſity of refuſing what was the great object of his ambition; and in order to divert his chagrin, he viſited France; and at Paris he purſued his ſtudy of civil and canon law, and of divinity, with ſuch ſucceſs, that he was offered the profeſſorſhip of canon law in the univerſity; but he thought proper to decline it. In 1180, he returned to his own country; and as great confuſion prevailed at St. David's in conſequence of the expulſion of the biſhop, he was entruſted with the adminiſtration of that ſee for three or four years. In 1184, Henry II. appointed him his chaplain, and availed himſelf of his advice in the management of Welſh affairs. In the following year he was ſent to Ireland with prince John as his privy-counſellor and ſecretary; and was there offered the united biſhopries of Ferns and Leighlin, which he declined accepting, becauſe he diſapproved of the meaſures purſued by John. During his ſtay in that country, he was principally employed in collecting materials for two works relating to Ireland

Ireland which he had projected. After his return to Wales, in 1188, he wrote and recited his "Topography of Ireland;" and at Oxford, he publicly recited the three parts of the work on three ſucceſſive days, feaſting on the firſt day all the poor of the city, on the ſecond the principal doctors and ſcholars, and on the third ſcholars of inferior rank, ſoldiers, and burgeſſes. In the following year he accompanied Baldwin of Canterbury in a journey through the mountainous parts of Wales, for the purpoſe of inculcating on the people the neceſſity of a cruſade; and he was thus furniſhed with materials for his "Itinerary in Wales," which he afterwards publiſhed. At this time Girald took the croſs; but being otherwiſe employed at home, he obtained a diſpenſation from the pope's legate for not purſuing his voyage to the Holy Land in the retinue of king Richard I. Upon ſome diſguſt, he retired from court in 1192, and took up his abode for ſix or ſeven years at Lincoln, where he purſued his theological ſtudies and compoſed various writings. In 1198, he was ſolicited by the chapter of St. David's, and the chief men of the country, to canvaſs for the vacant ſee; but in declining it, he made uſe of a ſaying which has become memorable; "Virum epiſcopalem peti, non petere, debere," i. e. a man fit for a biſhoprick ought to be ſued to, and not ſue. However, he ſoon changed his mind; for being next year unanimouſly choſen by the chapter, he went over to Ireland to engage his relations in ſupport of his claim. But during his abſence, a mandate was iſſued from the archbiſhop and juſticiary for the election of Geoffroy the prior of Llanthony. Girald appealed to the pope; and after much delay and three journies to Rome, he only ſo far prevailed as to annul the election, and to obtain the appointment of a new choice. Geoffroy was at length the ſucceſsful candidate; upon which Girald reſigned his archdeaconry of Brechin to his nephew, and withdrawing from public concerns, devoted himſelf to his ſtudies. In 1215, he was offered the biſhopric of St. David, but the offer was connected with conditions which he did not approve. The time of his death has not been preciſely aſcertained; but it is known that he was alive after the year 1220.

Giraldus Cambrenſis was a voluminous writer; and there were few of the literary topics of his age that did not employ his pen. According to the account given of him by Mr. Thomas Wharton (Hiſt. of Poetry, diſſ. ii.), he was an hiſtorian, an antiquary, a topographer, a divine, a philoſopher, and a poet. Many of his works, he ſays, are written with ſome degree of elegance, and he abounds with quotations from the beſt Latin poets. But his ſtyle is in general puerile, affected, diffuſe, and full of quibbles and conceits: nevertheleſs, many of theſe defects muſt be attributed to the times in which he lived. Whatever may be thought of the vanity which he manifeſts in ſpeaking of himſelf, of his family, and of his performances, he was without doubt in a very great degree credulous, and ſo much addicted to fables, that his ſtatement of facts is in many caſes unworthy of confidence. With the events recited in his "Hiſtory of the Conqueſt of Ireland," he has intermixed all the prophecies he could collect of Caledonius, Merlin, and various other impoſtors; and hence he was led to give to his hiſtory the title of "Vaticinal." This work, and alſo his "Topographia Hibernica," have been charged by the Iriſh writers with numerous miſtakes and falſehoods. They were firſt printed by Camden, at Frankfort, in 1602. His "Itinerarium Cambriæ" was printed with the annotations of David Powel. The purpoſe of his "Eccleſiæ ſpeculum, ſive de monaſtriis ordinibus, ex eccleſiaſticis religionibus variis diſtinctionum. lib. iv." was to expoſe the vices of the monks, againſt whom he had conceived an inveterate hatred, ſo that he was accuſtomed to add to his litany, "From the malice of the monks, good Lord, deliver us." Biog. Brit.

Barry *Iſland*, in *Geography*, the weſternmoſt of two iſlands off Cardiff point, on the coaſt of Wales, in the county of Glamorgan.

Barry's *Point*, a projecting head land, on the weſt ſide of Little Iſland, up Cork harbour.

Barry, in *Heraldry*, is when the ſhield is divided into equal parts horizontally, conſiſting of two colours: or thus, barry of ſix, argent and ſable.

Barry *Bendy Counterchanged*, is when the bars are croſſed by lines bendwiſe. See *Partition of Partition lines*.

Barry *Indented*, is when the lines which croſs the field to form the bar are indented.

Barry *Wavy* and *Barry Nebulé*, are formed in the ſame manner by the lines being *wavy nebulé*.

Barry *Lozengie Counterchanged*, is when the bars are croſſed by lines bendwiſe, dexter and ſiniſter. See Plate as above.

Barry *Pily*, is when the bars are charged with piles. See Plate as above.

BARRYERAS Vermellias, in *Geography*, is a large bay, with very good anchoring on the coaſt of Braſil, between St. John's iſland and Sypomba iſland, 7 leagues north-eaſt from it; ſituate in about 2° S. lat. and S. E. of the mouth of the great river Amazons.

BARS, a town of Hungary, and chief place of a county of the ſame name, eight miles weſt of Leventz.

Bars, or *Barco*, *Cape*, lies on the eaſt ſide of the paſſage into the White ſea, and to Archangel, from the N.W. and is the north point of the gulf of Mezene. N. lat. 66° 30′. E. long. 41° 45′.

BARSA, in *Ancient Geography*, an iſland near the coaſt of France, mentioned in the Itinerary of Antonine. See *Iſle of* Bas.

BARSALIUM, a town of Aſia, ſeated on the banks of the Euphrates, on the eaſt of Samoſata.

BARSALLACH Point, in *Geography*, a cape of Scotland, on the coaſt of the county of Wigton, in Luce bay, 8 miles N. W. of Burrowhead.

BARSALLI, a kingdom of Africa, bordering on the river Gambia, and inhabited by a tribe of negroes called Jaloffs. The government of this kingdom is a deſpotic monarchy; and the people are in ſuch an abject ſtate of ſubmiſſion, that they fall on their faces whenever any one of the royal family appears. In time of war, every ſoldier has his ſhare of booty; and the king contents himſelf with a very moderate portion. The kingdom is divided into a number of provinces, over which the king appoints governors, called "bumeys," who pay him an annual homage and ſend a certain tribute or revenue to the exchequer. Theſe bumeys, though powerful and abſolute within their reſpective juriſdiction, are ſubject to the abſolute dominion of the ſovereign. The king maintains his deſpotic power ſo completely, that he admits of no other counſellor beſides his prime miniſter, who is himſelf in reality his prime ſlave. This miniſter is alſo the general of the king's forces, and the interpreter of his will, from the very letter of which he muſt never deviate. The king and court profeſs the Mahometan religion, though they pay little regard to that part of it which forbids the uſe of wine; for the king cannot live without brandy, nor is he ever more devout than when he is drunk. When he ſtands in need of a freſh ſupply of brandy, or of any other neceſſary, he ſends to the governor of James fort, begging that he will diſpatch a boat with the merchandize for which he has occaſion; and for the payment he plunders the neighbouring towns, and ſeizes a certain

a certain number of his ſubjects, whom he ſells for ſlaves, and exchanges for European commodities. The general dreſs of the people is a kind of callico ſurplice that hangs down below the knee, and is ſometimes plaited about the waiſt; and they alſo wear a great number of gold trinkets in their hair, ears, noſes, and round their necks, arms, and legs. The king of Barſalli, whom Moore ſaw in 1732, had a prodigious number of women; but when he went abroad, he was ſeldom attended by more than two, who ſeemed to be dreſſed out in the whole finery and jewels of the ſeraglio. The preſumptive heirs of the crown paid the ſame ſervile homage to the ſovereign with his loweſt ſubjects: nevertheleſs it was uſual for the king's children to diſpute the right of ſucceſſion with his brethren; and the longeſt ſword generally gained the prize. Mod. Un. Hiſt. vol. 14, p. 164, &c. See Jaloffs.

BARSANIANI, in *Church Hiſtory*, a ſect who held all the errors of the Severians and Theodoſians.

BARSANTI, Francisco, in *Biography*, a native of Lucca, born about the year 1690, ſtudied the civil law in the univerſity of Padua; but, after a ſhort reſidence there, he choſe muſic for his profeſſion. With this view he placed himſelf under the tuition of ſome of the ableſt maſters in Italy; and having attained a conſiderable knowledge both in the practice and theory of the art, he determined to ſettle in England, and came hither with Geminiani, who was alſo a Luccheſe, in the year 1714. He was a good performer on the hautbois when he firſt came over, and alſo on the flute: as a hautbois player, he found employment in the opera band; and derived conſiderable profit from teaching the flute. He publiſhed, with a dedication to the earl of Burlington, ſix ſolos for a flute with a thorough baſe, and afterwards ſix ſolos for a German flute and baſe. He alſo formed into ſonatas for two violins and a baſe, the firſt ſix ſolos of Geminiani. He continued many years a performer at the opera houſe. At length having encouragement to remove to Scotland, he went thither; and it may be ſaid of him with greater truth than of David Rizzio, that he meliorated the muſic of that country by collecting and making baſes to a great number of the moſt popular Scots tunes.

About the year 1750, Barſanti returned to London; but being advanced in years, he was glad to be again employed in the opera band as a performer on the tenor violin; and in the ſummer ſeaſon, in that of Vauxhall. At this time he publiſhed twelve concertos for violins, and ſoon after *Sei Antifone*, in which he endeavoured to imitate Paleſtrina and the old eccleſiaſtical compoſers. But the profits ariſing from theſe publications were ſo ſmall, that the ſale did not cover the expence of printing them. Barſanti was an excellent harmoniſt; but his productions were dry and fancileſs. He acquired ſmall ſums by correcting the productions of young compoſers, and making baſes to thoſe of old pretenders to counterpoint. But towards the end of his life, he ſubſiſted chiefly by the induſtry and economy of an excellent wife whom he had married in Scotland, and the ſtudies and talents of a worthy and ingenious daughter, who, with the moſt promiſing voice and diſpoſition for muſic, had been bound apprentice to a maſter who had undertaken to prepare her for a public ſinger, and with whom ſhe had vanquiſhed all the difficulties of the art in point of execution; but ſhe totally loſt her ſinging voice, on going to Oxford to perform at a choral meeting, by ſickneſs in a ſtage coach; and never being able afterwards to ſing, ſhe was engaged by Colman as a comic actreſs at his theatre in the Haymarket; and having a great fund of natural humour, and a good figure, acquired great applauſe. The winter after ſhe went to Ireland, and became a favourite actreſs in humorous parts, and at length was married to Mr. Daly, the manager of the Dublin theatre; but died ſoon after to the great regret of all who knew her.

BARSCHIRS, in *Geography*. See Baschkirs.

BARSCHLING, or Borstling, in *Ichthyology*, one of the ſynonimous names of the common perch, *perca fluviatilis*. Vide Marſigl. Danub. &c.

BARSE, an Engliſh name for the common perch, a well-known freſh-water fiſh. It is alſo the name now in uſe for the ſame fiſh in the Saxon language, and is one of the many Saxon words we have yet retained.

BARSERS, in *Geography*, a town of Norway, 50 miles N.E. of Romſdal.

BARSIR, a town of Perſia, in the province of Kerman, 60 miles N.E. of Sirgian.

BARSOUND, lies on the coaſt of Sweden, in the Baltic, 15 leagues N. by W. from the north end of Oeland iſland, and nine leagues from the Weſterwyk channel, among a labyrinth of rocks, impaſſable except by direction of pilots at Oeland.

BART, a port on the ſouthern coaſt of Nova Scotia.

Bart is alſo a townſhip of Lancaſter county, in the ſtate of Pennſylvania.

BARTAPOUR, a town of India, in the country of Kemaoon, on an iſland in the Ganges, 93 miles eaſt of Bercilly, and 90 north of Lucknow.

BARTAS, William de Salluste du, in *Biography*, a French poet, was born, in 1544, at Montfort in Armagnac; and having entered into the ſervice of Henry IV. he was employed by him in commiſſions to England, Denmark, and Scotland, in which laſt country James VI. would gladly have retained him. He was a Calviniſt, and acquired in times of bad taſte the reputation of a poet. His works were numerous, written in a ſtyle, ſometimes mean and barbarous, and ſometimes tumid and extravagant, and abounding with ludicrous and diſguſting figures. His moſt famous work was "A Commentary on the Work of the Creation of the World," in 7 books, which was held in high eſtimation, and paſſed through 30 editions, was tranſlated into various languages, and formed a part of almoſt every religious library. Bartas is highly commended by Monſ. de Thou for his candour, modeſty, and ſimplicity of manners. Towards the cloſe of his life he retired to his ſmall eſtate of Du Bartas in Armagnac, and devoted himſelf to ſtudy. He celebrated in verſe the victory of his maſter Henry at Ivry in 1590, and died in the following year. His works were collected and publiſhed in folio, at Paris, in 1611. Gen. Dict. Nouv. Dict. Hiſt.

BARTAVELLE, in *Ornithology*, among the French naturaliſts, the ſame bird which Latham deſcribes under the name of *perdix rufa*; which ſee.

BARTEN, in *Geography*, a town of Pruſſia, and capital of a ſmall country called Bartenland, in the province of Natangen, 40 miles S. E. of Konigſberg.

BARTENSTEIN, a town of Pruſſia, in the province of Natangen, ſeated on the river Alle, 28 miles ſouth of Konigſberg. This town was built in 1331, and at firſt called *Roſenthal*.

Bartenstein is alſo a town and caſtle of Germany, in the circle of Franconia and principality of Hohenlohe.

BARTERING, in *Arithmetic* and *Commerce*, the act of trucking or exchanging one commodity for another of like value.

The word comes from the Spaniſh *baratar*, *to deceive* or *circumvent* in bargaining; perhaps becauſe thoſe who deal this way uſually endeavour to over-reach one another.

This is alſo called *bartry*, 13 Eliz. cap. 7.

In order to ſolve all queſtions that occur under this article, find the value of that commodity, the quantity of which

which is given, and then find how much of the other commodity will amount to that ſum at the rate propoſed.

Example I.—How many pounds of cotton at 10d. per lb. muſt be given in barter for 5 C. 3 qrs. 14 lb. of pepper at 3 l. 10 s. per C.?

Firſt, find the value of the commodity, the quantity of which is given, thus:

	C	Q	lb.		l.	s.
	5	3	14	at	3	10
3 l.	15					
10 s.	2	10				
2 q.	1	15				
1 q.		17	6			
14 lb.		8	9			
	£	20	11	3		

Or, by decimals,
5 C. 3 Q. 14 lb. = 5.785
3 l. 10 s. = 3.5
And 1 : 3.5 :: 5.785 : 20.5625 = 20 l. 11 s. 3 d. the value of the pepper.

Secondly, find how much cotton at 10 d. per lb. may be purchaſed for 20 l. 11 s. 3 d. thus:

d. lb. l. s. d.
10 : 1 :: 20 11 3 : 493.5 = 4 C. 1 qr. 17½ lb.

		20
		411
		12
10		4935
		493.5

As the values or prices of the goods bartered are always equal, it is evident that the product of the quantities bartered into their reſpective rates muſt be equal. Hence we obtain the following rule by which many queſtions of this nature may be ſolved; viz.

Multiply the given quantity and rate of one commodity, and the product divided by the rate of the other commodity will give the quantity; or divided by the quantity, will give the rate.

Example II.—How many yards of linen at 4 s. per yard may be had in barter for 120 yards of velvet at 15 s. 6 d. per yard?

yds. ſixpences.

$$120 \times 31 = 3720, \text{ and } \frac{3720}{8} = 465 \text{ yards.}$$

See Exchange.

BARTH, John, in *Biography*, a fiſherman at Dunkirk, was born in 1651, and roſe by his courage and naval ſkill, firſt to the command of an armed galliot in 1675, and at length, in 1692, to the rank of commodore of a ſquadron in the navy of France. By his nautical conduct and intrepid bravery he performed many ſignal exploits, and rendered himſelf the terror of the narrow ſeas. In conſequence of one of his gallant actions, he was ennobled by Louis XIV.; but he ſtill retained the rough manners of a tar. "John Barth," ſaid the king to him on one occaſion, "I have made you a commodore." John replied, "You have done right." This naval officer, diſtinguiſhed more by daring and prompt enterpriſes than by any comprehenſive and complicated plan, died in 1702, and was buried in the great church of Dunkirk. Nouv. Dict. Hiſtor.

BARTHE, Nicholas Thomas, was the ſon of a merchant at Marſeilles, and born in that city in 1733. He was educated under the fathers of the oratory; and obtaining a prize from the academy of his native place, he afterwards became a member of it. His father had deſtined him for the bar; but his talents led him to the cultivation of polite literature and poetry. Removing to Paris, he devoted himſelf to the theatre; and in 1764, began to write for the ſtage. His pieces were "L'Amateur," "Tauſſes Infidelités," "La Mère jalouſe," and "L'Homme perſonnel." The two firſt were well received, but the laſt did not poſſeſs ſufficient energy and vivacity to pleaſe the public. Barthe then ceaſed to write for the ſtage, and engaged in a tranſlation of Ovid's "Art of Love." He alſo publiſhed a collection of fugitive pieces in verſe, in which ſpecimens of compoſition he excelled. His epiſtles are alſo admired for their philoſophical gaiety. Barthe blended with it much ſtrength of temper a friendly heart. Attached to ſocial pleaſures, he paſſed his time chiefly at Paris: and after having undergone the operation for an incarcerated hernia, died in this city in 1785. Nouv. Dict. Hiſtor.

Barthe, *De Nidos* (*Lat.*), in *Geography*, a town of France, and principal place of a diſtrict, in the department of the higher Pyrenées, 6 leagues ſouth of Tarbes. N. lat. 43° 4'. E. long. 0° 17'.

Barthelemy, John James, in *Biography*, a French abbé, diſtinguiſhed by his literary character, was born in Jan. 1716, at Caſſis, a ſmall port in Provence. At the age of twelve years he was ſent to Marſeilles, and purſued his ſtudies in the college of the oratory under the inſtructions of father Renaud. As he intended to devote himſelf to the eccleſiaſtical profeſſion, he removed to the Jeſuit's college for the ſtudy of theology and philoſophy; but diſſatisfied with his maſters, he formed a plan of private ſtudy, which comprehended the Greek, Hebrew, Chaldean, and Syrian languages, and in the proſecution of which he brought on a dangerous illneſs. Upon his recovery he entered into the ſeminary, where he received the clerical tonſure; and by the aſſiſtance of a young Maronite, he became a proficient in the Arabic language. From Marſeilles he retired to his family at Aubagne, and in this domeſtic retreat purſued his ſtudies with unabated application. Among his friends at Marſeilles, whom he occaſionally viſited, was M. Cary, who poſſeſſed a choice cabinet of medals and an appropriate library, to which he had acceſs; and he was thus led to indulge the predilection for this kind of ſtudy, which diſtinguiſhed his reſearches and character in the progreſs of his life. In 1744 he viſited Paris, and was introduced by M. de Boze, keeper of the royal medals and ſecretary of the academy of inſcriptions, to the moſt eminent members of the three academies, and alſo recommended to be his aſſiſtant in the care of the cabinet of medals. In 1747, he ſucceeded M. Burette as aſſociate to the academy of inſcriptions, M. Le Beau declining a competition; and when he was nominated by the miniſter to the office of ſecretary to the academy, he waved the nomination in favour of M. Le Beau, as an acknowledgment of his liberality. In return, M. Le Beau, when he reſigned this office, gave his intereſt to Barthelemy, who ſucceeded him. Thus did theſe diſtinguiſhed rivals vie with each other in the exerciſe of a liberality which reflected equal honour on both. Barthelemy enriched the Memoirs of the academy by many communications relating to ancient monuments, and among others, by a valuable diſſertation on the inſcriptions found at Palmyra by the Engliſh travellers. On the death of M. de Boze, in 1753, Barthelemy ſucceeded him as principal keeper of the medals. In the following year he followed M. de Stainville, afterwards duke de Choiſeul and prime miniſter, to Rome, and made a tour to Naples, where the ſubterraneous treaſures of Herculaneum and Pompeia engaged his particular attention, and where he exerted himſelf with peculiar zeal in the preſervation of the Greek manuſcripts. As he was not allowed to make any tranſcript,

tranſcript, it was by ſome contrivance and with the help of a retentive memory that he was able to bring away a ſpecimen of the moſt ancient mode of writing practiſed by the Greeks. On his return to Rome he gained great applauſe for a new and ingenious explanation of the famous moſaic at Paleſtrina, the ancient Prænesſte, which, according to him, related not to Sylla, but to the emperor Adrian. In 1757, Barthelemy returned with his patron M. de Stainville to Paris, who, on his acceſſion to the office of prime miniſter in 1758, anticipated and more than gratified his wiſhes, which were moderate, by various penſions, and at length by the place of ſecretary-general of the Swiſs. When his patron Choiſeul was baniſhed, in 1771, to his ſeat of Chanteloup, in order to make way for D'Aiguillon, Barthelemy accompanied him in his exile, and as he determined to reſign his ſecretaryſhip, an accommodation took place, by which he retained a penſion of 10,000 livres on the poſt. His income was now about 35,000 livres per annum, which he reduced, by ſeveral grants to indigent men of letters, to 25,000. This income he enjoyed with liberality; and he devoted a great part of it to the benefit of his family, and to the purchaſe of an ample and well-ſelected library. Thus twenty years of his life were ſpent in literary affluence; but in advanced age he found himſelf reduced, by the ſuppreſſion of places and penſions, to mere neceſſaries: and theſe he was obliged to procure by parting with his library. This reverſe of condition, however, he ſupported not only without complaint, but even with gaiety. His celebrated work, "The Travels of the younger Anacharſis," had been the labour and amuſement of thirty years; its plan was laid in 1757, and it was publiſhed in 1788. It was received with univerſal applauſe, and in conſequence of it he was admitted into the French academy by acclamation. Declining the office of king's librarian, which was offered to him in 1790, he continued to employ himſelf in the cabinet of medals, which had been augmented under his direction, ſo as to have doubled its number of ancient medals. It was his wiſh to have publiſhed a catalogue of its treaſures, with ſuitable engravings, for the information of the learned throughout Europe; but though he had obtained, in 1787, the concurrence of the miniſtry, the embarraſſment of the finances, and the critical events that diſtreſſed the country, prevented the execution of this favourite project. In 1792, the infirmities of age crowded upon him; and the calamities of the times, which a perſon of his age and character might have hoped to eſcape, aggravated his other complaints. Having been denounced under pretence of the crime of ariſtocracy by a clerk belonging to the library whom he had never ſeen, he was arreſted, and removed from the houſe of Mad. de Choiſeul, on the 2d of September 1793, to the priſon of the Magdelonettes. With ſuch ſingular patience did he ſubmit to his fate, that when he was conducted to the cell that had been prepared for him, he quietly repoſed. An order, however, was ſoon iſſued for his liberation, and he was awaked out of ſleep, and carried back to the houſe of his kind and liberal patroneſs. By way of reparation for this unmerited aggreſſion, he was offered the place of chief librarian; but his increaſing infirmities were a ſufficient apology for declining it. His decay was gradual; but the ſeverity of the winter of 1795 haſtened the termination of his life, which happened on the 30th of April, on which day, two hours before his death, he was reading Horace, till the book fell from his cold hands. He then appeared to go to ſleep, and in that ſtate expired; having attained to the commencement of his 80th year. His corporeal form is ſaid to have been impreſſed with an antique character; and his buſt, ſculptured by Houdon, and expreſſive of the ſimple tranquillity and candour of a great mind, might ſuitably be placed between thoſe of Plato and Ariſtotle. The principal work of this truly eminent perſon is his "Voyage de jeune Anacharſis en Gréce," 3 vols. 4to. or 7 vols. 8vo., which details the hiſtory, manners, cuſtoms, literature, &c. of Greece, under the form of the ſuppoſed obſervations of a traveller Anacharſis, a deſcendant of the ancient Scythian philoſopher of this name. (See ANACHARSIS.) This perſon (ſee the author's advertiſement prefixed to the work) is repreſented as viſiting Greece in the year 363 B. C. and fixing his reſidence at Athens, whence he makes excurſions, not only to the other Grecian cities, but to Egypt, Aſia Minor, Perſia, and the iſlands of the Ægean ſea. On this baſis of fiction is formed a real and inſtructive hiſtory, ſupported by the authority of the moſt approved ancient writers and by citations from their works. The narrative of Anacharſis is addreſſed to Arſames and Phedime, a Perſian ſatrap and his lady, whoſe characters are meant as portraits of the duke and ducheſs of Choiſeul. It is preceded by an introduction, in which is given a rapid but luminous view of the previous hiſtory of Greece. The elegance of ſtyle, the beauties of narration, and the judicioufneſs of reflection, render this the firſt work (ſays a biographer of approved judgment and taſte) in point of entertainment and inſtruction, that ſo brilliant a ſubject has produced. It has added a capital piece to the literary cabinet of Europe, and its value has already been recogniſed by various editions, and tranſlations into different languages. To the Engliſh edition in ſeven volumes 8vo. is added an eighth in 4to. containing maps, plans, views, and coins, illuſtrative of the geography and antiquities of ancient Greece. An anonymous writer (ſee Monthly Review, Appendix to vol. lxxxi.) has ſuggeſted, that the learned author of Anacharſis may have taken the hint of his plan from the "Athenian Letters," conſiſting of the imaginary correſpondence of a ſet of Greek gentlemen, the contemporaries of Socrates, Pericles, and Plato; but in reality the actual correſpondence of a ſociety of ingenious perſons of the univerſity of Cambridge, who, in this aſſumed mode, communicated to each other the reſult of their reſearches into ancient hiſtory, and produced the beſt commentary on Thucydides that ever was written. However, the abbe Barthelemy having ſeen this in France, ſays the Engliſh tranſlator, wrote a letter in conſequence to M. Dutens, a reſpectable foreign gentleman reſiding in London, in which he aſſures him that "it was not till after the publication of his work, that he heard of the Athenian letters; and that chance alone gave him the idea of it." A collection of miſcellaneous pieces of the abbe Barthelemy, in 2 vols. 8vo. was publiſhed at Paris in 1799. Gen. Dict.

BARTHELEMY, St. in Geography, a town of France, in the department of the Eaſt and Corſica, and chief place of a canton in the diſtrict of Toulon, 2½ leagues north of Tonneins.

BARTHIUS, Caspar, in Biography, a learned philological writer of the ſeventeenth century, was born at Cobrna, in Brandenburg, in 1587, and received his education at Gotha, and in ſeveral other neighbouring ſchools in Germany and Italy. His talents and attainments were diſplayed at a very early period. At the age of 12 years he tranſlated David's pſalms into verſe, and in 1607 he printed a collection of all his Latin poems, written from his 13th to his 19th year. In his 16th year he compoſed a learned diſſertation on the method of reading the Roman authors, and at 18 he wrote a commentary on the Aneis of Virgil. His acquaintance with

with the modern languages was extenſive, and he made tranſlations from the French and the Spaniſh. Such was his attachment to literary ſtudies, that he renounced every other employment and retired to Leipſic for the purpoſe of proſecuting them without interruption; and ſo numerous were his works, both printed and manuſcript, that, according to the account of Mr. Bayle, few clerks in office have tranſcribed more papers than Barthius. As to his morals they were not very correct, and like many other men of letters he engaged in ſeveral literary ſquabbles. Towards the cloſe of his life, however, he devoted himſelf wholly to his religious duties: and it appears from his "Soliloquies," publiſhed in 1654, that he was thus ſedulouſly employed. He died, after having been twice married, in 1658, at the age of 71 years. The chief of his works are his "Adverſaria," printed at Frankfort in 1624, fol. comprehended in 60 books, and containing numerous emendations and illuſtrations of authors, both ſacred and profane, to which he added two other ſuch volumes left in MS.; his "Latin verſion of Æneas Gaza on the immortality of the ſoul," with an edition of the original joined to the work of "Zachary of Mitylene," Leipſ. 4to. 1655; "Notæ in Claudiano," 4to. Frankfort 1650; "Comment. in Statio," 3 vols. 4to. 1664. As he truſted wholly to his memory, and never corrected what he had written, his works abound with miſtakes and contradictions. Gen. Dict.

BARTHOLINE, Caspar, ſon of a reſpectable clergyman at Melanoe in Scania, a province of Sweden, and born the 12th of February 1585, gave early ſigns of an uncommon capacity, which his father took care to cultivate, by giving him the beſt inſtruction his circumſtances would permit in his own country. Being well grounded in the learned languages, he went, prompted by his thirſt for knowledge, to Roſtock, Wittenburg, and in ſucceſſion, to the principal ſchools in Germany, France, and Italy, travelling generally on foot, his finances not permitting him to uſe the ordinary conveyances. Having accumulated a vaſt ſtock of learning, in languages and philoſophy, but particularly in anatomy and medicine, to which his genius peculiarly inclined him, in 1610 he commenced doctor of phyſic at Baſil; and the following year, going to Copenhagen, he was firſt made profeſſor of the Latin language, and in 1613 of medicine, in the univerſity there. This poſt he continued to fill until the year 1624, till mindful of a vow he had made, when afflicted with a ſevere illneſs, that if he ſhould recover he would dedicate a portion of his life to the ſtudy of divinity, he abjured medicine for theology, to which he addicted himſelf for the remainder of his life; enjoying, with the profeſſorſhip of theology, to which he was preferred at the univerſity of Copenhagen, a canonry at Roſchild. He died July 30, 1629, at Sora, a ſmall town in the iſland of Zealand, leaving, as we learn from an inſcription on his monument at Copenhagen, where he was buried, ſix ſons and one daughter. His publications were numerous; and though not always well choſen as to the ſubjects, and adopting in them many popular and erroneous opinions ſince exploded, yet they were of conſiderable utility by exciting a ſpirit of inquiry; to which we may attribute ſome at leaſt of the diſcoveries in anatomy, and other branches of natural hiſtory, made about that time. A complete catalogue of his works is given by Vander Linden, and by Haller, in his Bib. Anatom. & Med. The following will be ſufficient to be noticed here. "Anatomicæ inſtitutiones, corporis humani utriuſque ſexus hiſtoriam et declarationem exhibentes." Wittenburg, 1611, 8vo. This work, much improved and enlarged by his ſon Thomas, has paſſed through numerous editions. "Enchyridion phyſicum, ex priſcis et recentioribus philoſophis accuraté concinnatum," Argent. 1625, 12mo. "Opuſcula quatuor ſingularia. 1. De unicornu, ejuſque affinibus et ſuccedaneis. 2. De Lapide Nephritico, et Amulatis. 3. De Pygmæis. 4. De ſtudio medico inchoando, continuando, et abſolvendo." Haffniæ, 1628, 12mo. "Syntagma Medicum & Chirurgicum, de cauteriis, præſertim poteſtate agentibus." Haſtniæ, 1642, 12mo. Haller. Bib. Med. et Anatom. Eloy. Dict. Hiſt.

Bartholine, *Thomas*, the ſecond ſon of Caſpar, was born at Copenhagen in 1616. Equalling, perhaps excelling, his father in genius, learning, and induſtry, with more ample means for proſecuting his ſtudies, and enjoying a much longer portion of life, his advances in literature and philoſophy were proportionably greater. After being well grounded in claſſical learning at Copenhagen, following the example of his father, he travelled over the greateſt part of Europe, converſing with the moſt learned men in every place he viſited, to whom the fame acquired by his father gave him ready acceſs. At Leyden, where he commenced his medical ſtudies, he alſo acquired a knowledge of Arabic under the celebrated Golius. He then went to Paris and Montpellier, and after reſiding a proper time at thoſe places, to Padua, which he deſcribes in his book "De Peregrinatione Medica" as one of the beſt anatomical ſchools in Europe. At Padua he continued three years, imbibing there thoſe ſtores of knowledge which laid the foundation of his future honours. Returning to Copenhagen, after an abſence of eight years, he viſited Baſil, where he was created doctor in medicine, in 1645. At Copenhagen, he was firſt made profeſſor of mathematics, and the year following, of anatomy, in which he ſoon became a ſhining ornament. But though the ſcience of medicine had engroſſed the greateſt part of his attention, no ſmall portion of his time had been ſpent in acquiring knowledge in other branches of philoſophy, as well as in philology and antiquities, as appears by his numerous diſſertations elucidating thoſe ſubjects. He very early embraced the doctrine of the circulation of the blood diſcovered by Harvey, an expoſition of which he added to a new edition of the "Inſtitutiones Anatomicæ," publiſhed 1651. To the diſcoveries of Aſellius and Pecquet, of the lacteals and thoracic duct, he added that of the lymphatics, of which he publiſhed an account in 1653, under the title of "Vaſa lymphatica, nuper Haffniæ in animantibus inventa et in homine," Haffniæ apud G. Holſt. 4to. Theſe veſſels had been ſeen about the ſame time by Jolliff and Rudbeck; and Haller, who examined with attention the claims of the ſeveral parties, gives to Rudbeck the honour of the invention, but to Bartholine that of having traced and deſcribed them with the greateſt accuracy. Having filled the chair of profeſſor of anatomy with the higheſt reputation for fourteen years, he retired in 1661 to his eſtate at Hogeſtatt, that he might have more leiſure to proſecute his ſtudies. One of his earlieſt publications from this retreat ſeems to have been his "Catalogus Operum ſuorum hactenus editorum, extat cum obſervationibus variis de nivis uſu medico," Haff. 1661, 8vo. This catalogue, though then very large, was afterwards more than doubled. A complete catalogue of his works was publiſhed by Thomas B. one of his ſons, in 1681. In 1670, his houſe, with his large and valuable library, and manuſcripts containing embryos of intended works, and large collections for further improving and enlarging thoſe already publiſhed, were burnt, and he was again driven into the world. As ſome compenſation for his loſs he was made phyſician and aulic counſellor to the

the king (though it does not appear he was ever much engaged in the practice of medicine), and the university of Copenhagen appointed him chief inspector of their library. Of this accident he gave an account the same year in a small work, intitled, "De Bibliothecæ Incendio, Dissertatio ad Filios," complaining heavily of the malignancy of Vulcan. Among the numerous manuscripts destroyed by the fire, he laments in a particular manner those intended to elucidate his "Antiquitates puerperii variarum gentium, imprimis Romanorum." "Opus (he says in his letter to his sons) varia eruditione, nisi me fefellit opinio, refertum, cujus prima lineamenta duxi annis abhinc triginta et amplius, suasu Cl. Wallæi, qui id argumentum desiderari monuit. Meursius quidem, Græcæ literaturæ interpres celebris, de Græcorum puerperio folia tria olim publici juris fecit, sed nimia brevitate lectorem curiosum satiare non potest. Ad plura digressus ego, quicquid autorum veterum lectio assidua, quicquid philologorum aliorum observationes, quicquid variarum gentium instituta, mores, ritus, antiquitates suppeditârunt, quicquid ad hoc argumentum illustrandum Ebræi doctores, Græci sapientes, Romani scriptores conferre potuerunt, cum delectu selegi, et suo ordine reddidi, grata et diffusa varietate nascendi tempora percurrens, quid nempe ante nativitatem, quid in puerperio, quid postea actum fuerit. Ornarunt librum justæ magnitudinis, variæ veterum inscriptiones, et figuræ passim Romæ, Neapoli, Gaëtæ, Florentiæ, in Sicilia magno studio a me collectæ ex ruderibus, et doctorum virorum monumentis, si indusias exigui temporis fata concessissent, fidem publico exsolvere potuissem. Jam in ipso puerperio fœtus, in partu laborans, extinctus, Lucinam inimicam nunquam sollicitabit, nec prosam nec postvertam. Abiit enim illuc, unde negant redire quenquam." His son Caspar, who had turned his attention to the same subject, and probably copied many of the notes made by his father, in some small degree repaired the accident by adding them with some observations of his own to a new edition of his father's works, which he published in 1676. On which occasion the father writes (see epistle affixed to the work), "eripuit mihi Vulcanus argumentum bene de publico merendi, ut tibi occasionem præberet caligine profundæ vetustatis obductam materiam propulandi. Ex meo infortunio, tibi gloria relicta videtur. Quemadmodum Saturnus in cœlo Paganorum cedere coactus est filio Jovi, &c." The respect, however, that was every where paid him, and the letters of condolence he received from his numerous and learned correspondents, seem to have soon consoled him; as there scarce appears to have been any intermission in his labours, every year almost to the end of his life producing some new publication. The titles of a few of his dissertations, in addition to those already named, are here given; for the rest, the reader is referred to Vander Linden de Scriptis Medicis, but particularly to Haller's Bibl. Anatom. the Bib. Med. Pract. et Chirurg. in which ample lists of the titles of the works, of the different editions they passed through, and analyses of the contents of the most valuable of them, will be found. "Anatomica Aneurismatis dissecti historia," Panormi, 1644, 8vo." De Angina Puerorum Campaniæ, Siciliæque epidemica," Neapoli, 1646, 8vo. "De Luce Hominum et Brutorum," Leidæ, 1647, attempting to account for the emission of light by putrid flesh. In a later edition he adds, "et de raris et admirandis herbis, quæ noctu lucent." "Domus Anatomica Hafniensis," containing a catalogue of the anatomical preparations, machines, &c. contained in his cabinet, 1662, 8vo. "Centuria quatuor epistolarum medicarum," containing his correspondence with the most celebrated men of the age in which he lived. This valuable collection has been completed, and republished at the Hague in 1740, in five volumes, 8vo. "De insolitis partûs humani viis," Hafniæ, 1664, 8vo. "A collection of histories of fœtuses voided by the navel, anus, et pores etiam, si diis placet." "Historiæ Anatomicæ, Cent. vi." Two centuries, forming two small volumes, were published at a time. Though some of the observations, taken on the credit of other relaters, are apocryphal, and should not have been admitted, the number of authentic and curious articles contained in these volumes have stamped a value on them which time is not likely to obliterate. The last work we shall mention is the "Acta Medica et Philosophica Hafniensia," of which four volumes in 4to. were published by him, the fifth and last volume by his son. He began making this collection, which contains many of his own productions but a much larger proportion from correspondents, soon after his return to Copenhagen, driven there by the destruction of his library. As in all similar collections, amidst some very valuable articles many insignificant and useless pieces will be here found. He died in 1680, leaving five sons and three daughters. Two of the sons, Caspar and Thomas, treading in the steps of their father, "at haud passibus equis," contributed to the collection last named, and left other anatomical and medical works. Of the others we have no account. Haller. Bib. Anat. et Bib. Med. Pract. Eloy. Dict. Hist.

Bartholine, *Erasmus*, a younger brother of Thomas, born at Roschild, August 13, 1625. Following the steps of his father and brother, he travelled through England, France, Germany, and the Low Countries; and having acquired much valuable knowledge in natural philosophy and in medicine, went to Leyden to perfect himself in those studies, where he continued three years. In 1654 he went to Padua, where he received the degree of doctor in medicine. On his return to Copenhagen, he was appointed professor in mathematics, and was rewarded with a seat in the grand council of Denmark. These honourable offices he continued to fill with great credit to the time of his death, Nov. 5 1698. In the Acta Haff. vol. v. he gives an account of a quartan fever, epidemic at Copenhagen in the year 1679, which he cured in himself, as well as in many others, by giving a single drachm of the Peruvian bark on the accession of the fever. In 1661, he published "De Figura Nivis Dissertatio," with the observations of his brother Thomas on the use of snow in medicine; in 1664, "De Cometis," 4to. Hafniæ; in 1674, "De Natura Mirabilibus," also 4to.; and in 1679, "De Aere Hafniensis," Frank. 8vo. Albert, another of the sons of Caspar Bartholine, left behind him a work, "De Scriptis Danorum," which was published by Thomas, at Copenhagen, 1666, 4to.

Bartholine, *Caspar*, eldest son of Thomas, was born at Copenhagen in 1650; and treading in the steps of his father and grandfather, acquired almost equal reputation with them. Though accused of plagiarism, and of assuming to himself the honour of discoveries made by others, yet the merit of possessing genius and industry cannot be denied him. Indeed Haller, who had spoken lightly of him at first, on the authority of Swammerdam and Drelincourt, treats him some years after (Bib. Med. Pract. v. 3. p. 34.) with more respect, calling him, "Vir acuti ingenii, qui de mum ad magnos honores, et locum honoratum in regio ministerio emersit." The early part of his life was passed in travelling over foreign countries for the acquisition of knowledge; and he had the happiness of associating with Ruysh, Swammerdam, Duverney, and other celebrated anatomists, all eagerly engaged in the same pursuit. Being at Rome on his travels, at the age of 22 he published in Latin, a learned and accurate treatise on the flutes, or rather on the wind-instruments in general,

of the ancients, under the title, "De Tibiis veterum, et earum antiquo usu, libri tres." This work first appeared at Rome in 1677, dedicated to cardinal Sigismond Chigi. The second and best edition was published at Amsterdam, 1679, 12mo. with double the number of copper-plates with which the Roman edition had been ornamented, representing ancient musical instruments from drawings chiefly made from ancient sculpture, which are well executed; and illustrated with quotations from the classics where their use is mentioned. No book of the kind seems to have been written since of equal authority; as recourse has chiefly been had to this little tract, by Bianchini, Bonanni, and others who have written expressly on the subject of ancient musical instruments. In 1678, he was received doctor in medicine at Paris. Returning thence to Copenhagen, he was made professor in medicine at the university there, and was in such high estimation as to be raised by the king, in the latter part of his life, to considerable offices in the state. Besides re-publishing several of the works of his father, and contributing largely to the Acta Hafniensia, his own distinct treatises are sufficiently numerous and valuable to entitle him to rank with the celebrated authors of that age. The titles of a few of them follow; the remainder will be found in the Bib. Anat. and Med. Pract. of Haller. "Exercitationes miscellaneæ varii generis, imprimis Anatomiæ," Leid. 1675, 8vo. In the seventh, he gives an account of a styptic efficacious in stopping hæmorrhages, taken inwardly. An experiment was tried with it successfully before the king. "De Diaphragmatis structura nova," Paris, 1676, 8vo. Drelincourt claims the honour of this discovery; and, as Caspar B. was only twenty-two years of age when he published this account, Haller seems to decide in favour of the claim of Drelincourt. "De Formatione et Nutritione Fœtus in Utero," Haffniæ, 1687, 4to. "Specimen Historiæ Anatomicæ Partium Corporis Humani," Haffniæ, 1701, 4to. He died early in the last century, but in what year is not known. His brother Thomas was appointed to the professorship of law and history. One work of merit is attributed to him, "De Causis Mortis a Danis gentilibus contemptæ;" and a dissertation published in the fifth volume of the Acta Haffniensia, "De Vermibus Aceti, et de Vermiculis seminalibus." The rest of the family of Thomas are said to have distinguished themselves so as to be appointed to honourable situations; but these perhaps were rather the homage paid to the virtues and talents of their ancestors than to their own merit, as none of their works have been noticed by bibliographers. Vander. Linden. Haller. Bib. Anat. et Med. Pract.

BARTHOLOMEUS DE GLANVILLE, an English writer who flourished about the middle of the 14th century, wrote "De proprietatibus rerum," which was first printed in fol. by Caxton, 1480. It was translated into English by Trevisa, and printed by Wynkin de Worde in 1507, and again by Berthelet fol. 1535. The original has passed through many editions. In the seventh chapter, he treats of all diseases a capite ad calcem; taken, Friend says, principally from Constantine. Haller. Bib. Med. Pract.

BARTHOLOMÄ, St. in *Geography*, a town of Germany, in the circle of Bavaria and provostship of Berchtesgaden, near the Konigsee, 13 miles south of Reichenhall.

BARTHOLOMEO DE XONGOPANI, St. a town of in North America, in the province of New-Mexico.

BARTHOLOMEO, *St.* a town of North America, in Mexico and province of Chiapa, chiefly peopled with Indians.—Also, a town of Italy, in the kingdom of Naples, and province of Otranto, 19 miles E.S.E. of Matera.—Also, a town of Italy, in the kingdom of Naples, and province of Capitanata, 6 miles south of Volturara.

BARTHOLOMEW, St. in *Biography*, one of the 12 apostles, whose native country was Galilee, is supposed by some writers to have been the same with Nathaniel, one of our Lord's first disciples. It has been generally thought, that he preached the gospel in India; and that he carried thither the gospel of St. Matthew in Hebrew, where Pantænus found it towards the close of the second century on occasion of his peregrination into that country for the same benevolent and laudable purpose. St. Jerome adds, that Pantænus brought this gospel home with him to Alexandria: but this fact is disputed; and St. Jerome is supposed to have mistaken the words of Eusebius, who only says that the Christians of India had preserved that Hebrew gospel till the time of Pantænus. (See Euseb. H. E. lib. v. c. 10. Hieron. de Vir. Illust. c. 36.) It has been also said, that Bartholomew preached in Arabia Felix and Persia; and that, returning by way of the more northern and western parts of Asia, he preached at Hierapolis and in Lycaonia; and that he died at Albana, probably Albana in Albania, on the Caspian sea and confines of Armenia. At this latter place, it is said, that he was flayed alive by Astyages, brother to Polemon, king of Armenia, from hatred to the Christian religion, which the apostle had induced Polemon to embrace. But the time, place, and manner of his death have not been satisfactorily ascertained. Dionysius the Areopagite cites the writings of Bartholomew; and Jerome (ubi supra, and Pref. in Comment. in Matth.) mentions a "gospel of St. Bartholomew," which pope Gelasius, in his decree, refers to the class of apocryphal books. Of this book there are not any fragments extant; unless, as Mr. Jones (Method of Settling the Canon, &c. vol. i. p. 211.) inclines to think, it was the same with the gospel of St. Matthew, which was used by the Hebrews or Nazarenes. This learned writer infers from the relations of Eusebius and Jerome, that this gospel was that which had been found in India; but that it had undergone many interpolations and additions: for, says he, it cannot be thought improbable that those who heard St. Bartholomew preach and explain this gospel to them, should after his departure rather call it by his name, whom they knew, than the name of Matthew, whom they did not know. Besides, Nicephorus assures us (Hist. Eccles. l. iv. c. 32.), that Bartholomew dictated the gospel of St. Matthew to them from his memory, and did not bring it along with him.

BARTHOLOMEW, *of the Martyrs*, a Dominican monk, and archbishop of Braga, was born at Lisbon in 1514, and entered into the Dominican order at the age of 14; on which occasion he renounced his family name of Fernandez, and assumed that of the church in which he had been baptized. Having taught theology for 20 years, he at length, with great reluctance, accepted the charge of the archbishopric of Braga, to which he was appointed by queen Catharine. Soon after his appointment, he was deputed, in 1561, to attend the council of Trent, in which he strongly insisted on commencing all reforms with that of the clergy. On his return from the council, he devoted his whole time and revenue to exercises of benevolence. Accordingly, he used to say, "I am first physician to 1400 hospitals, which are the parishes of my diocese." During the famine which afflicted Portugal in 1567, and lasted seven years, the poor of Braga were liberally supplied by the archbishop; and he even extended his donations to those of superior condition who felt the severity of the times. The famine was succeeded by a plague; and on this occasion the archbishop, who remained at Braga and obliged the parish priests to do so likewise,

likewiſe, contributed in no ſmall degree to the relief and comfort of the diſtreſſed. Having, after repeated ſolicitations for the purpoſe, obtained leave to reſign his archbiſhopric, he retired to a monaſtery of his order at Viana, where he ſpent the eight laſt years of his life in ſtudy and religious exerciſes; and here he died in 1590. In 1733 he was beatified by Clement XIV. The writings which he left were collected and publiſhed at Rome in 2 vols. folio. 1744. Nouv. Dict. Hiſt.

Bartholomew's *Day*, *St.* in the *Calendar*, a feſtival of the Chriſtian church, celebrated on the 24th of Auguſt. On this day, in the year 1662, the act of uniformity which obtained the royal aſſent on the 19th of May, took place; in conſequence of which about 2000 miniſters relinquiſhed their preferments in the church, or refuſed to accept of any upon the terms of this act. See Uniformity.

It was alſo on the eve of St. Bartholomew in the year 1572, that orders were iſſued for extending the horrid maſſacre which had been begun at Paris; in conſequence of which the matins of Paris, as this maſſacre was ſtyled in alluſion to the Sicilian veſpers, were repeated in Meaux, Orleans, Troyes, Angiers, Toulouſe, Rouen, and Lyons: ſo that in the ſpace of two months, 30,000 proteſtants were butchered in cold blood; if that expreſſion may be uſed, in ſpeaking of people influenced by the moſt deteſtable paſſions.

Bartholomew's *Hoſpital*. See Hospital.

Bartholomew, *St.* in *Geography*, one of the Caribbee iſlands in the Weſt Indies, about 25 miles north of St. Chriſtopher's, and in circumference about 24 miles. It was peopled in 1648 by Poincy, the French governor of St. Chriſtopher's; and enjoyed by the French without moleſtation till the year 1689, when a deſcent was made upon it by ſir Timothy Thornhill, who ravaged the country, and carried off about 700 of its inhabitants, with their cattle and effects. The Engliſh government, however, diſapproved of this conduct, and allowed the inhabitants to repoſſeſs their iſland, as ſubjects of Great Britain. At the peace of Ryſwick, it was reſtored to France; but as long as it continued in their poſſeſſion, it was a neſt of privateers, and it has had fifty Engliſh prizes in its harbour at the ſame time. It was ceded by France, in 1785, to the Swedes. The ſhores of this iſland are dangerous, and cannot be approached without a good pilot. The only port in the iſland is "Le Carenage;" near which ſtands "Guſtavia," the ſole town in the colony. This port is ſituated on the weſtern ſide, and has excellent moorings; but it cannot admit veſſels that draw more than nine feet of water. However, it will contain 100 ſuch veſſels; in which reſpect it is ſuperior both to St. Euſtatia and St. Chriſtopher. The bay of "Colombier" is deep enough for large ſhips, but it has no town on its banks; nor had "Le Carenage" any town belonging to it before the iſland became the poſſeſſion of Sweden. Its ſoil is but indifferent, and only a ſmall part of it admits of cultivation; and yet it produces tobacco, cotton, and caſſava, and abounds with woods of various ſorts. The plantations that moſt abound are thoſe of cotton, which ſucceed very well. The practice of the planters is to ſow four or five grains of the ſeed in a hole, and when the plants appear they pluck up all but the ſtrongeſt. After the firſt crop, they cut down the branches, and the plant puſhes out new ſhoots, which bear like the original ſtem; but after the ſecond crop, the ſeeds muſt be again ſown. The fences of theſe plantations are aloes trees, which are placed in a ſtraight line, and as cloſe together as poſſible; and when they arrive at maturity, they are impenetrable either by men or animals. St. Bartholomew alſo furniſhes the neighbouring iſlands with a peculiar kind of limeſtone; and its birds are very numerous. The climate is in general healthy; though at certain times of the year the weather is variable. For nine months in the year it is pleaſant; for, though the heat is ſcorching, the air is cooled and purified by a breeze, which is very refreſhing. Hurricanes prevail from the middle of July till the middle of October. The population of this iſland is much increaſed ſince it has belonged to Sweden. At Guſtavia are Swedes, Engliſh, French, Danes, Americans, and Jews: but the planters are chiefly French. The natives generally live, without being ſubject to much illneſs, to an old age. The men are robuſt, but the women are ſlight, feeble, and indolent; and are uſually attended by ſlaves, who are employed in keeping off the inſects that would incommode them. The houſes are made of wood; and ſome of them are raiſed upon ſtone pillars, ſo that the wind can paſs under them. Their windows are mere openings in the ſides, with window-ſhutters or lattices. The inhabitants are ſupplied with freſh proviſions, flour, dried fiſh, and ſalted meat from the continent of America. Although this iſland abounds with mountains, it is deſtitute not only of lakes and rivers, but even of ſprings. The freſh water is ſupplied merely by the rain, and is kept in ciſterns; and it is ſometimes procured from St. Chriſtopher's, and often at the charge of twelve livres per ton. The chief products for exportation are drugs, cotton, lignum vitæ, and iron-wood. The coins uſed in this iſland are the moidore and the piaſtre; and they have alſo a fictitious money called the piſovett, worth ſomething more than $\frac{3}{4}$ of a piaſtre, and a ſmall ſilver coin called a dogg, and another coin called a bett, of the value of 6 doggs. See "A Voyage to the Iſlands of St. Martin, St. Euſtatia, and St. Chriſtopher, undertaken at the expence of the Academy of Sciences at Stockholm." N. lat. 17° 56′. W. long. 63° 11′.

Bartholomew, *St.* an iſland in the Southern Pacific ocean, being one of the cluſter of iſlands, called the New Hebrides. S. lat. 15° 42′. E. long. 167° 17′ 30″.

Bartholomew's *Iſland*, lies in the ſtraits of Magellan, half a league E.N.E. from Elizabeth iſland. S. lat. 52° 56′. W. long. 71° 4′.

Bartholomew's *Iſland*, or Whermoysen, is ſituated on or near the coaſt of New Guinea. S. lat. 8° 13′. E. long. 138° 35′.

Bartholomew, *St.* a pariſh in Charleſton diſtrict, in South Carolina, which, by the cenſus of 1790, contained 12,606 inhabitants, of whom 10,338 were ſlaves. It ſends three repreſentatives and one ſenator to the ſtate legiſlature.

Bartholomew, *Cape*, *St.* is the ſouthernmoſt point of Staten land, in the ſtraits of Le Maire, at the ſouth end of South America. To the W.N.W. lies Middle cape, and between them is a bay. To the eaſt of it is a ſmall iſland.

Bartholomew is the name of a ledge of rocks, nearly weſt from the S.W. extremity of St. Mary's iſland, the largeſt of the Scilly iſlands: between which and St. Mary's iſland, is a channel called St. Mary's ſound.

Bartholomites, in *Eccleſiaſtical Hiſtory*, a religious order founded at Genoa in 1307; but on account of their irregular lives of the monks, the order was ſuppreſſed by pope Innocent X. in 1650, and their effects were confiſcated. In the church of the monaſtery of this order at Genoa is preſerved the image which, it is pretended, Chriſt ſent to Abgarus.

Bartisch, George, in *Biography*, ſurgeon and oculiſt at Dreſden, born at Koningſberg about the middle of the 16th century, is ſaid to have invented a ſpeculum to fix the eyelids while performing an operation on that organ: which was improved by Verduyn, and ſtill further by Ruyſh or Rau, for they contended for the honour attached to it.

He

He wrote a treatiſe on the diſeaſes of the eyes, in the German language, publiſhed at Dreſden in fol. 1583. It has ſince been tranſlated into Latin, and paſſed through ſeveral editions. There are many plates: thoſe repreſenting the different parts of the eye are taken from Veſalius. Infected with the ſuperſtition of the age in which he lived, he attributes ſome of the diſorders of the eye to witchcraft. Hall. Bib. Chir. Eloy. Dict. Hiſt.

BARTLEMEW Bay, in *Geography*, lies on the coaſt of Kent, without the North Foreland, between that and Ramſgate.

BARTLET, a plantation of America, in Hillſborough county, New Hampſhire, containing 248 inhabitants.

BARTMEISE, in *Ornithology*, the name of the bearded titmouſe. *parus biarmicus* in Friſch. Hiſt. Birds.

BARTOLET, in *Biography*. See Flamel.

BARTOLI, Daniel, a learned Jeſuit, born at Ferrara in 1608; author of many profound and uſeful works, written in Italian, with a preciſion and purity of ſtyle which have inclined his countrymen to rank him among the firſt ſcientific writers in their language. The great hiſtorical work of Bartoli appeared in 6 vols. folio, printed at Rome in ſucceſſion from 1650 to 1673. After the life of St. Ignatius, he begins with the eſtabliſhments and labours of the Society in Aſia, compriſed in 3 vols. and divided into thoſe of the Eaſt Indies, Japan, and China. In two other volumes he treats of England and Italy. This performance was tranſlated from the Italian into Latin by father Giannini, and printed at Lyons. He publiſhed at Bologna, in 1680, a work in 4to. intitled, "Del ſuono de tremori armonici e dell' udito" (of harmonical vibrations of ſound and of the ear). In this truly ſcientific and ingenious work are to be found ſeveral diſcoveries in harmonics, that were purſued by poſterior writers on the ſubject. It contains four diſſertations; the firſt treats of the ſimilarity between the circular undulations occaſioned in ſtill water when a ſtone is thrown into it, and the propagation and motion of ſound. The ſecond, of the motion of ſound compared with that of light: of echoes, or reflection of ſound, and of its augmentation in a whiſpering room or gallery. Third, of harmonic vibrations, and ratios of ſound; of ſympathetic ſounds; of the breaking a glaſs with the voice. Fourth, of the mixture of ſounds; of conſonance; harmonics; and the immenſe increaſe of ſounds in a veſſel, or incloſed place, by repercuſſion. With many other curious enquiries; and ends with the anatomy of the ear.

Bartoli, *Pietro Sante*, called *Perugino*, an engraver of reputation, was born at Perugia about the year 1635, and reſided chiefly at Rome, where he died in 1700. He is mentioned as a painter, but his character as an engraver is more eſtabliſhed. He drew in a correct, agreeable ſtyle; and his plates, which are chiefly etched, are executed in a free, maſterly manner. His diſtinguiſhing excellence conſiſted in copying the bas-relief, and other works of the ancients. His manner is original; and though his name is not always marked at full length upon his plates, they are eaſily diſtinguiſhed by perſons acquainted with his works, as the freedom and lightneſs of his pencil cannot eaſily be counterfeited. Among his detached prints are: "St. Charles kneeling, accompanied by an Angel," from Antonio Caracci; and the "Adoration of the Shepherds," from Annibale Caracci. Strutt.

BARTOLO, a lawyer of the 14th century, was born in 1313 at Saſſoferrato, the ancient Sentinum, in the marche of Ancona, purſued the ſtudy of the law at Perugia and Bologna, and attained to ſuch eminence, that he was diſtinguiſhed by the pompous titles of "Light and Star of Juriſconſults," "Maſter of Truth," "Lamp of Right," "Guide of the Blind," &c. In 1339, he was elected profeſſor of laws at Piſa; and after remaining 11 years in the exerciſe of this office, he removed to Perugia, where he opened a ſchool of law, celebrated through Italy, and frequented by a great number of ſtudents. When Charles IV. viſited Perugia, in 1355, Bartolo ſecured his favour to ſuch a degree, that he obtained for Perugia all the privileges uſually granted to univerſities, and for himſelf the titles of counſellor, and domeſtic commenſal of the emperor, with permiſſion to bear the family arms of the king of Bohemia. Bartolo is ſaid to have acquired great wealth, and to have died at Perugia in the year 1359; but the time of his death is not preciſely aſcertained. He was of a feeble conſtitution, and his temperance was ſuch that he is ſaid to have weighed his food. His learning and reſearches were extended beyond his own profeſſion, and his regard for the ſcriptures induced him to make the Hebrew language the object of his particular attention. His works, comprehended in 10 vols. folio, were printed at Lyons in 1545. Nouv. Dict. Hiſt.

BARTOLOCCI, Julius, a Ciſtercian monk, was born at Cellano in Abruzzo, in the year 1613, and became famous for Hebrew and Rabbinical learning. Having been 36 years profeſſor of Hebrew in the college of Neophytes at Rome, and alſo Hebrew writer in the Vatican, he died in 1687. His great work is intitled, "Bibliotheca Magna Rabbinica de Scriptoribus et Scriptis Hebraicis," 4 vols. folio. It was printed by the college "Propaganda," and the volumes appeared ſucceſſively in 1675, 1678, 1683, and 1693. The fourth volume was completed by his ſcholar Imbonati, who, in 1694, added a fifth, intitled, "Bibliotheca Latino-Hebraica." This work furniſhes valuable materials for aſſiſting the interpreters of the Hebrew ſcriptures. Bartolocci left alſo annotations on the book of Tobit. Moreri.

BARTOLOMEO, Baccio. See Baccio.

Bartolomeo, *Breenberg*. See Breenberg.

BARTON, Elizabeth, called commonly "The Maid of Kent," was an enthuſiaſtical impoſtor, firſt known in 1525, as a ſervant at Aldington in Kent. Being ſubject to hyſterical fits, which were attended with a variety of agitations and diſtortions, the ſuperſtitions of the age led the common people to believe that ſhe was ſupernaturally inſpired. Maſters, the parſon of the pariſh, thought that ſhe was a fit perſon to be employed in order to ſupport the declining cauſe of Rome, or to give celebrity to his own chapel, and accordingly reſolved to exhibit her as a propheteſs. With this view, he and ſome of his friends took her under their tuition; and taught her to act her part ſo well, that ſhe not only deluded the common people, but impoſed on the credulity of ſeveral perſons of rank and learning; among whom were ſir Thomas More, Fiſher biſhop of Rocheſter, and Warham archbiſhop of Canterbury. The monk and eccleſiaſtics, who were appointed by the latter to inveſtigate this buſineſs, made a favourable report, and encouraged the impoſture. The nun, for ſuch was the character ſhe had now aſſumed, was conducted in triumphal proceſſion, and attended by a mob, to the chapel of the Virgin at "Court of Street;" and when ſhe appeared before the image of our lady, ſhe fell proſtrate in one of her trances, delivering rhymes, ſpeeches, &c. all of which tended to the honour of that ſaint, and of the Popiſh religion. Having for ſome time performed in this way, very much to the honour and profit of her employers, ſhe was further inſtructed to denounce menaces againſt the king on account of his divorce from queen Catharine, and his marriage of Ann Boleyn, and alſo his enmity to the church, and to declare his ſubjects abſolved

ſolved from their allegiance. Henry, who had for ſome time deſpiſed the impoſture and its abettors, being at laſt juſtly incenſed, iſſued an order that, in November 1533, the maid and her accomplices ſhould be apprehended, and brought into the ſtar-chamber; all of whom, upon their examination, confeſſed the impoſture, and afterwards publicly confirmed their confeſſion before the people at St. Paul's croſs. Some attempts having been made to induce the nun to retract her confeſſion, meaſures of ſeverity were adopted, and an act of parliament was paſſed (25 Hen. VIII. c. 12.) which attainted them of high treaſon, for a conſpiracy againſt the crown and life of the king. Accordingly Elizabeth Barton, and five of her accomplices, were beheaded at Tyburn in April 1534; the deluded nun, who was a ſimple and ignorant woman, having made a previous acknowledgement of her crime and the juſtice of her ſentence. Biog. Brit.

Barton-*upon-Humber*, in *Geography*, a large market-town in Yarborough hundred, Lincolnſhire, England, 34 miles from Lincoln, and 167 north from London. It conſiſts of ſeveral ſtreets irregularly built, and has two large churches. By an ancient regiſter this appears to have been a much more conſiderable and extenſive place than at preſent; but the deſtructive plague which infeſted it in the reign of queen Elizabeth, may, in a great meaſure, have cauſed its declenſion. The moſt eaſy paſſage to Hull is from Barton-Ferry. The market is held on Monday; and it has a fair for horſes, oxen, and ſheep. At Horkſtow, in this neighbourhood, was lately diſcovered a curious Roman teſſerated pavement, which is particularly deſcribed by Mr. Lyſons, in the firſt part of "Reliquiæ Romanæ." This town includes 412 houſes, inhabited by 1709 perſons. N. lat. 53° 40′. W. long. 0° 22′.

Barton, a townſhip of Orleans county, in the ſtate of Vermont, America, formerly in that of Orange, lies S.W. of Brownington; 6 miles S.W. by W. from Willoughby lake, and 140 N. eaſterly from Bennington.

Barton, in Devonſhire, and the weſt of England, is uſed for the demeſne lands of a manor. Alſo for the manor-houſe. And, in ſome places, for out-houſes, fold-yards, &c.

BARTRACH, in *Geography*, an iſland in the bay of Killala, at the mouth of the river Moy, about 2 miles long, and half a mile broad; 2 miles N.E. of Killala.

BARTRAMIA, in *Botany*. See Triumfetta.

BARTSA, in *Geography*, a town of Hungary, 14 miles N.N.E. of Szeben.

BARTSENLU, a town of Aſiatic Turkey, in the province of Natolia, 32 miles S. of Kutaia.

BARTSIA, in *Botany*, a genus of plants ſo named by Linnæus, in memory of his friend Dr. Bartſch. It is an intermediate genus between rhinanthus, euphraſia, melampyrum, and pedicularis; diſtinguiſhed by its coloured calyx. Lin. gen. 739. Schreb. 996. Juſſ. 100. Claſs, *didynamia angioſpermia*. Gen. char. *Cal.* perianth one-leafed, tubular, permanent; mouth obtuſe, two-lobed; lobes emarginate, coloured at the top. *Cor.* monopetalous, ringent; upper lip erect, ſlender, entire, longeſt; lower, reflex, trifid, obtuſe, very ſmall. *Stam.* filaments four, briſtle-ſhaped, the length of the upper lip; two ſomewhat ſhorter. *Anthers*, oblong, approximating under the top of the upper lip. *Piſt.* germ ovate. *Style*, filiform, longer than the ſtamens. *Stigma*, obtuſe, nodding. *Per.* capſule ovate, compreſſed, acuminate, two-celled, two-valved; partition contrary to the valves. *Seeds*, numerous, angular, ſmall.

Eſſ. Gen. Char. *Cal.* two-lobed, emarginate, coloured. *Cor.* coloured leſs than the calyx; upper lip longeſt. *Capſ.* two-celled.

Species, 1. B. *coccinea*, red bartſia. Kalm It. 3. 100. Hort. Cliff. 325. 1. Amæn. 1. 160. Pedicularis, Pluk. Horminum, Morris. "Leaves alternate linear, two-toothed on each ſide." This is a very beautiful plant, with a ſtem entirely ſimple. Leaves divided, crowded towards the top into a ſpike, having a ſingle flower on each leaf. Calyxes tinged towards the tip of a very deep red, as are alſo the trifid bractes. Capſule elaſtic. The fructification is not yet well aſcertained. It has been found in Virginia, Maryland, and New York.——2. B. *alpina*, alpine bartſia. Hudſ. With. Smith Eng. Bot. t. 361. Flor. Dan. 43. Euphraſia rubra, &c. Ray Syn. 285. "Leaves oppoſite, heart-ſhaped, bluntly ſerrated; anthers hairy." Smith. Root perennial, creeping; ſtems from four to eight inches high, erect, ſimple, ſquare, hairy; leaves oppoſite, ſeſſile, ovate or cordate, ſerrate, rugoſe, hairy on the under ſide, thoſe near the top coloured: ſpike terminal, purple, leafy; calyx viſcid, hairy, purple, its ſegments nearly equal, acute; corolla of a violet purple, thrice as long as the calyx, compreſſed, clothed with glandular viſcid hairs; lower lip reflexed; anthers prominent, very hairy; ſtyle hirſute, projecting beyond the ſtamens; capſule ovate, downy, of two valves, with a tranſverſe partition ariſing from each; ſeeds numerous, angular, ſmall. This rare plant prefers a moiſt ſtony ſoil in alpine ſituations; it has been found in Weſtmorland, Durham, and in the highlands of Scotland.——3. B. *viſcoſa*, yellow viſcid bartſia. Hudſ. With. Light. Smith. Dickſ. D. p. 72. Euphraſia major lutea, &c. Ray Syn. 285. "Leaves ſerrate, uppermoſt alternate; flowers diſtant, lateral." Root annual, fibrous; ſtem about a foot high, commonly ſimple, unleſs very luxuriant; erect, ſmooth, downy, leafy; leaves ſeſſile, ovate-lanceolate, ſerrate, nerved, ſcabrous, lower ones only oppoſite; flowers axillary, ſubſeſſile, ſolitary; calyx tubular, hairy, regular, white at the baſe; corolla twice the length of the calyx, yellow, diviſions of the lip obtuſe, nearly equal; anthers hairy; ſtyle hairy; capſule ovate, roundiſh, rough at the apex, the two valves furniſhed with tranſverſe partitions; ſeeds numerous, very ſmall, ſubangular. The whole of this plant is viſcid or clammy. It has been found in Cornwall, Devonſhire, Lancaſhire, and in Argyleſhire, in marſhy ſoils, flowering in July and Auguſt.——4. B. *pallida*, pale-flowered bartſia. Amæn. 2. 356. Gmel. Sib. 3. 201. n. 11. t. 42. "Leaves alternate lanceolate, quite entire; floral leaves ovate, toothed." Root fibrous; ſtem round, ſimple, ſomewhat ſtreaked; downy towards the top; leaves ſeſſile, linear-lanceolate, three-nerved, longer than the internodes; the lower ones ſmaller, undivided; the upper longer, broader, with an oblong tooth on each ſide; floral leaves involving the calyxes, not longer than the flowers, but broader, coloured, more obtuſe, trifid or quinquefid; ſpike terminating leafy, a little inclining to one ſide; flowers alternate, ſeſſile; corolla purple. A native of Siberia and Hudſon's bay, from whence it was introduced into the Kew garden in 1782.——5. B. *gymnandra*, lagotis glauca. Gærtn. in Nov. Com. Petrop. 14. p. 534. t. 18. f. 2. G. borealis, Pall. It. 3. 710. t. A. f. 1. Veronica, Gmel. Sib. 3. 219. n. 33. "Two-ſtamened; leaves radical, twofold, petioled; ſtem moſtly two-leaved, one-ſpiked; ſpike linear, obtuſe; whorls bracted, collected." Stem four inches high, ſmooth, round, ſimple; root-leaves ſucculent, oval, entire, or ſerrate, very ſmooth; in the middle of the ſtem they are alternate, ovate, ſeſſile; ſpike of collected whorls; bractes ovate, bluiſh; calyx compreſſed, three-toothed; corolla pale blue, lower lip bifid or trifid; capſule four-toothed. This ſpecies, which is very variable in the ſize and form of the leaves, grows within the arctic circle, on the north ſide of the frozen rocks

in Kamtſchatka, where there is no other vegetation.—— 6. B. *Odontites*, red bartſia. Hudſ. 268. Smith. Brit. 648. Euphrasia odontites, Sp. Pl. With. Balt. Curt. Lond. f. 1. t. 44. "Leaves lanceolate, ſerrate, the upper alternate; flowers in racemes, inclining to one ſide; anthers ſmooth; root fibrous, annual." Stems branched, ſquare; leaves ſeſſile, lanceolate, ſerrate, ſcabrous, inferior ones oppoſite; racemes terminal, many flowered, leafy; flowers all on the ſame ſide; calyx purple, hairy, ſometimes quinquefid; corolla roſe-coloured; helmet entire, lips cut into obtuſe equal parts; anthers ſmooth; capſule ſomewhat compreſſed, hairy; ſeeds numerous, ſmall, ſtriated. Common in meadows and paſtures, flowering in July and Auguſt.

BARTUS, in *Geography*, a town of Hungary, 16 miles N. W. of Palotza.

BARUCH, in *Scripture Biography*, was the ſon of Neriah, of the tribe of Judah, and the faithful diſciple and ſervant of the prophet Jeremiah, who employed him as his ſecretary or amanuenſis. This prophet, having received orders, in the reign of Jehoiachim king of Judah, whilſt he was in priſon, to write all his prophecies till that time, dictated them to Baruch, by whom they were read to the people aſſembled in the temple on occaſion of the feaſt of expiation, B. C. 605. Baruch, terrified by the threats contained in the roll which he had read to the people, was encouraged by an aſſurance, that, notwithſtanding all the calamities which would befall Judah and Jeruſalem, he ſhould obtain a deliverance. (Jer. xlv.) Archbiſhop Uſher and Dr. Prideaux are of opinion, that this roll was read a ſecond time to the people, in the fifth year of Jehoiachim, B. C. 604.; after which it was committed to the flames by the king himſelf; and the Jews keep an annual faſt, even to this day, in commemoration of the burning of the roll: the day marked for it in their calendar is the 29th day of Ciſleu, the ninth month of the Jewiſh year, and correſponding to our November. After the burning of this roll, another was immediately written, by God's ſpecial command, from the mouth of the prophet, by the hand of Baruch; and to this were added many other words, and particularly that prophecy with reſpect to Jehoiachim and his houſe, which is denounced againſt them for this impious fact, in the 30th and 31ſt verſes of the 36th chapter of Jeremiah. In the fourth year of Zedekiah (B. C. 594.), Baruch went to Babylon with his brother Seraiah, and carried thither a written account of the prophecies contained in the 50th and 51ſt chapters of Jeremiah, which denounce the judgments that were to be executed upon Chaldæa and Babylon by the Medes and Perſians. Baruch, having read theſe prophecies to Jehoiachim and the other captives, threw the roll that contained them into the Euphrates, as the prophet had commanded him. Baruch accompanied Jeremiah into Egypt, and after the death of the prophet, he retired to Babylon, where, according to the rabbins, he died in the 12th year of the captivity. The book of Baruch, contained in the Apocrypha, is an epiſtle ſent, or feigned to be ſent, by king Jehoiachim and the Jewiſh captivity with him at Babylon, to their brethren that were ſtill left in Judah and Jeruſalem; with an hiſtorical preface, in which it is related, that Baruch being then at Babylon, drew up this epiſtle in the name of the king and the people, by their appointment, and read it to them for their approbation; and that a collection having been made, the epiſtle with the money was ſent to Jeruſalem. No Hebrew copy of this book is extant; but there are three other copies, one in Greek and the other two in Syriac. The Jews have not received this book into their canon; nor is it found in the ancient catalogues of the ſcriptures, cited by the fathers and the councils. In the later catalogues, it is annexed to the book of Jeremiah, and cited by ſome of the fathers as a part of Jeremiah. St. Jerome (Præf. in Jerem.) expreſsly rejects it out of the canon; nor does he tranſlate it, becauſe it was not in Hebrew, nor received by the Hebrews. On the other hand, St. Cyril of Jeruſalem, and the Laodicean council held A. D. 364, mention Baruch among the canonical books of ſcripture. In both the catalogues which they have given, theſe words occur: "Jeremias cum Baruch Lamentationibus et Epiſtola." But it has been alleged, that by theſe words they meant to expreſs no more than Jeremiah's prophecies and lamentation; that by the epiſtle, is meant merely the epiſtle in the 29th chapter of Jeremiah; and that the name of Baruch is added, only becauſe he had collected theſe together, and annexed the laſt chapter, which is ſuppoſed to be Baruch's, the prophecies of Jeremiah ending with the 51ſt chapter, as it is poſitively ſaid in the laſt words of it; and it muſt be acknowledged, ſays Dr. Prideaux, that as neither in St. Cyril, nor in the Laodicean council, any of the other apocryphal books are named, it is very unlikely that by the name of Baruch, in either of them, ſhould be meant the apocryphal book under this title, which has the leaſt pretence of any of them to be canonical. Although the church of Rome has admitted it, and its authority has been ſanctioned, after ſome heſitation and difficulty, by the canon of the council of Trent, it is aſſigned by Proteſtants to the claſs of apocryphal books. Prid. Conn. pt. i. b. i. vol. i. p. 87, &c. Dupin's Eccl. Hiſt. vol. i. p. 28.

BARUCO, or BARICA, CAPE, in *Geography*, is the weſtern point of Golfo Dulce, or Freſh-water bay, and diſtant from it about 4 leagues, on the S. W. ſide of the iſthmus of Panama, in the Northern Pacific ocean, S. S. E. from Cano iſland, and S. E. from the gulf of Salinas. N. lat. 8° 20′.

BARUD, the name of ſeveral ſmall places of Egypt, on the eaſt and weſt ſide of the Nile, ſituate not far from Manfalout, Siout, and Dendera.

BARVER, a town of Germany, in the circle of Weſtphalia, and county of Diepholz, 6 miles E. N. E. of Diepholz.

BARVILISKI, a town of Lithuania, in the palatinate of Troki, 28 miles S. W. of Troki.

BARULES, in *Church Hiſtory*, a ſect which maintained that the Son of God had only a phantom of a body; that ſouls were created before the world, and that they lived all at one time.

BARUM, in *Geography*, a town of Germany, in the circle of Lower Saxony, and principality of Luneburg; 10 miles ſouth of Luneburg.

BARUTH, in *Commerce*, an Indian meaſure containing 17 gantans; it ought to weigh about three pounds and a half avoirdupois.

BARUTH, in *Geography*. See BAIROUT, and BERYTUS.

BARUTH, a town of Germany, in the circle of Upper Saxony, 22 miles S. S. E. of Potzdam, and 34 N. E. of Wittenberg.

BARWICK, PETER, in *Biography*, of a reſpectable family of Witherſlack in Weſtmorland, was at a proper age admitted of St. John's college in Cambridge, where, in 1642, he took his degree of Bachelor in Arts. Quitting that ſeminary during the troubles which at that time diſturbed the country, he was entertained at the houſe of Mr. Sacheverel of Leiceſterſhire, as tutor to his ſon. In 1665, he took his degree of Doctor in Medicine, and ſoon after was made phyſician in ordinary to king Charles II.; which occaſioned him to come to London, where he ſoon acquired conſider-

conſiderable reputation for his ſkill in his profeſſion. He is ſaid to have excelled particularly in his treatment of the ſmall pox, and of putrid and malignant fevers; perhaps following the method recommended by Sydenham in thoſe complaints: but he has left no publications on theſe ſubjects. He wrote very ably in defence of Harvey's doctrine of the circulation, at that time much agitated; and M. Carrera attributes to him a treatiſe, publiſhed in London, 1671, 4to. "De iis quæ Medicorum Animum [illegible]." But the work by which he is principally known, is the Life of his brother John Barwick, late dean of St. Paul's, written in elegant Latin. It was publiſhed in 1721, in large 8vo. by Hilkiah Bedford, and an elegant portrait of the doctor, engraved by Vertue, affixed to it. His defence of the "Eikon Baſilike," againſt Dr. Walker, which was written in the 74th year of his age, "does not only ſhew," Granger ſays, "the warmth of his loyalty, but diſcovers not a little of the peeviſhneſs of old age." He died Auguſt 1705, in the 85th year of his age, highly honoured and reſpected by all who knew him. Granger's Biog. Hiſt. of England. Eloy. Dict. Hiſt.

Barwick, John, an eminent Engliſh divine of the 17th century, and dean of St. Paul's, was born at Wetherſlack, a little village of Weſtmoreland, in 1612; and being deſigned for the church, he was ſent to ſchool at Sedberg in Yorkſhire, where he manifeſted early indications of genius and piety. In 1631, he was admitted into St. John's college in the univerſity of Cambridge, where he became ſo diſtinguiſhed, that he was choſen, at the age of twenty, to manage a diſpute relating to the election of a maſter, which was heard before the privy council; and by his conduct in this buſineſs, he acquired celebrity in the univerſity, and was alſo taken notice of at court, and by the miniſtry. Having taken ſeveral degrees at the univerſity, he bore an active part in the civil war, and made one of a party of horſe which conveyed the college plate and a ſmall ſupply of money to Nottingham, where the king had ſet up his ſtandard. He alſo publiſhed a tract againſt the covenant, which was ſo offenſive to perſons in power, that he was obliged to retire to London, where he rendered all the ſervice in his power to the royal cauſe. As he poſſeſſed talents that juſtified confidence, he was employed on various occaſions of importance by the king and his friends; and he ſeems to have been ſucceſsful in his endeavours to reclaim ſome perſons who had been induced to abandon the cauſe to which he was devoted. During his majeſty's confinement in Cariſbrook caſtle, Mr. Barwick contrived to preſerve for him a free intercourſe with his friends; and he alſo concerted a plan for his eſcape, which however did not ſucceed. After the king's death, and when the royal cauſe ſeemed to be deſperate, Mr. Barwick, though in a very weak ſtate, exerted himſelf in maintaining a daily correſpondence with the miniſters of king Charles II. This office he was at length obliged to devolve, firſt on his brother Dr. Peter Barwick, and then on another of his brothers, whom he endeavoured to reſcue, at the hazard of his own life, from the danger to which he was expoſed in conſequence of a treacherous diſcovery. When Mr. Barwick was threatened with torture if he did not immediately diſcloſe the names of the perſons who were concerned with him, he kept the ſecret with invincible firmneſs; upon which he was committed to the Tower by an order of council, dated April 9th, 1650. Here he was confined in a cloſe dungeon, and debarred the uſe of pen, ink, and paper, and of all books except the bible. In this ſituation he remained many months, during which his diet was herbs or fruit, and water-gruel made of oatmeal or barley, with currants boiled in it, and ſweetened with a little ſugar; and yet ſuch was the benefit which he derived from this ſlender diet, that though he was afflicted with a phthiſis, atrophy, and dyſcraſy, when he was committed, he recovered beyond all expectation, and grew plump and fat. This fact has been mentioned by many phyſicians, as a proof of the advantage of temperance even in the moſt inveterate diſeaſes. After two years' confinement, he was diſcharged in 1652, upon giving ſecurity to appear at any time within a twelvemonth before the council of ſtate. At the expiration of the year, being ſolicited by preſident Bradſhaw, who had been diſmiſſed by Cromwell, that neither he nor his friends would be expoſed to any danger from the recognizance into which they had entered, he again engaged with ardour in public buſineſs, and conferred with ſeveral perſons whom he had drawn over to the king's ſervice, on various ſchemes for reſtoring monarchy. He was alſo employed in conducting the king's correſpondence, which he did with ſecrecy and ſucceſs; and when a reſtoration was likely to take place, he was ſent over by the biſhops to repreſent to the king the ſtate of eccleſiaſtical affairs. On this occaſion, he was received with expreſſions of cordial eſteem by his majeſty, and appointed one of his chaplains. Upon his return he viſited the univerſity of Cambridge, and took the degree of Doctor in Divinity. Upon the king's reſtoration, he was offered a biſhopric, which he declined accepting, that the world might not imagine that his extraordinary zeal for epiſcopacy was owing to any ſecret hope he might indulge of being made a biſhop. Upon this he was promoted to the deanery of Durham, with which he kept the rectory of Houghton-le-Spring, four miles diſtant from the city. The revenue which he thus acquired, he liberally employed in repairing public buildings, relieving the poor, and maintaining hoſpitality. In 1661, he took poſſeſſion of the deanery of St. Paul's; and by his intereſt with his majeſty he obtained two royal grants; one for the repair of the cathedral, to which he himſelf contributed; and the other for ſecuring its privileges. The king alſo appointed him one of the nine aſſiſtants to the twelve biſhops employed in the Savoy conference; and he was unanimouſly choſen by the clergy in convocation, their prolocutor. His various engagements brought on his old complaint, which was aggravated by renewed application after a temporary receſs, and which terminated in his death, Oct. 22, 1664. By his will he bequeathed the greateſt part of his eſtate to charitable uſes. As his time was ſo much devoted to political and public matters, we may well imagine that his writings were not numerous: they conſiſted only of three ſermons; the piece againſt the covenant, already mentioned; and the life of the biſhop of Durham, annexed to his funeral ſermon. Many of his letters to chancellor Hyde may be found in Thurloe's Collection of State Papers. Biog. Brit.

BARYGAZA, in *Ancient Geography*. See Baroach.

BARYGAZENUM Promontorium, a promontory of India, placed by M. D'Anville at the ſouth entrance of the "Barygazeuus Sinus," or the preſent gulf of Cambaya.

BARYPYCNI, in *Greek Muſic*. The ancients gave this epithet to five of the eight ſtable or fixed ſounds of their diagram; namely, the hypate hypaton, the hypate-meſon, the meſe, the parameſe, and the nete diezeugmenon. Theſe four terms, barypycne, meſopycne, oxypycne, and apycne imply the lower ſpiſs or denſe ſounds; that is to ſay, the ſpiſs or cloſe intervals, the mean of the ſpiſs, the acute of the ſpiſs, and the wideſt of the ſpiſs, meaning in the Greek muſic the hypate, the parhypate, the licanos, and the nete of the tetrachords of the ſpiſs kind. By ſpiſs or cloſe, the intervals of the ſemitones in the chromatic and quarter tones in the enharmonic, are implied. See Greek Syſtem.

BARYTES, or ponderous earth; terra ponderosa, *schwererde* Germ. *baryte* Fr.

The English and French names of this earth are derived from the Greek βαρυς, heavy, on account of the high specific gravity of the PONDEROUS SPAR or native sulphat of barytes, which is the common form in which this earth appears.

§ 1. Historical notices respecting barytes.

It is to Scheele that Chemistry is indebted for the discovery of this substance in 1774. In his valuable essay on manganese, he informs us that the nitric and muriatic solutions prepared from the native black oxyd of this metal contain besides an earth differing from all those hitherto known by its forming a salt with sulphuric acid, &c. In 1775 Gahn made his analysis of the ponderous spar, and found it to consist of the earth newly discovered by Scheele, and sulphuric acid. Bergman repeated and confirmed the experiments of these chemists, and named the earth terra ponderosa. Morveau proposed the term barote derived from the Greek, which Mr. Kirwan softened into barytes. In this appellation Bergman acquiesced; and it is now adopted by all except the German chemists, who in conformity with their general custom prefer the term schwererde, which is a literal translation in their own language of terra ponderosa. Weigleb and Afzelius contributed to enlarge our acquaintance with this substance; and in 1793, Dr. Hope published his valuable experiments in the Edinburgh Transactions. In 1796, Klaproth augmented our knowledge by his masterly analysis of the native sulphats and carbonats of barytes; and in 1797 Pelletier and Vauquelin gave to the world their able memoirs, confirming the facts already admitted and adding to them many new ones.

§ 2. Method of obtaining pure barytes.

The only way of procuring this earth in a state of sufficient purity for chemical experiment, is to expose crystallized nitrat of barytes in a platina crucible to a moderate red heat till it becomes quite dry and has ceased to give out any vapours: the nitric acid will be wholly decomposed and volatilised, leaving the barytes behind in the form of a greyish white porous mass more or less adherent to the crucible. The nitrat of barytes is obtained either by dissolving the native carbonat of barytes in very dilute nitrous acid; or by heating the native sulphat of barytes in a close crucible with charcoal, and thus converting it into sulphuret of barytes and then treating this with nitric acid, which will dissolve the earth and leave the sulphur behind. A much more economical way however of preparing this earth, is mentioned by Dartigues. (Ann. de Chimie, vol. 40.) Take sulphat of barytes, pulverise it together with charcoal, and expose it for half an hour to a full red heat: by this means the greater part will be converted into sulphuret of barytes. Pour boiling water on the mass, and a clear yellow liquor will be obtained by filtration: add to this, carbonat of soda; and a copious white precipitate of carbonated barytes, four times the weight of the soda employed, will be deposited. This being separated from the solution of sulphuret of soda and washed repeatedly, is to be mixed with charcoal and again heated for about half an hour; the carbonic acid will be for the most part converted into gaseous oxyd of carbon, and the barytes will remain in a caustic state. By a short digestion in boiling water and subsequent filtration, a clear supersaturated solution of barytes is obtained; from which, by evaporation and gently heating in a silver crucible, the pure barytes is readily procured.

§ 3. Chemical and physical properties.

Barytes obtained by the methods mentioned in the preceding section, is a porous mass of a greyish white colour and easily reducible to powder: its sp. gr. in this state cannot be ascertained with much accuracy: Fourcroy states it at 4, Hassenfratz only at 2.374. It is the most active of the alkaline earths; and from its ready solubility, has been arranged by some modern chemists among the proper alkalies. It has a harsh caustic taste, and acts upon the animal economy as a violent poison. It is destitute of smell. It changes syrup of violets green, and the lemon yellow of turmeric to a browniish orange.

By a strong heat it becomes harder, denser, and acquires internally a blueish green tinge. When strongly urged by the blowpipe or a stream of oxygen gas upon a piece of charcoal, it fuses and is partly imbibed by the charcoal and partly volatilized, communicating a yellow colour to the flame.

Its affinity for water is very considerable. When exposed to the air, it gradually imbibes moisture, swells, and falls to pieces; attracting at the same time the carbonic acid of the atmosphere and becoming mild: hence the necessity of keeping it in dry well-stopped vials. When sprinkled with a little water, it exhibits the same appearances as quicklime, but with greater energy; the mass becomes white, is remarkably increased in bulk, and a large quantity of heat is evolved. If stirred up while hot with an additional portion of water to the consistence of a thin paste, it assumes, as it cools, the state of a solid, made up of confused needle-form crystals; but this by exposure to the air becomes carbonated and falls into powder.

Water boiled upon pure barytes, is capable of taking up half its weight of this earth; the greater part of which it deposits by cooling, in slender delicate crystals implanted into each other, or, by carrying on the process very slowly, in the form of compressed hexahedral prisms terminated by a four-sided pyramid, and of a brilliant sattiny lustre. These crystals appear to be composed of 53 parts of water and 47 of barytes. By a boiling heat, they completely liquefy; and at length the water being evaporated a white powder remains behind, which is pure barytes. By mere exposure to the air they become efflorescent, and the earth is found to be carbonated. They are soluble in about $17\frac{1}{2}$ parts of water at the temperature of 60°. The fluid that remains after the deposition of the crystals of barytes retains $\frac{1}{20}$ of the earth in permanent solution, and is called barytic water; improperly, barytic lime water. This solution is perfectly limpid and colourless, has an acrid taste, and possesses properties very analogous to lime water. By exposure to the air it becomes covered with a crust of carbonated barytes; and this being removed or falling to the bottom, a fresh crust begins to be formed till the whole of the earth is thus separated from the water.

Barytes, like the other alkaline earths, combines with all the known acids; and the barytic salts thus produced are for the most part readily crystallizable, and are distinguished by the strong mutual affinity of their elements: sulphuric acid in particular is distinguished by it from every other combination.

Among the simple inflammables, phosphorus and sulphur appear to be the only ones capable of uniting with barytes. If alternate portions of phosphorus and pure barytes are put into a strong glass tube closed at one end and exposed to a red heat, the phosphorus melts, sublimes, and combines with the barytes that is in contact with it into a brown fusible mass of a metallic lustre, the phosphuret of barytes. This substance when breathed upon exhales a strong fetid odour, is luminous in the dark, changes gradually by exposure to the air into phosphat of barytes, and immediately decomposes water giving out phosphorated hydrogen gas.

The

The affinity between ſulphur and barytes is very conſiderable. Pure barytes digeſted in warm water with ſulphur will take up more than a quarter of it's weight of this ſubſtance; being then evaporated to dryneſs and heated red hot in a crucible, the reſult is a reddiſh yellow inodorous maſs, ſulphuret of barytes. Its properties have been very little examined into, on account of the great eaſe with which it is decompoſed. Sulphuret of barytes has a remarkably powerful attraction for water, is very ſoluble in this fluid even when cold, but is ſtill more ſo in hot water. In theſe caſes however a decompoſition of part of the water is effected; the hydrogen uniting with a portion of the ſulphur, and the oxygen with another portion. The new combinations that take place in this proceſs are very intereſting, and having been ably inveſtigated by Berthollet we ſhall treat of them ſomewhat at length.

When ſulphuret of barytes is thrown into hot water it immediately diſſolves, the liquid becomes of a yellow colour and exhales a ſtrong ſmell of ſulphurated hydrogen; a white earthy ſediment is depoſited, and after the liquor cools a conſiderable quantity of cryſtals either acicular, priſmatic, or in plates, make their appearance: which being dried by preſſure between filtering paper become perfectly white. Thus ſulphuret of barytes by the action of water furniſhes three diſtinct products. 1. The earthy ſediment is regenerated ſulphat of barytes; being produced by the oxygen of the water combining with part of the ſulphur into ſulphuric acid, and this as ſoon as formed ſaturating itſelf with barytes. 2. The cryſtals are hydroſulphuret of barytes, a ſalt remarkable for being the only one of the earthy or alkaline hydroſulphurets that is capable of being cryſtallized. It is very little alterable by expoſure to the air, is eaſily ſoluble in water, and is decompoſable by the mineral acids with extrication of ſulphurated hydrogen gas. Beſides being produced in the decompoſition of ſulphuret of barytes, it may be made in the direct way by paſſing ſulphurated hydrogen gas through a Woulfe's apparatus containing barytes diffuſed in water. 3. Beſides the ſulphat and hydroſulphuret of barytes, there remains from the decompoſition of the ſulphuret of barytes, a yellow liquor which by the addition of muriatic acid gives out a large quantity of ſulphurated hydrogen, and yields at the ſame time a copious precipitate of ſulphur: hence it appears to be ſulphuret of barytes, intimately mixed or more probably combined with ſulphurated hydrogen.

There are therefore three modes in which ſulphur can combine with barytes: the firſt is ſimple dry ſulphuret of barytes, incapable of uniting with water without decompoſition; the ſecond is hydroſulphuret of barytes, cryſtallizable, ſoluble in water, and decompoſable by muriatic acid without depoſiting ſulphur; the third is hydroſulphurated ſulphuret of barytes, ſoluble in water, not cryſtallizable, and when decompoſed by muriatic acid giving out both ſulphur and ſulphurated hydrogen.

Barytes, in conſequence of its alkaline properties, acts on vegetable and animal matter with great energy; it forms inſoluble ſoaps with oils, corrodes and diſſolves muſcular fibre, &c.

In the dry way, barytes diſſolves ſilex in the ſame manner as potaſh does: three parts of barytes and one of ſilex being intimately mixed and fuſed together, produce a yellowiſh green maſs entirely ſoluble in nitric, muriatic, or acetous acid; from which the ſilex may be ſeparated in the uſual way. In the moiſt way barytes being mixed with newly precipitated alumine forms a compound inſoluble in water, but which is readily taken up by an exceſs of barytes.

Barytes diſſolves certain metallic oxyds, eſpecially thoſe of lead; but their combinations have not been much attended to.

Barytes was for a long time ſuppoſed to be a very refractory metallic oxyd. Bergman, Lavoiſier, and other eminent chemiſts adopted this opinion from its great ſpecific gravity, from the greeniſh hue that it communicates by fuſion with the other earths, and from its being precipitable from its ſolutions in acids by pruſſiat of potaſh. But in anſwer to theſe ſurmiſes it may be remarked, that metals in proportion as they become oxygenated approach to the ſtate of acids; whereas barytes poſſeſſes alkaline properties in a very eminent degree: and that pruſſiat of potaſh when quite pure does not precipitate barytes; this appearance being always occaſioned by the preſence of ſulphat of potaſh, with which the pruſſiat is generally contaminated.

Barytes is an active poiſon to animals; as are moſt of its ſalts. It is not made uſe of in the large way, but is of conſiderable importance in the laboratory as a teſt for ſulphuric acid and an effectual reagent to ſeparate this ſubſtance from all its other combinations.

The order of the affinities to which barytes is ſubject, as far as they have been inveſtigated, appears to be: in the moiſt way,—ſulphuric acid, oxalic, ſuccinic, fluoric, phoſphoric, ſaccholactic, nitric, muriatic, citric, tartareous, arſenic, formic, lactic, benzoic, acetous, boracic, ſulphureous, carbonic, and pruſſic acids, water, fat oil, ſulphur, alumine, ſilex; in the dry way,—phoſphoric acid, boracic, arſenic, ſulphuric, fluoric, and muriatic acids, ſulphur, oxyd of lead, ſilex, and alumine.

Gren Syſtematiſches handbuch. Annales de Chimie. Pelletier Eſſ. Chimiques. Fourcroy Syſt. des connoiſſ. chimiques. Thomſon's chemiſtry. Pearſon on chemical nomenclature, &c.

BARYTONO, in *Muſic*. See Baritono.

BARYTONUM, from *βαρυς*, *grave*, and *τονος*, *accent*, in the Greek *Grammar*, denotes a verb, which having no accent marked on the laſt ſyllable, a grave accent is to be underſtood.

BARZAURA, in *Ancient Geography*, a town of Aſia, in the Paropamiſus. Ptolemy.

BARZETO, a town of Italy, in the duchy of Parma, 17 miles S. S. W. of Parma.

BARZIZIIS, Christopher De, in *Biography*, profeſſor of medicine at Padua in the beginning of the ſixteenth century, publiſhed in 1517, "De Febrium Cognitione et Cura Liber," 4to. Lugduni; "Introductorium, ſive Janua ad omne Opus practicum Medicinæ," Auguſta-Vindel, fol. 1594, with other works of leſs note. Haller. Bib. Med. Pract.

BARZOD, in *Geography*, a town of Hungary, and capital of a county to which it gives name, ſeated on the Hernach, between Caſſovia and Agria.

BAS, James Philip Le, in *Biography*, a modern French artiſt, flouriſhed about the year 1754, by whom we have ſome excellent prints. His great force ſeems to lie in landſcapes and ſmall figures, which he executed in a ſuperior manner. His ſtyle of engraving is extremely neat; and yet he proves the freedom of the etching, and harmoniſes the whole with the graver and dry point. We have alſo a variety of pretty vignettes by this artiſt; among which are moſt of thoſe that adorn the 8vo. edition of Rollin's ancient hiſtory in Engliſh, publiſhed by the Knaptons in 1754. Of his moſt eſteemed works, the following may be enumerated: viz. "The Works of Mercy," a ſet of ſeveral "Dutch Merry-Makings, Fairs, &c." both from Tenier; "The Italian chaſe," and the "Milk pot," and alſo the "Wild boar," from P. Wouvermans; ſeveral plates of "Hunting, &c." from Van Falens; the "Sea-ports of France," after Ver-

net; the "Environs de Croningue" and the "Environs de Gueldres," from Ruyfdael. Strutt.

Bas, John Le, a furgeon and accoucheur of conſiderable eminence, born at Orleans, was admitted at the academy of furgeons of Paris, in 1756, where he reſided. Called upon in 1764 to give an opinion as to the legitimacy of a child born ten months and fourteen days after the death of the ſuppoſed father, he decided in its favour; but the cauſe being referred to another court, the aſſiſtance and opinion of Bouvart, Ant. Lewis, Petit, and ſeveral other phyſicians and ſurgeons, were demanded, who unanimously declared againſt the deciſion of Le Bas. This gave riſe to a furious literary diſpute, in the courſe of which ſeveral pamphlets were written on each ſide. Le Bas defended the part he had taken, by the authority of Ariſtotle and Pliny, ſupported by Schenkius and other modern recorders of extraordinary events, as well as by the deciſions of the courts of law in various parts of Europe, which had been ſometimes given in favour of births protracted to even more than twelve months, which Le Bas thinks might, and, he had no doubt, had happened. Bouvart and Louis, on the contrary, contending againſt the authority of theſe pretended caſes of protracted geſtation brought by their antagoniſt, which they do not admit to have been completely proved in any one inſtance, fix the time of parturition in women to nine calendar months from the time of conception; allowing it may be extended beyond that time ten or twenty days, and denying that in any one well-authenticated caſe, proof had been produced of a woman's being delivered of a living child later than that period. This opinion is now, we believe, univerſally eſtabliſhed. The following are the titles of the books written by Le Bas on the ſubject: "Queſtion important: Peut on déterminer le tems de l'accouchement," Paris 1764, 8vo. "Nouvelles obſervations ſur les naiſſances tardives," 1765, 8vo.; written in anſwer to Louis, who had confuted his arguments, and denied the authenticity of the caſes brought in ſupport of them. "Lettre à M. Bouvart, au ſujet de ſa derniere conſultation," 1765, 8vo. Bouvart had taken the ſame ſide with Louis. "Replique à un ouvrage de M. Bouvart," 1767, 8vo. This is written with much acrimony; the laſt reſource, when defending a bad cauſe. Haller. Bib. Chirurg.

Bas, in *Geography*, a ſmall iſland in the Engliſh channel, near the coaſt of France, which has a fort to defend the road, and contains about fifty inhabitants. N. lat. 48° 50'. W. long. 4°.

Bas, *Point de*, is the ſouthern cape of a bay which runs in eaſtward from Quiberon bay on the ſouth of Vilacre river, on the weſt coaſt of France.

Bas *en Baſſet*, a town of France, in the department of the Upper Loire, and chief place of a canton in the diſtrict of Moniſtrol; one league north weſt of Moniſtrol.

Bas *Relief*. See *Basso relievo*.

BASAAL, in *Botany*, the name of an Indian tree, growing about Cochin. Ray's Hiſt.

BASAG, in *Ancient Geography*, an iſland of the Indian ocean, near Arabia Felix, according to Pliny.

BASALT, *artificial*, or *black porcelain*, a compoſition having nearly the ſame properties with the natural baſalt, invented by Meſſrs. Wedgwood and Bentley, and applied to various purpoſes in their manufactures.

Basalt, in *Mineralogy*. *Angulite baſaltes*, Werner; *figurate trap* of Kirwan.

The colour of this mineral is generally greyiſh black, more rarely bluiſh or browniſh black; its ſurface is uſually reddiſh brown, from a partial decompoſition. It is found in large maſſes, compoſing entire inſulated mountains of a ſomewhat conical form. Of itſelf it is deſtitute of luſtre, but not unfrequently contains ſhining particles of olivin or baſaltic hornblende. Its fracture is uneven, paſſing into fine ſplintery, ſometimes approaching to the even or flat conchoidal. It flies, when broken, into indeterminate rather ſharp-edged fragments.

The moſt uſual form of baſalt is that of columns, ſtraight or curved, perpendicular or inclined, from three inches to three feet in diameter. Theſe pillars are divided either by ſimple ſections at right angles to their axes, or by articulations formed by the convex end of one piece inſerted into the concave extremity of the adjoining one. The forms of the columns are pentangular, hexangular, octangular, rarely triangular or quadrangular. Baſalt alſo ſometimes occurs in tables, or in globular or elliptical concentric maſſes, called by the French *baſalte en boules*.

It gives a clear aſh-grey ſtreak, is almoſt hard enough to give fire with ſteel, and is very difficultly broken. It is generally opaque, though ſometimes ſlightly tranſlucid on the edges. It is remarkably ſonorous when ſtruck with the hammer. Sp. gr. according to Bergman, 3; Briſſon, 2.864. It is ſometimes magnetic.

Before the blowpipe, baſalt fuſes without addition into a black opaque glaſs, attractable by the magnet. When heated in a charcoal crucible, according to Klaproth, it fuſes into an aſh-grey maſs, of a dull earthy fracture, and minutely ſpongy texture, overlaid with grains of iron: it loſes in this proceſs 9 per cent. of its weight. In a clay crucible, it fuſes into a denſe glaſs, opaque in maſs, but tranſparent, and of a clove-brown colour, in thin ſplinters.

Its conſtituent parts, according to Bergman, are;

Silex	—	50
Alumine	—	15
Lime	—	8
Magneſia	—	2
Iron	—	25
		100

The geological characters of baſalt, and the various controverſies with regard to its origin, and that of the other *Rocks of Secondary* Trapformation, will be treated of at large in their proper place. It will be ſufficient to mention here, that baſalt belongs to the ſtratified mountains, and that it very rarely contains any petrifactions. When in maſs, it never incloſes any metallic veins; and when it occurs in the form of dykes, in coal ſtrata or metalliferous rocks, it produces a total ſeparation of the ore or coal on each ſide of the dyke.

It is ſeldom if ever quite pure, being generally mixed with baſaltic hornblende, common hornblende, and olivin; more rarely with zeolite, felſpar, quartz, ſchorl, and calcareous ſpar. Mica is ſometimes found on its ſurface, though very ſeldom penetrating its ſubſtance. When mingled with theſe in conſiderable proportion, it is eaſily decompoſable into a remarkably fertile clayey loam.

The north-eaſt coaſt of Ireland preſents the moſt perfect and magnificent ranges of baſaltic columns in the world: the celebrated Giants' cauſeway is an aſſemblage of many thouſand articulated pillars projecting into the ſea, at the foot of a lofty baſaltic promontory, exhibiting a polygonal pavement ſomewhat reſembling a ſolid honeycomb. The promontory at Fairhead is a vaſt colonade of upright baſaltic pillars, the ſhafts of which are 250 feet in length. Scotland alſo contains many beautiful ſpecimens of columnar baſalt: the little iſland of Staffa in particular almoſt entirely conſiſts of baſaltic pillars, both vertical and bending. The central diſtrict of Auvergne in France, and the northern

parts of Italy at the foot of the Alps, as well as Saxony and Heſſia in Germany, are alſo remarkable for their baſaltic columns.

Beſides the uſe of baſalt as a material for building and paving, it has of late been employed as an ingredient in the manufacture of glaſs bottles; it ſerves inſtead of more coſtly ſubſtances, and the glaſs, though black and opake, has the advantage of being conſiderably ſtronger than the common green kind. When calcined and pulverized, baſalt is an excellent ſubſtitute for puzzolana in the compoſition of mortar, to which it gives the property of hardening under water. Emmerling. Brochant. Kirwan. Ann. de Chimie.

BASAN, or BASHAN, in *Ancient Geography*, otherwiſe called *Batanæa*, lay north of the tribes of Gad and Reuben, and in the half tribe of Manaſſeh, and was bounded by Gilead and the Ammonites on the eaſt, by the brook Jabbok on the ſouth, by mount Hermon on the north, and by Jordan on the weſt. Og was king of Baſhan, when the Iſraelites conquered it. After the Babyloniſh captivity, it was ſubdivided; ſo that only a part was called Batanæa or Baſan, another part Trahonitis, a third Aurunitis or Ituræa, and ſome part of it Gaulonitis. It was a country famous for its paſtures, and its breed of large cattle.

BASANITE of Kirwan, in *Mineralogy*. See SILICEOUS SCHISTUS.

BASANITES, in *Natural Hiſtory*, a name given by many authors to the touchſtone, uſed for trying gold, &c. Pliny ſpeaks of a baſanites which yielded a bloody juice, and was good againſt diſeaſes of the liver.

BASANITUS *Lapis*, in *Ancient Geography*, the name of a mountain in Egypt, according to Ptolemy.

BASANUS, in *Natural Hiſtory*. See TOUCHSTONE.

BASARA, in *Ancient Geography*, a town of Paleſtine, in Galilee, 20 ſtadia from Gaba, in the vicinity of Ptolemais. Joſephus.

BASARTSCHIK, in *Geography*, a conſiderable town of Romania, in Turkey of Europe. It is tolerably well built, has broad and clean ſtreets and good trade, and is ſeated on the river Maritz. N. lat. 41° 49′. E. long. 24° 30′.

BASARUCO, in *Commerce*, a ſmall baſe coin in the Eaſt Indies, being made only of very bad tin. Of this coin there are two ſorts, good and bad; the value of the baſe ſort is $\frac{1}{6}$ lower than that of the good. Three baſarucos are equal to two rees of Portugal.

BASCANIA, in *Antiquity*, ridiculous or groteſque figures hung up by the ancient ſmiths before their furnaces, to divert envy.

BASCARA, in *Geography*, a town of Africa, in Biledulgerid. The ſoil in its vicinity is fertile in grain and fruits, particularly dates, which are excellent.

BASCINNO, a town of Italy, in the kingdom of Naples, and province of Abruzzo Ultra, 4 miles S. S. E. of Teramo.

BASCULUMBAI, a town of Aſiatic Turkey, in the province of Natolia; 36 miles eaſt of Pergamo.

BASE, BASIS, in *Architecture*, denotes an aſſemblage of mouldings conſtituting the lower part of a column, of a pier, or of a pedeſtal.

In the Grecian remains of the Ionic order, the lower torus, aſtragal, or fillet of the baſe, reſts immediately on the upper ſtep of the building; but in thoſe of the Corinthian order, a ſquare plinth is added to the baſe. This practice is obſerved in all the Roman works, with the exception of the temples of Veſta at Tivoli and at Rome; ſmall circular buildings, in which a plinth radiating to the centre would have had an unſightly diminution. Modern architects have univerſally given plinths to their baſes; and the following rules may be ſtated from their works: the height of the baſes of columns to be half a diameter, thoſe of pedeſtals, two ninths of the height of the reſpective column and pedeſtal; the plinths of the Tuſcan and Doric orders, one half the height of the baſe; and one third in the Ionic and Corinthian. For the particular proportions of the mouldings, we refer to the plates.

The *Attic* or *Attiurgic Baſe* conſiſts of two toruſſes and fillets, with an intermediate ſcotia. (See *Plate* XVI. of *Architecture*; and *Plate* I. *fig.* 1. from the temple of Jupiter Olympius at Athens; and *fig.* 2. from the temple of Minerva Polias, of the ſame place.) This baſe, probably the moſt ancient of any, is employed in all the Athenian remains of the Ionic and Corinthian orders; in Roman antiquities, it is frequently uſed in the Corinthian order, and conſtantly in the Ionic; and it has been adopted in every order by modern architects. It may be obſerved in this place, that, of the Grecian Ionic baſes, the upper torus is frequently fluted. See *Plate* I. *fig.* 2. and *Plate* XXVIII.

The *Tuſcan Baſe*. The remains of antiquity do not furniſh any complete ſpecimen of the Tuſcan order; and modern architects have accordingly varied in this order more than in any other: the baſe, however, has been determined by all to conſiſt of a fillet and torus. See *Plate* XIV. of *Architecture*.

The *Doric Baſe*. It has been the practice of antiquity to execute the Doric order without a baſe. The maſſive ſtrength of this dignified order required no additional ſtability from a baſe, the projecting mouldings of which would have embarraſſed the comparative narrowneſs of the mono-triglyph intercolumniation. But modern architects having adopted a column modelled rather on Roman than Grecian proportions, have for the moſt part, with great propriety, added a baſe to their ſlender order. The Doric baſe invented by Vignola (ſee *Plate* I. *fig.* 3.) conſiſts of a fillet, aſtragal, and torus; all other architects have uſed the Attic baſe.

The *Ionic Baſe*. The baſe peculiar to this order, as deſcribed by Vitruvius (ſee *Plate* I. *fig.* 4.), conſiſts of a torus and fillet reſting upon two ſcotias, divided by aſtragals and fillets. Of this baſe there is an example in the remains of the temple of Minerva Polias at Priene. (See *Plate* XXVIII.) However, the practice of ancient and modern artiſts, with few exceptions, has given the Attic baſe to this order.

The *Corinthian Baſe* (ſee *Plate* XXIX.) differs from the Attic, in having two ſcotias with aſtragals between the toruſes. This baſe is found in the Pantheon, and in the three columns of the Campo Vaccino. In the other Roman and in the Grecian antiquities of this order, the Attic baſe is employed.

The *Compoſite Baſe*. The compoſite order has no peculiar baſe, and uſes the Attic and Corinthian baſes indifferently. Vitruvius. Stuart's Athens. Deſgodetz Edif. de Rome. Arch. di A. Palladio. Regola di J. B. da Vignola.

BASE, *Rudentée*, is that which has its tores cut like cables.

BASE, in *Fortification*, denotes the external ſide of the polygon; or that imaginary line which is drawn from the flanked angle of a baſtion to that which is oppoſite to it.

BASE *of a Figure*, in *Geometry*, denotes the loweſt part of its perimeter: in which ſenſe, the baſe ſtands oppoſed to the *vertex*, which denotes the higheſt part.

BASE *of a Triangle*, is properly the loweſt ſide, or that which lies parallel to the horizon.

Thus, the line AB is the baſe of the triangle ABC, *Plan.* III. *Geom. fig.* 38. Not but, on other occaſions, the

the lines, AC, or DC in the triangle, may be made the base.

In a right-angled triangle, the base is properly that side opposite to the right angle, i. e. the hypothenuse.

Base *of a solid Figure*, is its lowest side, or that whereon it stands. Thus the circular plane DIE is the base of the cylinder ABDE. *Phil. III. Conv. fig.* 39.

Base *of a conic Section*, is a right line in the hyperbola and parabola, formed by the common intersection of the secant plane, and the base of the cone.

Base, *Adverse*. See Altern.

Base, in *Cannon*. See Cannon.

Base, in *Heraldry*, signifies the bottom of the shield; and the charges thereon are said to be in base.

Base, *Diameter*, in *Optics*. See Diameter.

Base *of the Heart*, in *Anatomy*, denotes the broader or upper part of that viscus, to the sides of which the two auricles are fixed. This part is also called the vertex or head, κεφαλη; in opposition to which, the lesser or narrower part is called *apex* or *cone*, the point or tip of the heart.

Some also give the denomination *base* to the root of the *os hyoides*.

Base, or Basis, in *Chemistry*, a term which was applied, by the old chemists, to designate those substances of a fixed, inert, passive nature, which combined with, and were acted upon, by more volatile or active menstrua. Thus the alkalies, earths, and metallic oxyds, which form compound salts by uniting with acids, were called the bases of these salts. Modern chemists, though they maintain that in every combination the nisus or force of affinity between two ingredients is mutual and equal, have yet retained the term, for the sake of precision, to express either species or families of salts, which differ with regard to the acid, but agree as to the alkali, earth, or metallic oxyd which they contain. Thus salts with a base of potash, include all those species which are formed by the combination of the various acids with the particular alkali potash. Again, salts with an alkaline base comprehend the three families of salts with bases of potash, soda, or ammonia, as distinguished from the other salts with earthy or metallic bases. The utility, therefore, of this mode of expression is evident; for though the compound salts are usually divided into genera, according to their acids, as sulphats, nitrats, muriats, &c. yet it is often desirable to arrange them according to their other element or base, for which the Lavoisierian nomenclature has not particularly provided.

The term base is also used on other occasions as a method of denoting species; as when we say, sulphuric acid is composed of oxygen united with a base of sulphur; the vegetable acids of oxygen and a compound base of hydrogen and carbon. Sometimes also the word base is applied in a more indefinite manner; as in the expression, phosphat of lime is the base of animal bone, azot is the base of muscular fibre: where it means merely the characteristic or principal part.

Bass, Engl. Basse, Fr. Basso, Ital. in *Music*, the lowest part in the harmony of a musical composition. We prefer the derivation of the word from *basis*, Lat. to base or basso; as the word basis is already naturalized in the use that is made of it in architecture, the base of a pillar. Sir Francis Bacon uses it musically for a deep or grave sound: "In pipes the lower the note-holes be, and the further from the mouth of the pipe, the more base sounds they yield." Nat. Hist. N° 178. And Dryden thus expresses the string of an instrument that gives a base sound:

"At thy well-sharpen'd thumb, from shore to shore,
The trebles squeak for fear, the bases roar."

Dr. Johnson says, base is applied to deep, grave sounds; it is frequently written bass, though the comparative baser seems to require base.

The base is the most important of all the parts of poliphonic compositions, being the foundation upon which all the other parts are built; and it has long been a maxim among musicians, that "if the base be good, the harmony and modulation are seldom defective."

The word base is applied to various purposes in music; as base-viol, principal base, continued base, ripieno base, ground base, thorough base, &c. most of which explain themselves: the rest will be further noticed in their places. But the base to any common chord or part of a chord, called by the Italians basso principale, and by the French basse fondamentale, is what chiefly belongs to this article, and requires a clear explanation of its use.

A principal or fundamental base, in practice, is that base which carries the common chord of $\frac{8}{3}$ or the chord of the 7th, $\frac{8}{7}$.

In the Encyclopedie Methodique, there are rules given of M. Sulzer, for arranging the parts to a low base, which M. Framery says are excellent; yet he has something to object to every one of them. We shall not dispute with either of those able musical critics, their rules or exceptions; we fear that both will be unintelligible to young composers, and that an experienced composer will hardly consult a dictionary for the arrangement of the several parts in his compositions. All we shall recommend to the young harmonist, or juvenile organist, is to accompany low notes in the base by wide intervals. In common chords, when the base is low in the scale, thirds have a very growling bad effect, particularly on the organ. In filling up the parts with the left hand, when the right hand has common chords or divisions derived from common chords, the left hand should only give the fifth and eighth to the base. For the fundamental and supposed base to the treble scale, major, minor, and chromatic, see Counterpoint, Composition, Score, Common Chords, and Thorough-Base.

Basse *Fondamentale*. The general acceptation of the term base, in practical music, has been given in the preceding article. We shall now endeavour to trace the history of the fundamental base in theory; which Rameau and his adherents regard as a discovery in music, equal to Newton's doctrine of gravitation in astronomy.

The earliest notice in England of the phenomenon upon which the fundamental base of Rameau has been built, was in the Royal Society, in a paper written by Dr. Wallis "on the trembling of consonant strings," Mar. 1677. N° 134. p. 839. Abridg. vol. i. p. 606.

"It hath long been observed, that if a viol string, or lute-string, be touched with the bow or hand, another string on the same or another instrument not far from it (if in unison to it, or an octave, or the like) will at the same time tremble of its own accord. But I can now add, that not the whole of that other string doth thus tremble, but the several parts severally, according as they are unisons to the whole or the parts of that string so struck." (Here he gives the several divisions into which a string, when caused to sound, divides itself, and a delineation of the forms of the several consonances on a plate; but of these we shall have further occasion to speak hereafter.)

"This was first of all (that I know of) discovered by Mr. William Noble, M.A. of Merton college; and by him shewed to some of our musicians about three years since: and after him by Mr. Thomas Pigot, A.B. of Wadham college,

college, without knowing that Mr. Noble had diſcovered it before." As we are now only proving a claim, we need cite no more of this paper; at the end of which another paper is referred to (N° 135. p. 879.), which reference ſays: "Concerning theſe phenomena, an exquiſite ſolution is given by Dr. Narciſſus Marſh, in Dr. Plot's Natural Hiſtory of Oxfordſhire."

D'Alembert (Elémens de Muſique) ſpeaks of Rameau as the diſcoverer of the harmonics, as well as author of the ſyſtem built upon them. In the preface to the ſecond edition of his Elements of Muſic, in which he has abridged and methodized the muſical tracts of Rameau, he ſays; "it was Rameau who firſt began to reduce chaos into order, and throw a light upon the principles of harmony.

"He found in the reſonance of a ſingle ſtring or ſounding body, the moſt probable origin of harmony, and of the pleaſure which it affords us: he developed this principle, and ſhewed whence the phenomena of muſic were derived," &c.

And Rouſſeau, Dict. de Muſ. art. Harmonie, ſays, that "Pere Merſenne and M. Sauveur having found that every ſound, though ſeemingly a ſimple uniſon, was always accompanied by other ſounds leſs diſtinguiſhable, which formed with it the common chord major; and M. Rameau, ſetting off from this experiment, made it the baſis of his harmonical ſyſtem, which M. D'Alembert at length took the trouble of explaining to the public."

Rameau himſelf, in his Nouveau Syſtème de Muſique, publiſhed 1726, ſays "we have in our nature the germ of harmony, without knowing it. It is however eaſy to perceive it in the ſound of a ſtring, a pipe, &c. in the tone of which there are three different ſounds at once." In a note he adds, "this experiment is cited by different authors." But he does not ſeem to know their names. Rameau's account ſeems to have been taken from our Phil. Tranſ. quoted above, where it was ſuppoſed to be an Engliſh diſcovery. But in p. 17 of his treatiſe, he refers to Merſenne's Harm. Univerſelle, chap. des Inſtrumens, p. 209. for the invention; but Merſenne, in the very title of the chapter alluded to, relinquiſhes all claim to the diſcovery, by merely promiſing his readers "to explain many circumſtances and properties of motion, natural or forced, oblique or perpendicular, where the ideas and experiments of Galileo are examined."

This puts it out of all doubt who was the firſt diſcoverer of this muſical phenomenon. But the name of the true claimant does not ſeem to have been mentioned by any writer in England before the year 1748, when Dr. Smith firſt publiſhed his Harmonics; who begins the firſt ſection of that ſcientific work in the following manner. "Sound is cauſed by the vibrations of elaſtic bodies, which communicate the like vibrations to the air, and theſe the like again to our organs of hearing.

"Philoſophers are agreed in this, becauſe ſounding bodies communicate tremors to diſtant bodies. For inſtance, the vibrating motion of a muſical ſtring puts others in motion, whoſe tenſion and quantity of matter diſpoſe their vibrations to keep time with the pulſes of air propagated from the ſtring which was ſtruck. Galileo explains this phenomenon by obſerving, that a heavy pendulum may be put in motion by the leaſt breath of the mouth, provided the blaſts be frequently repeated, and keep time exactly with the vibrations of the pendulum; and alſo by the like art in raiſing a large bell; and probably he was the firſt that rightly explained that phenomenon."

And now, having traced this curious diſcovery to the fountain-head, we ſhall draw all further information from that ſource.

The admirable Galileo, perhaps the moſt acute and uſeful experimental philoſopher of any age or country, in his firſt dialogue (Opera del Galileo, vol. ii. Bologna 1655.), after diſcuſſing the vibrations of pendulums, which he firſt applied to the meaſuring of time, proceeds with his friends Sagredo, an intelligent enquirer into mechanical powers, who aſks queſtions of difficult ſolution; and Simplicius, a young philoſopher, curious concerning the cauſes of common effects. Galileo, under the name of Salviati, after diſcuſſing the doctrine of motion, and the range of cannon-balls, ſays; "vengo ora da i queſiti di V. S. dirvi qualche mio penſiero ſopra alcuni problemi attenenti alla muſica; and now, at your requeſt, gentlemen, I ſhall give you my thoughts on ſome muſical problems, a noble ſubject, on which ſo many great men have written, and, among the reſt, Ariſtotle himſelf; concerning which he has left us many curious problems; ſo that if by ſuch eaſy and intelligible experiments I ſhall be able to account for the wonderful phenomena of ſound, I may perhaps hope that my reflections would amuſe you.

"Sagredo. They will not only amuſe me, but are what I moſt particularly wiſh for, being extremely delighted with all muſical inſtruments; and though I beſtowed much meditation on harmonical conſonances, I have always remained perplexed and unable to account for one of theſe intervals pleaſing me more than another. For ſome not only give me no pleaſure, but are extremely offenſive to my ear; and that common problem of two ſtrings tuned in uniſon, when one of them is cauſed to ſound, the other not only vibrates but actually ſounds, I ſtill am unable to ſolve; nor do I clearly underſtand the forms of conſonances, or many other particulars concerning them."

"Salviati. Let us try whether from our doctrine of pendulums we cannot acquire ſome information concerning theſe difficulties. And as to the firſt doubt, which is, whether it be true that the ſame pendulum performs all its oſcillations, whether its ſwing be the greateſt, the mean, or the leaſt, exactly in equal times? I ſhall depend on what our profeſſor told us, who has clearly demonſtrated that a pendulum ſubtending any arcs whatever, paſſes them all in equal times, i. e. whether of 180°, or 60, 10, 2, ½ a degree, or of four minutes, ſuppoſing them all to terminate in the loweſt point, which touches the horizontal plane—all is performed in equal times." This accounts for the tone of a ſtring not ſinking or changing as the vibrations become more feeble. Here too he gives the ratio of vibrations; and afterwards the hiſtory of his diſcovering in a church, from the ſwing of a lamp, the laws of a pendulum, and that all its oſcillations were iſochronous. This doctrine he applied to the vibrations of muſical ſtrings, upon the number of which the gravity and acuteneſs of ſounds more depend than on their length, tenſion, or thickneſs. It ſeems as if few diſcoveries had been made in the philoſophy of ſound ſince this dialogue was written. Galileo has demonſtrated that if a ſtring ſounding C, for example, be divided by a moveable bridge into half, each half would be an octave to the whole; if divided into three parts, each would be a fifth to the octave; divided into four parts, each would be a fifteenth or double octave to the whole; if into five parts, each would be a major ſeventeenth (commonly called a tierce or ſharp third) to the fifteenth or double octave.

Though theſe diviſions are the ſame as the ratios aſcribed to Pythagoras, and thoſe of Euclid in the ſection of the canon; and though long before Galileo's time, the chorus of a full organ had been conſtructed on the principle of the harmonics to a fundamental baſe, there can be no doubt but that this great philoſopher firſt caught nature in the fact of producing

produce [illegible] and without human aid, the ſweeteſt chord in the whole muſical ſyſtem.

Here all the [illegible] explained, of kindred tones being excited to tremble and ſound merely by the tremors communicated to the medium by the tone of a neighbouring ſtring or ſounding body.

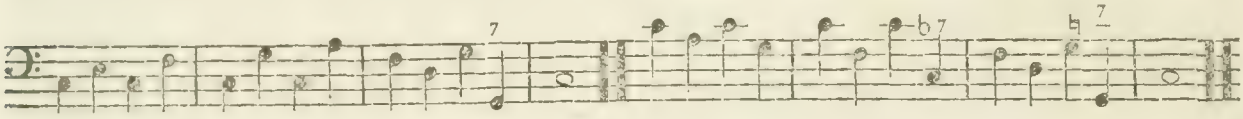
Hereto the theory of tuning things, not only by tenſion but by [illegible], as explained; from which proportions, doubtleſs, the lyrichord of Plenius was tuned by weights inſtead of tenſion, ſome fifty years ago.

Having juſtly reſtored to Galileo the diſcovery of the harmonic proportions into which every ſingle ſtring and ſounding body [illegible] when cauſed to ſound, it ſeems unneceſſary further to explain this phenomenon here. We ſhall therefore proceed to the ſyſtem built on this foundation by Rameau, under the title of Basse *Fondamentale;* concerning which, not only the author, but the French nation, have gloried as much as if he had diſcovered and conquered a new world in the celeſtial regions of harmony.

Basse *Fondamentale* or *Fundamental Baſs*, was firſt formed into a ſyſtem by Rameau, and though the Italians meant the ſame thing by baſſo principale, ſo early as the time of Zarlino, it was not ſo clearly explained; nor were its derivation or derivatives, from a phyſical experiment, then generally known in Italy.

The natural harmony or common chord to every baſe, conſiſts of the third, fifth, and eighth above the baſe; or their octaves, which the Germans call the triad: or rather the uniſon, or any given ſound, with its third and fifth, conſtitute their triad, without the octave. If inſtead of the fundamental or loweſt ſound (which Rameau calls the generator) the baſe takes the third or fifth of that chord inſtead of the loweſt ſound or principal baſe, the harmony is ſaid to be inverted; and the loweſt part, carrying the chord of the ſixth, or $\frac{6}{3}$, is called the ſuppoſed baſe, and ſometimes the baſſo continuo. (See Supposed *Baſs*, and Basso *Continuo*.) If any ſound is added to the common chord, except the ſeventh, the baſe is no longer fundamental.

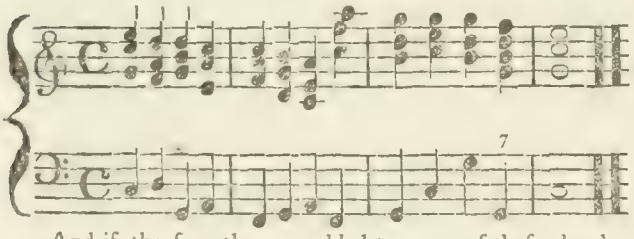
The fundamental baſe ſhould move by conſonant intervals; as 3d, 4th, 5th, or 6th: never riſing or falling one note or degree with perfect and ſimilar harmony to both; as it would occaſion a violation of the rule againſt 5ths and 8ths in ſucceſſion, and preclude all relation and connection of chord to chord. Common chords may be given to the following fundamental baſes in ſucceſſion.



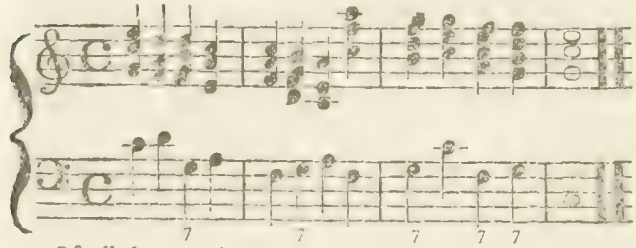
In a regular aſcent or deſcent of the ſcale in modern harmony, the rule for accompanying the octave (ſee Regle de L'Octave) allows only common chords to the key note and the 5th of the key; which are conſequently fundamental baſes: the chords of the 6th and $\frac{6}{5}$th are given to the reſt.

Rameau (Traité de l'Harmonie, p. 190.) has made all the following baſes fundamental, by accompanying them with common chords.

By contrary motion, however, the principal baſe may have, and often has had, common chords with good effect, when aſcending diatonically.

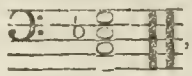


And if the ſeventh were added to many of theſe chords, they would be ſtill more intereſting, without diveſting the baſe of the title of fundamental.



Of all the experiments that have been made in phyſical harmony, there has been no ſatisfactory origin found of minor modes, or keys with flat 3ds. From whatever grave ſound the harmonies have been obſerved to ariſe, they are all component parts of major chords, or keys with ſharp 3ds. In Rameau's Génération harmonique, chap. xii. origine du mode mineur, where we expected all would be cleared up, we found his derivation of this mode more perplexed and perplexing than any part of his book. He tells us that we are to find indications given by nature of the minor mode below the principal ſound, which cauſes the 12th and major 17th below it to vibrate though not to ſound. And M. D'Alembert in the firſt edition of his "Elements" ſeems ſatisfied with this ſolution. When, after telling us that the 12th and 17th major are produced by every ſound immediately after it has been heard in its totality: that is, the tone of the whole ſtring or ſounding body. That the 12th and 17th ariſing from this ſtring or principal ſound, are called its harmonics, and form, when approximated for the convenience of the hand, the common chord major or triad of uniſon 3d and 5th. But to acquire a natural origin of the minor mode, if we tune the 12th and major 17th below any ſound, below C for example, which will be an octave below the 5th and a double octave below the inferior major 3d, to C, we ſhall find when C is ſtruck, that its lower 12th and major 17th will vibrate but not ſound . But

this

this origin neither ſatisfied theoriſts nor practical muſicians. And in M. D'Alembert's ſecond edition of his "Elements" he changed his ground, and inſtead of the chord minor of F, he adopted that of C :  , in which G is an harmonic of C as well as of Eb. But this ſolution of the difficulty, fetched from far, and by no means ſatisfactory, was changed in the article Fondamentale of the 7th volume of the Encyclopedie, to ACE, without ſucceeding in proving it to be the work of nature.

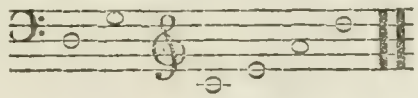
The abbé Feytou, in the new Encycl. methodique, ſays, that F is the fundamental baſe of A minor. But though among the harmonics of a ſingle baſe note there is, at the top of the chord, a ſound ſomething reſembling a 7th, it is not a major 7th; nor can F, or any grave ſound, produce a major 7th. All the harmonics produced by F, are the following, and in the following arithmetic order :

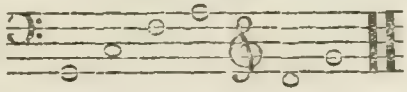
1	8	12	15	17	19	21	22.
F	f	c	f	a	c	eb	f.
1	2	3	4	5	6	7	8.

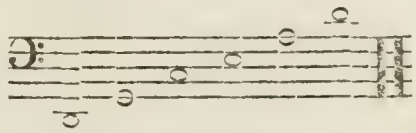
A major 7th may be joined to the common chord of F in practice, without taking from it the title of fundamental; but it is not one of its harmonics; *ergo*, F is not the fundamental baſe to A minor. Nor does nature give any indication of a minor chord either in the harmonics, or 3d ſound produced by two trebles. See Terza Suona.

Base-Viol. This inſtrument is now often confounded with the violoncello, though not of the ſame kind. In the 17th century every muſical family had a cheſt of viols; all with ſix ſtrings, and the finger-board fretted. The baſe-viol was the largeſt of theſe inſtruments, and called in England the ſix-ſtringed baſe; but in Italy, viol da gamba, on account of its reſting on the leg of the performer. The tenor viol, the next in ſize of that claſs, is called viol da braccia, from its reſting on the arm or ſhoulder when played on. The ſmalleſt and higheſt of theſe inſtruments is called the treble viol.

A complete cheſt of viols contained 8 inſtruments; 2 firſt trebles, two ſecond trebles, two tenors, and two baſes; all ſtrung and tuned alike, by 4ths and 3ds, and the necks fretted. The accordatura of the open ſtrings is as follows.

Treble Viol. 

Tenor Viol; or, *Viol da Braccia.* 

Baſe Viol; or, *Viol da Gamba.* 

From the time of queen Elizabeth till that of Charles II., in all private concerts (we had none that were public then) theſe, except the common flute, were the only inſtruments that were admitted into a gentleman's houſe; and indeed from the feebleneſs of the tone they may very properly be called ſtromenti da camera, chamber inſtruments. At firſt where voices could not be procured the ſeveral parts of full anthems, ſervices, and other choral muſic were adapted to viols. The firſt muſic that was compoſed expreſsly for them was fantaſias; the taſte for which was brought from Italy previous to ſonatas and concertos. The paſſages given to theſe viols, at this time, diſcover no kind of knowlege of the expreſſive power of the bow; and even Orl. Gibbons, who compoſed ſo well for voices in the church, ſeems very little ſuperior to his cotemporaries in his productions for inſtruments. Indeed, his madrigals of five parts, as well as thoſe of many others, are ſaid in the title page to be apt for viols and voices; a proof that with us, as well as the ancient Greeks and other nations, there was at firſt no muſic expreſsly compoſed for inſtruments; conſequently, the powers of theſe inſtruments muſt have been circumſcribed; and when this muſic was merely played, without the aſſiſtance of human voices and of poetry, capable of no great effects. The ſubjects of Orlando Gibbons' madrigals are ſo ſimple and unmarked, that if they were now to be executed by inſtruments alone, they would afford very little pleaſure to the greateſt friends of his productions and thoſe of the ſame period. At the time they were publiſhed, however, there was nothing better with which to compare them; and the beſt muſic which good ears can obtain, is always delightful till better is produced. Air, accent, grace, and expreſſion, were now equally unknown to the compoſer, performer, and hearer; and whatever notes of one inſtrument were in harmony with another were welcome to the player, provided he found himſelf honoured from time to time with a ſhare of the ſubject, or principal melody; which happening more frequently in canons and fugues than in any other ſpecies of compoſition, contributed to keep them ſo long in favour with performers of limited powers, however tireſome they may have been to the hearers when conſtructed on dull and barren themes. See Fantasia, Sonata, and Concerto.

Base, in *Law.*—*Baſe eſtate* is that eſtate which baſe tenants have in their lands.—*Baſe fee* denotes a tenure in fee at the will of the lord; by which it ſtands diſtinguiſhed from ſocage, or free tenure. (See Fee.)—*Baſe court*, is any court not of record. Such, e. gr. is the court-baron.—*Baſe tenure*, *baſſa tenura*, denotes holding by villenage, or other cuſtomary ſervice; as diſtinguiſhed from the higher tenures in capite, or the military ſervice.

Base *rocket*, *reſeda*, in *Botany*. See Reseda.

Base *Knights*, *bas chevaliers*, denote the inferior order of knights as diſtinguiſhed from barons and bannerets, who were the chief or ſuperior knights.

Base *Point*, in *Heraldry*. See Point, and Escutcheon.

Base *Ring of a Cannon*, is the great ring next behind the touch-hole.

BASEDOW, John Bernard, in *Biography*, was born at Hamburgh in 1723; and though the early part of his education was neglected by reaſon of the ſeverity of his father, which obliged him to abſcond, and to live almoſt a year as a domeſtic with a land ſurveyor at Holſtein, he afterwards returned to his native place, and ſucceſsfully purſued his ſtudies in the Gymnaſium from the year 1741 to 1744, under profeſſor Reimarus. Here his proficiency was ſuch, that he was enabled to ſubſiſt at the age of 16 years, independently of his parents. As it was his father's ambition to make his ſon a clergyman, he went to Leipſic in 1744 for the purpoſe of ſtudying theology. Here he continued two years, and attended the lectures of profeſſor Cruſius. Theſe lectures and the writings of Wolff, which he alſo peruſed, unſettled his mind with reſpect to many doctrines which he had imbibed, and excited ſome doubts in his mind concerning the truth of the Chriſtian revelation; but

but by further examination of this intereſting controverſy, he became a firm believer of the truth of the divine miſſion of Chriſt, though he denied many of thoſe doctrines which ſome Chriſtians deem to be eſſential articles of the Chriſtian faith. In 1749, he was appointed private tutor to the ſon of a gentleman in Holſtein; in this ſituation he had an opportunity of ſubmitting to the teſt of experience the plan of an improved method of education, which he had for ſome time held in contemplation. The attempt ſucceeded to his wiſhes; and though his pupil was only ſeven years of age, when he undertook the charge of him, he was able in the ſpace of three years not only to read Latin authors, but to tranſlate from the German into that language, and to ſpeak and write it with a degree of fluency. He had alſo made conſiderable progreſs in the principles of religion and morals, in hiſtory, geography, and arithmetic. This ſucceſs advanced his reputation; ſo that in 1752 he was admitted to the degree of maſter of arts at Kiel, and in the following year he was choſen profeſſor of moral philoſophy and the belles lettres in the academy at Sorœ in Denmark. Here he publiſhed ſeveral works, which were well received; particularly his "Practical Morality for all conditions," containing hints of his improved plan of ſchool education. His lectures on morality and religion were much frequented; but as he ſpoke with freedom on ſome points of theology that were generally received, he was removed by the Daniſh court to the gymnaſium at Altona, and allowed the ſalary which he had enjoyed as profeſſor. In the 40th year of his age he began, in oppoſition to the advice and remonſtrance of his friends, to attack publicly many received tenets of the church, and he publiſhed his "Philalethy," in which he ſuggeſts doubts concerning the eternity of future puniſhment; his "Methodical Inſtruction in Natural and Revealed Religion," in which he avows his diſſent from the common doctrine concerning Jeſus Chriſt, the Holy Ghoſt, inſpiration, baptiſm, the Lord's ſupper, &c.; his "Theoretic Syſtem of Sound Reaſon;" and ſome other works of a ſimilar kind. In conſequence of theſe publications he was repreſented by Gotze, Winkler, and Zimmermann, clergymen of Hamburgh, as holding opinions hoſtile to revelation, as a man void of principle, and as an enemy to religion. The populace likewiſe were incenſed, and threatened to ſtone him. He was preſerved, however, from becoming a victim to intolerance, by the protection of count Bernſtorf and ſome other friends at Copenhagen. In theſe circumſtances he directed his attention to an improvement of the uſual method of ſchool-education; and for his encouragement in the proſecution of it, he was releaſed by the Daniſh court from attendance at the gymnaſium of Altona, and allowed a penſion of 800 dollars. Having ſolicited and obtained conſiderable ſubſcriptions, he publiſhed in 1769 the heads of his "Elementary Book;" which he ſubmitted to the inſpection of many reſpectable and learned friends, by whom it was approved. In 1771, the ſum which he had collected amounted to 15,000 rix-dollars; of which a thouſand had been contributed by the empreſs of Ruſſia, who read his plan and invited him to Peterſburgh. Although he met with ſome oppoſition, he obtained very conſiderable encouragement; and he was invited by the prince of Deſſau, with the promiſe of a penſion of 1100 rix-dollars, to eſtabliſh the ſchool which he had projected in his territories. Accordingly, he removed to Deſſau, which afterwards became the chief place of his reſidence. Having publiſhed ſeveral detached parts of his work, he determined in 1772 to continue it. In the following year he publiſhed the principles of "Arithmetic and the Mathematics," and in 1774 his grand treatiſe in four volumes, with 100 copper-plates, under the title of "Elementary Work," by way of diſtinction from his "Elementary Book" which he had publiſhed in 1770. This publication was favourably received, and was ſoon tranſlated into Latin and into French. As he had beſtowed ſix years' labour on the completion of this work, his health declined; and in this ſtate he wrote his "Legacy for the Conſcience," being a work on the principles of natural and revealed religion. The prince of Deſſau, having permitted him to eſtabliſh his ſchool in any place which he found moſt convenient, he travelled to Frankfort on the Mayne; and on his 51ſt birth day, he determined to put his plan in execution, and, on account of its humane object, to give his ſeminary the name of the "Philanthropinum." "This ſchool was intended to be a ſeminary for rearing up young teachers and profeſſors, and a pattern for all the other ſchools of Germany. The children of wealthy parents were to be admitted for the ſum of 250 rix-dollars per annum; all the former errors in education were to be carefully guarded againſt; and the children of poor people were to be educated in it alſo, either to render them fit for becoming teachers themſelves in ſchools of lower rank, or for being uſeful ſervants in reſpectable families." At Deſſau, whither Baſedow returned from Frankfort, on the 27th of December 1774, the 6th birth-day of the hereditary prince of Deſſau, he opened his "Philanthropinum," appointing Wolke as head maſter, and undertaking the direction of it for ſeven years, promiſing to read lectures, and to give a few hours' inſtruction daily to the pupils without any emolument. The plan, however, was not encouraged agreeably to Baſedow's expectations, and he therefore relinquiſhed it. His diſappointment and other circumſtances led him to ſeek relief from drinking; by which he impaired his health and injured his reputation. In the melancholy period that elapſed from 1778 to 1783, he employed himſelf in examining the nature of pure Chriſtianity; and whatever may be thought of his peculiar opinions with regard to ſome of its doctrines, he appears to have been a friend to truth, and a zealous advocate for religion and virtue. In 1785 he publiſhed a plan by which children might be more eaſily taught to read, and diſtributed 500 copies of it in various ſchools. His plan was introduced by himſelf in two ſchools at Magdeburg, and it ſucceeded to his wiſhes. Having experienced great friendſhip at Magdeburg, he removed to this city towards the cloſe of his life, and died there in 1790 in the 67th year of his age. Baſedow is repreſented by his biographers as a man of acute judgement and penetration, and poſſeſſed of great ſenſibility and a lively imagination. His works, which relate chiefly to religious ſubjects or to education, amount to upwards of 50 different treatiſes. Beytraga zur Labens geſchichte, &c. or Biographical Anecdotes of Joh. Bernh. Baſedow, taken from his own works, and from other authentic ſources, 8vo. Magdeburg, 1791.

BASELECE, in *Geography*, a town of Italy, in the kingdom of Naples and province of Capitanata, 7 miles S.S.W. of Volturara.

BASELS, Baſelli, in our *Old Writers*, a kind of coin aboliſhed by king Henry II. 1158.

BASELLA, in *Botany*. Lin. gen. 382. Reich. 413. Schreb. 520. Juſſ. 84. Gærtn. t. 126. Claſs and order, *pentandria trigynia*. Nat. Order of *Holoraceæ*; *Atriplices* Juſſ. Gen. Char. *Calyx* none. *Cor.* ſeven-cleft, pitcher-ſhaped; two outer diviſions broader, one within the reſt, converging above, fleſhy at the baſe. *Stam.* filaments five, tubulate, equal, faſtened to the corolla, and ſhorter than it; anthers roundiſh. *Piſt.* germ ſuperior, ſubglobular; ſtyles three, filiform, of the length of the ſtamens; ſtigmas oblong, on one ſide of the tops of the ſtyles. *Per.* corolla permanent,

manent, cloſed, fleſhy, counterfeiting a berry. *Seed*, ſingle, roundiſh.

Eſſ. Char. *Cal.* none. *Cor.* ſeven-cleft; two oppoſite diviſions ſhorter, at length berried. *Seed*, one.

Species, 1. B. *rubra*, red Malabar night-ſhade, cuſcuta Lin. hort. Cliff. 39. Gandola rubra, Rumph. Amb. t. 151. f. 2. "Leaves flat; peduncles ſimple." It has thick, ſtrong, ſucculent ſtalks and leaves, of a deep purple colour; climbing to the height of eight or ten feet, and producing many ſide-branches; in the bark-ſtove living through the winter, and producing great quantities of flowers and ſeeds. The fruit is a ſort of ſpurious berry, of a very dark red colour, a little flatted, furrowed croſs-wiſe at top, and containing a ſingle nut. A native of the Eaſt Indies, Amboina, Japan, &c.; and cultivated, in 1730, by Miller. From the berries a beautiful colour is drawn, but when uſed for painting, it changes to a pale colour; the juice is ſaid to be uſed for ſtaining callicoes in India. 2. B. *alba*, white Malabar night-ſhade, Gandola alba, Rumph. Amb. Pluk. Alm. t. 63. f. 1. Murafakki. Kæmpf. Amæn. 784. The ſtalk ſmaller, the leaves oblong and flaccid, and the flowers and fruit ſmaller than in the foregoing. Miller raiſed from ſeeds, ſent by Juſſieu, two varieties; one with purple leaves and ſtalks, the other having leaves variegated with white. Cultivated by biſhop Compton in 1691. A native of China and Amboina. 3. B. *lucida*, ſhining Malabar night-ſhade; "leaves ſubcordate; peduncles crowded, branching." A native of the Eaſt Indies. 4. B. *nigra*, black Malabar night-ſhade; "leaves round-ovate; ſpikes lateral." Stem perennial, twining, ſlender, round, ſucculent, branched; leaves thick, ſmooth, entire, alternate, petioled; flowers purple and white, lateral, few, in long, ſolitary ſpikes. Calyx three, roundiſh, acuminate, very ſmall ſcales; corolla one-petalled, with a ſhort ſwelling tube, and a ſix-cleft border; germ four-lobed; ſtyles ſhorter than the ſtamens; berry roundiſh, deep black, ſmall, four-lobed, with four blunt concave clefts at top. Loureiro apprehends, that the berry is formed from the germ, and not from the corolla. He thinks that this plant is the ſame with the "Gandola alba" of Rumphius; but different from the B. *alba* of Linnæus. Perhaps none of theſe are ſpecifically diſtinct. A native of China and Cochin, in the hedges and fences of their gardens.

Propagation. Theſe plants are propagated by ſeeds, ſown on a hot-bed in the ſpring, and planted, when fit to remove, each in a ſeparate pot, filled with rich earth, and plunged in a tan-bed, where they muſt be treated like other exotics. They may be alſo propagated by cuttings, which ſhould be laid to dry for a day or two after being ſeparated from the plant, before they are planted, that the wound may heal; otherwiſe they will rot. Theſe ſhould be treated in the ſame manner with the ſeedling plants. Theſe plants flower from June to autumn, and the ſeeds ripen in September and December. Martyn's Miller's Dict.

BASELLI, Bennet, in *Biography*, ſon of Mark Baſelli, phyſician of Bergamo, a town in the Venetian territories, ſtudied anatomy and medicine at Padua, aſſiſted by Fabricius ab aqua pendente, and other celebrated maſters, under whom he is ſaid to have made great proficiency in the knowledge of his profeſſion. Returning to Venice in 1594, he was refuſed admiſſion into the college of phyſicians there, on account of his practiſing ſurgery jointly with medicine. Irritated by the injuſtice, as he thought it, of the law by which he was rejected, he publiſhed at Bergamo, in 1604, a defence of ſurgery, under the title of "Apologiæ, qua pro chirurgiæ nobilitate ſtrenue pugnatur, libri tres, 4to. Eloy. Dict. Hiſt.

BASEMENT, in *Architecture*. Stereobata. Stylobata. Soubaſſement, Fr. The lower part or ſtory of a building when it is in the form of a pedeſtal, with a baſe or plinth die, and cornice or plat-band.

In the Roman antiquities, the temples are generally raiſed on a baſement which has exactly the members and proportions of a pedeſtal to the columns of the portico; but in modern architecture, the baſement conſtituting the lower ſtory of a habitation has its proportions regulated by the nature of the apartments which it contains. The Italian palaces have frequently the ſummer habitations on the baſement, which in that caſe is often as high as the principal ſtory; but when it only contains offices, it ſometimes does not exceed one half of that height. Theſe proportions may be conſidered as extremes, which it will not be proper to exceed; for the principal ſtory loſes its importance when too much elevated, while a very low baſement will not admit any tolerable proportions of windows and doors.

Baſements are commonly decorated with ruſtics of various kinds; they are crowned with a cornice or plat-band, and ſupported on a baſe or ſocle. The height of the ruſtics, including the joint, ſhould never be leſs than one module of the order of the principal ſtory, neither ſhould it much exceed this meaſure; the plat-band ſhould be the ſame height as a ruſtic, and the ſocle or plinth rather more. When the baſement is finiſhed with a cornice, it ſhould alſo have a regular moulded baſe; the height of the cornice may be about one ſeventeenth of the whole baſement, and the baſe about twice as much. Chamber's Civil Architecture. Deſgodetz. edif. de Rome.

BASENTELLE, in *Geography*, a town of Italy, in Calabria, where the emperor Otho II. was vanquiſhed and made priſoner.

BASHARIANS, a ſect of Mahometans, being a branch or ſubdiviſion of the Motazalites.

The Baſharians are thoſe who maintain the tenets of Baſhar Ebn Motamer, a principal man among the Motazalites, who varied, in ſome points, from the general tenets of the ſect, as extending man's free agency to a great length, even to the making him independent. He aſſerted, that God is not always obliged to do that which is beſt; for that, if he pleaſed, he could make all men true believers. Accordingly he taught, that God might doom an infant to eternal puniſhment; but taught at the ſame time, that he would be unjuſt in ſo doing. Theſe ſectaries alſo held, that if a man repent of a mortal ſin and afterwards return to it, he will be liable to ſuffer the puniſhment due to the former tranſgreſſion. Vide Sale's Prelim. Diſc. to the Koran, p. 162.

BASHAW, Pascha, or Pacha, a Turkiſh governor of a province, city, or other diſtrict. The Arabs pronounce it Baſhaw; but the word is Turkiſh, and properly Paſhaw, denoting viceroy; whence is derived Pacha. As ſome of the provinces of the Turkiſh empire are too extenſive for the government of the Pacha, this officer has a variety of ſubdelegates; but it is in reality the ſultan who dictates and commands, under the varied names of Pacha, Motſallam, Kaiem-Makam, and Aga; nor is there one in this deſcending ſcale, even to the loweſt Delibaſhe, who does not repreſent him.

All Egypt is, on the part of the grand ſeignior, governed by a baſhaw; who has in reality but little power, but ſeems principally to be meant for the means of communicating to his divan of *beys*, and to the divans of the ſeveral military *ogiacs* (that is, their bodies), the orders of the grand ſeignior, and to ſee that they be executed by the proper officers. When Selim, ſultan of the Ottomans, put a period to the dynaſty of the Mamlouks in 1517, he was ſenſible that

if he eſtabliſhed a pacha in Egypt with the ſame authority which was poſſeſſed by the pachas in other provinces, the diſtance from the capital would be a ſtrong temptation to revolt. For preventing this inconvenience, he projected ſuch a form of government, that the power being diſtributed among the different members of the ſtate, ſhould preſerve ſuch an equilibrium as ſhould keep them all dependent upon himſelf. The remnant of the Mamlouks who had eſcaped his firſt maſſacre, appeared proper for this purpoſe; and he next eſtabliſhed a divan or council of regency, compoſed of the pacha and the chiefs of the ſeven military corps. The office of the pacha was, as we have obſerved, to notify to this council the orders of the Porte, to expedite the tribute to Conſtantinople, to watch over the ſafety of the country againſt foreign enemies, and to counteract the ambitious views of the different parties. On the other hand, the members of the council poſſeſſed the right of rejecting the orders of the pacha on aſſigning their reaſons, and even of depoſing him; and it was neceſſary that they ſhould ratify all civil or political ordinances. It was alſo agreed, that the 24 governors or beys of the provinces, ſhould be choſen from the Mamlouks. This form of government has not ill correſponded with the views of Selim, ſince it has ſubſiſted about two centuries; but within the laſt 50 years, the porte having relaxed its vigilance, innovations have taken place, and the power of the Mamlouks has ſuperſeded and almoſt annihilated that of the Turks. In order to reſtrain the pachas, the porte had ſuffered the divan to extend its power, till the chiefs of the Janizaries and Azabs were left without controul. Hence Ibrahim, one of the Kiayas, or veteran colonels of the Janizaries, about the year 1746, rendered himſelf in reality maſter of Egypt; and the orders of the ſultan vaniſhed before thoſe of Ibrahim. About the year 1766, Ali Bey (ſee Ali Bey) rendered himſelf abſolute maſter of the country. Since the revolution of Ibrahim Kiaya, and the revolt of Ali Bey, the Ottoman power has become more precarious in Egypt than in any other province; ſo that though the porte ſtill retains there a pacha, this pacha, confined and watched in the caſtle of Cairo, is rather the priſoner of the Mamlouks than the repreſentative of the ſultan. He is depoſed, exiled, or expelled at pleaſure; and on the mere ſummons of a herald clothed in black, called "Caracoulouk," he muſt deſcend from his high ſtation, or be depoſed. Some pachas, choſen expreſsly for that purpoſe by the porte, have endeavoured by ſecret intrigues to recover the power formerly annexed to their title; but the beys have rendered all ſuch attempts ſo dangerous, that they now ſubmit quietly to their three years' captivity, and confine themſelves to the peaceable enjoyment of their ſalary and emoluments.

After ſultan Selim I. had taken Syria from the Mamlouks, he ſubjected that province, like the reſt of the empire, to the government of pachas, or viceroys, as the term ſignifies. (See Syria.) In each province the pacha, being the image of the ſultan, is, like him, an abſolute deſpot. All power is united in his perſon; he is chief both of the military and of the finances, of the police and of the criminal juſtice. He has the power of life and death; he has the power of making peace and war; and in a word, he can do every thing. Theſe powers in their unlimited extent belong only to the pacha with three tails. The power of the pacha with two tails is not ſo conſiderable, nor his department ſo extenſive; he cannot put any one to death without a legal trial; he is, like another, chief of the armed force of his department; but when he takes the field, he is obliged to unite his ſtandards to thoſe of the pacha with three tails, and to march under his orders. The main object of ſuch power veſted with the pacha, is to collect the tribute and to tranſmit the revenue to their maſter. This duty fulfilled, no other is required from him; the means employed by the agent to accompliſh it is a matter of no concern: thoſe means are left to his diſcretion; and ſuch is the nature of his ſituation, that he cannot be delicate in his choice of them; for he can neither advance, nor even maintain himſelf, but in proportion as he can procure money. The place he holds depends on the favour of the viſier, or ſome other great officer; and this can only be obtained and ſecured by bidding higher than his competitors. He muſt therefore raiſe money to pay the tribute, and alſo to indemnify himſelf for all he has paid, ſupport his dignity, and make a proviſion in caſe of accidents. Accordingly, the firſt care of a pacha, on entering on his government, is to deviſe methods to procure money, and the quickeſt are invariably the beſt. The eſtabliſhed mode of collecting the miri and the cuſtoms, is to appoint one or more principal farmers, for the current year, who, in order to facilitate the collection, divide it into leſſer farms, which are again ſubdivided, even to the ſmalleſt villages. The pacha lets theſe employments to the beſt bidder, wiſhing to draw as much money from them as poſſible. The farmers, who, on their ſide, have no object in taking them but gain, ſtrain every nerve to augment their receipt. Hence an avidity in theſe delegates always bordering on diſhoneſty; hence thoſe extortions to which they are the more eaſily inclined as they are ſure of being ſupported by authority; and hence, in the very heart of the people, a faction of men intereſted in multiplying impoſitions. The pacha may applaud himſelf for penetrating into the moſt hidden ſources of private profits, by the clear-ſighted rapacity of his ſubalterns; but what is the conſequence? The people, denied the enjoyment of the fruit of their labour, reſtrain their induſtry to the ſupply of their neceſſary wants. The huſbandman only ſows to preſerve himſelf from ſtarving: the artiſt labours only to ſupport his family; if he has any ſurplus, he carefully conceals it. Thus the arbitrary power of the ſultan, tranſmitted to the pacha, and to all his ſubdelegates, by giving a free courſe to extortion, becomes the main ſpring of a tyranny which circulates through every claſs, whilſt its effects, by a reciprocal re-action, are every where fatal to agriculture, the arts, commerce, population; in a word, to every thing which conſtitutes the power of the ſtate, or, which is the ſame thing, the power of the ſultan himſelf.

This power is not ſubject to leſs abuſes in the army. Perpetually urged by the neceſſity of obtaining money, on which his ſafety and tranquillity depend, the pacha has retrenched, as far as poſſible, the uſual military eſtabliſhment. He diminiſhes the number of his troops, leſſens their pay, winks at their diſorders; and diſcipline is no more.

It ſometimes happens that the pachas, who are ſultans in their provinces, have perſonal hatreds againſt each other. To gratify theſe, they avail themſelves of their power, and wage ſecret or open war; the ruinous conſequences of which are ſure to be felt by the ſubjects of the ſultan.

It alſo happens that theſe pachas are tempted to appropriate to themſelves the power of which they are the depoſitaries. The porte, in order to counteract their ambitious views, often changes the reſidence of the pachas, that they may not have time to form connections in the country; but as all the conſequences of a bad form of government have a miſchievous tendency, the pachas, uncertain of to-morrow, treat their provinces as mere tranſient poſſeſſions, and take care to make no improvement for the benefit of their ſucceſſors. On the contrary, they haſten to exhauſt them of the produce, and to reap in one day, if poſſible, the fruit

of many years. It is true, theſe irregularities, every now and then, are puniſhed by the bow-ſtring, one of the practices of the porte which beſt diſplays the ſpirit of his government. The oſtenſible reaſon is always for having oppreſſed the ſubjects of the ſultan: but the porte, by taking poſſeſſion of the wealth of the extortioner, and reſtoring nothing to the people, leaves ſufficient room to think that the government is far from diſapproving a ſyſtem of robbery and plunder which it finds ſo profitable. Every day, therefore, affords freſh examples of oppreſſive and rebellious pachas; and if none of them have hitherto ſucceeded in forming a ſtable and independent government, it is leſs owing to theſe wiſe meaſures of the divan, and the vigilance of the Capidjis, than their own ignorance in the art of governing. The pachas regard nothing but money; nor has repeated experience been able to make them ſenſible that this, ſo far from being the pledge of their ſecurity, becomes the certain cauſe of their deſtruction. They are wholly devoted to amaſſing wealth, as if friends were to be purchaſed. As the pacha poſſeſſes the power of life and death, he exerciſes it without formality and without appeal. Wherever he meets with an offence, he orders the criminal to be ſeized; and the executioner, by whom he is accompanied, ſtrangles him, or takes off his head upon the ſpot: nay, ſometimes he himſelf does not diſdain this office. This duty he frequently commits to a deputy, called Wali. The adminiſtration of juſtice in civil ſuits is the only ſpecies of authority which the ſultans have withheld from the executive power of the pachas. The officers appointed for this purpoſe are, by a wiſe regulation, all independent of the pachas. See Cadi.

To the governors of provinces were formerly given indifferently the names of pacha and of beglerbeg, or beylerbey: the latter at this day is reſerved for the pachas of Manaſtir and of Cutayé: they have the pre-eminence over the other pachas, and generally command the troops which are brought into the field. The beyler-bey of Manaſtir has under his orders the European troops, and the beyler-bey of Cutayé thoſe of Aſia. They are nevertheleſs ſubordinate to the grand viſier, when the latter takes the general command of the armies. Formerly, the name baſhaw, or pacha, was appropriated to ſuch as had two enſigns or horſe-tails carried before them; thoſe who had the honour of three tails, called viſier-baſhaws, were denominated begler-begs; and thoſe who had only one, ſanchiacbegs.

The appellation of baſhaw is alſo given by way of courteſy at Conſtantinople, to the lords about the grand ſeignior's court, the officers in the army, and almoſt every perſon of any figure.

A baſhaw is made with the ſolemnity of carrying a flag or banner before him, accompanied with muſic and ſongs by the mirialem, an officer on purpoſe for the inveſtiture of baſhaws.

Baſhaw, uſed abſolutely, denotes the prime viſier; the reſt of the denomination being diſtinguiſhed by the addition of the province, city, or the like, which they have the command of; as the baſhaw of Egypt, of Paleſtine, &c. The baſhaws are the emperor's ſponges. We find loud complaints among Chriſtians of their avarice and extortions. As they buy their governments, every thing is venal with them. Volney's Travels into Egypt and Syria, vol. i. ch. 10. vol. ii. ch. 33. Olivier's Travels in the Ottoman Empire, ch. 17. Ruſſell's Aleppo, vol. i. p. 135, &c.

There are alſo ſub-baſhaws, or deputy governors under the firſt. Phil. Tranſ. N° 218.

Bashaw, *Captain*, is the title of the Turkiſh high-admiral, who commands the naval forces of the Ottoman empire, and is at the head of all the maritime eſtabliſhments. He uſually commands in perſon the fleets and all the naval forces of the empire; he nominates to all places and employments; he orders the building and repairing of ſhips; but the "Terſana-emini" is properly the naval miniſter, ſince he has the adminiſtration of the funds appropriated to the navy, the direction of ſupply of ſtores to the arſenal, the care of the equipment of ſhips, and the ſuperintendence of all the works. He has under him chiefs, deputies, and different harbour maſters, as well for the execution of his orders and for private ſuperintendence, as for the police.

BASHEE Islands, in *Geography*, a group of five iſlands ſituated in the Chineſe ſeas, north of the Philippine iſlands, and ſouth of Formoſa. They are ſaid to be ſo called by Dampier from the name of a liquor made of the juice of the ſugar cane and a ſmall black grain, and uſed by the inhabitants. This name was given to the moſt eaſterly of the group, and at length was applied to them all. The productions of theſe iſlands are plantains, bananas, pine-apples, ſugar-canes, potatoes, yams, and cotton; their quadrupeds are goats and hogs. The people, according to Dampier, are kind and hoſpitable. The names of the iſlands are Orange, Grafton, Monmouth, Iſle of Goats, and Baſhee. This group is repreſented in the "Miſſionary Voyage," p. 308. as conſiſting of ſix or ſeven iſlands; the northernmoſt of which lies in N. lat. 21°. E. long. 122° 6′. The two to the ſouth-eaſt are high; ſome of the others are of moderate height; the moſt northern except one is high and craggy at top; and between theſe two lie two ſmall rocks above water. Between theſe iſlands and thoſe of Botol Tabaco-Xima, is a channel about 16 miles wide.

Bashee, or *Bachi*, the moſt eaſterly iſland of the preceding group, appearing of a circular form, and being about 2 leagues in diameter. It has a town of the ſame name. N. lat. 21° 45′. E. long. 122° 15′.

BASHKIRS, or Baschkirs, a people of the Ruſſian empire. They call themſelves Baſhkourt; and derive their origin partly from the Nogay-tartars, and partly from the Bolgarians. Probably they are Nogays, whom the Bolgares adopted among them: their country at leaſt is a part of the ancient Bolgaria. They formerly roamed about the ſouthern Siberia under the conduct of their own princes: to avoid the moleſtations of the Siberian khans, they ſettled in their preſent poſſeſſions, ſpread themſelves about the rivers Volga and Ural, and were ſubject to the Kazanian khanate. On the overthrow of that ſtate by tzar Ivan II. they voluntarily took refuge under the Ruſſian ſceptre: they afterwards, however, frequently revolted againſt the government, whereby their proſperity as well as their population have been conſiderably diminiſhed. In the year 1770, they conſiſted of twenty-ſeven thouſand families, having their homeſtead in the governments of Uſa and Perme. The Baſhkirs have been long without khans; and all their nobility have been gradually deſtroyed in the civil wars. At preſent every tribe or woloſt chuſes for itſelf one or more ancients, or ſtarſchinis; and the whole nation compoſes 34 woloſts. The huts or houſes, which they inhabit during winter, are built after the Ruſſian faſhion; the principal part, which the family commonly poſſeſſes, is furniſhed with large benches, which ſerve for beds; the chimney, of a conical form, and of the height of an ordinary man, is in the middle of this diviſion, and ſo ill conſtructed, that they are very liable to ſmoke: on this account the Baſhkirs are very ſubject to various complaints of the eyes. In ſummer this people inhabit what the Ruſſians call Jurtes; they are tents or covers of felt, which, like the huts, have ſeveral diviſions and a chimney in the centre. A winter village

[illegible] contains from ten to fifty huts; but the ſummer encampment never exceeds twenty jurtes. Theſe jurtes are a kind of barracks.

The Bafhkirs have ſome knowledge of the art of writing, and have books; but as it is from their own nation that they chuſe their prieſts and the inſtructors of youth, they remain in the groſſeſt ignorance. With ſome knowledge of tillage, they retain a liking to the paſtoral life; which ſuits them for agriculture. Thus few but little grain: conſequently their harveſts afford them only a few reſources for the winter, being far from ſufficient for their whole conſumption. They apply with greater ſucceſs to the cultivation of bees; making hollows in the trees to form the repoſitories of hives: which to ſecure from the attacks of the bears, they have invented a variety of ingenious contrivances both as weapons and traps. One man, in frequent inſtances, is known to poſſeſs at leaſt five hundred hives. They have the art of finding out the mountains that contain mines; but, like the Tartars, they would think themſelves diſgraced by working them themſelves. It muſt be owned, however, that they have not the ſtrength of body which that labour requires. Their practice is to let them out for a term of ſixty years to Ruſſian contractors, aſſigning to them at the ſame time a tract of foreſt neceſſary for the forges. The pooreſt of them ſerve for wages in tranſporting the ore.

The women underſtand the art of weaving, fulling, and dyeing narrow coarſe cloths; they likewiſe make the clothes for the whole family. They make a ſmall quantity of linen of hemp; but they prefer weaving the filaments of the common nettle, as that plant requires no culture, and the linen they make of it is extremely coarſe. They have not the unwholeſome practice of ſteeping their hemp or their nettles in water, but leave them to dry in the air on the top of their huts during the autumn and winter; then ſtripping off the bark, they pound them in wooden mortars. The men follow the more difficult buſineſs of making felt and of tanning leather. Both ſexes wear ſhirts of the cloth made of nettles; they alſo wear wide drawers, which deſcend to the ankle-bone, and a ſort of ſlippers, like people in the Eaſt. Both men and women wear a long gown, that of the men being generally of red cloth bordered with fur; this they bind round their middle with a girdle, or with the belt to which they fix their ſcymitar. The poor have a winter peliſſe of ſheep ſkin, and the rich wear a horſe ſkin in ſuch a manner that the mane covers their back and waves in the wind. The cap is of cloth, like the fruſtum of a cone, and 10 inches high; and that of the rich is uſually ornamented with valuable furs. The gown of the wives is made of fine cloth or ſilk, buttoned before as high as the neck, and faſtened by a broad girdle, which the richer claſſes have made of ſteel. Their necks and throats are covered with a ſort of ſhawl, on which are ſeveral rows of coins, or a ſtring of ſhells.

The principal wealth of this people conſiſts in their flocks; it is eſpecially from their horſes that they derive the neceſſaries of life; meat, milk, veſſels, garments. They have nearly as many and even rather more ſheep than horſes; and their horned cattle are about half as numerous: they likewiſe bring up ſome goats, and only the rich have camels. A man of the ordinary claſs has ſeldom fewer than between thirty and fifty horſes, many poſſeſs five hundred, and ſome a thouſand, two thouſand, and more. Their ſheep are of the broad-tailed ſpecies; they eſteem the others for the fineneſs of their wool.

The moſt opulent of the Bafhkirs are thoſe who dwell to the eaſt of the Ural, and in the province of Iſſet. Some of them are owners of not leſs than four thouſand horſes, who fatten in the richeſt paſtures: the waſps and gnats oblige them in the month of June to quit theſe fine meadows, and retreat to the mountains; the horſes then loſe their fleſh and pine away, but regain their paſture vigour on coming down again to the plains in the month of July.

Though the Bafhkirs experience a long and very ſevere winter, yet they abandon their flocks and droves to the inclemencies of the ſeaſon. They have neither granaries nor barns; they only lay up a little hay, which they range in cocks round the trees, reſerving it for the diſtempered cattle. Thoſe that are healthy pick up a little graſs or moſs from beneath the ſnow, and are often reduced to the neceſſity of feeding on the bark of the young elms. No farther attention is paid to the camels, than to wrap them in ſome wretched coverings of felt which they ſew about their body. The cattle towards the end of the winter are become lean, weak, and emaciated. Though the females are never kept apart from the males, they rarely bring forth out of ſeaſon; becauſe the exhauſted ſtate of the flocks and herds during the winter, is unfavourable to generation. Neither the Bafhkirs nor the Kalmuks ſuffer the colts and the calves to ſuck their dams except during the night, their practice being to milk them in the day-time for their own advantage; kumiſs, prepared from mare's milk, being their favourite liquor. (See Scythians.) They are alſo fond of a mixture of four milk and bread, called [illegible]. In the ſpring they drink the ſap of the birch, which they collect by means of deep inciſions in the trees.

Their arms are the bow, the lance, the helmet, and coat of mail; from the Ruſſians they obtain ſabres, muſquets, and piſtols. A Bafhkirian army preſents a truly curious ſpectacle; obſerving no order in marching, they only form into ranks when they halt. Every one leads a horſe in his hand, which carries all his proviſions: the load however is not heavy; conſiſting only of cheeſe, ſome corn dried in the kiln, and a hand-mill to grind it to meal. With the meal they form a ball which they ſwallow, and which ſerves them for bread. Each warrior, dreſſed in his long gown, equips himſelf as he chuſes or as he can. One has procured for himſelf the various kinds of arms, and carries a whole arſenal with him; the other ſcarcely poſſeſſes more than one ill-conditioned weapon. Such troops as theſe rendered the armies of the ancient Perſians at once ſo numerous and ſo little formidable.

They are all well mounted, are ſkilful in drawing the bow, and dexterouſly manage their horſes. A ſmall number of Bafhkirs are eaſily victorious over a numerous ſquadron of Kirghiſes; ſometimes one of their regiments will traverſe a whole horde of Kirghiſes, put to flight by their very looks all the enemies they meet, and return triumphant without having ſuſtained the ſlighteſt loſs. The military ſervice which they are bound to perform, and the only point in which they are galled by the Ruſſian yoke, conſiſts in furniſhing, in time of war, 3000 cavalry, which form 30 troops of 100 men each. The Bafhkirians are the moſt negligent and ſlovenly of the Tartars. In commerce they are the leaſt intelligent; but, at the ſame time, they are the moſt hoſpitable, the moſt lively, and the moſt brave. Their diverſions at any religious feſtival, or at a marriage, conſiſt in numerous libations of four milk, ſinging, dancing, wreſtling, and horſe racing, in which they excel. In their ſongs they enumerate the atchievements of their anceſtors, or their own, and ſometimes their amorous adventures. Their ſongs are always accompanied with geſtures, which render them very theatrical. Among them old age meets with the greateſt reſpect. In their entertainments, it occupies the place of honour; and the ſtranger, to whom compliments are paid,

is always ſet among the old men. The language of theſe people is a Tartar dialect, very different from that ſpoken at Kaſan. The Baſhkirians are, like moſt of the Tartars, Mahometans; but though they have their moſques, their mollahs, and their ſchools, they are much addicted to ſuperſtition and ſorcery. Their ſorcerers challenge even the devil, and pretend to engage with him in combat; and thus they delude the credulous vulgar, who conſult them in their diſtreſs, and particularly when they loſe any of their mares. Tooke's View of Ruſſia, vol. i. p. 473. Chantreau's Travels, vol. i. p. 281.

BASHLI, or Bascli, in *Geography*, a ſmall town on a brook of the ſame name, at the diſtance of 4 German miles from the Caſpian ſea.

BASHUYSEN, Henry James Van, in *Biography*, a learned divine, was born at Hanau, in Germany, in 1675, and educated at Bremen, Leyden, and Francker. In 1701, he was appointed profeſſor of the oriental languages and eccleſiaſtical hiſtory in the gymnaſium of Hanau, afterwards profeſſor of theology; and in 1712, he was elected member of the Royal Society of Berlin. He was afterwards profeſſor of theology, the oriental languages, and hiſtory, in the gymnaſium at Zerbſt, where he died in 1758. About the year 1725, he eſtabliſhed in his own houſe a printing-office, in which he printed many Hebrew and Rabbinical works. Among his writings are "Obſerv. Sacr. lib. i. de integritate Sac. Script." Frankf. 1708, 8vo; "Comment. R. If Abarban. in pentateuchum Moſis, &c." Hanov. 1710, fol. "Diſput. iii. de Kabbala vera & falſa," Hanov. 1710, 1711, 1712, 1713, 4to.; "Syſtema Antiq. Hebr. minus," Hanov. 1715, 8vo.; "Miſcellanea Sacra, &c." Witteb. 1719, 4to.; "Diſſ. de Iſide, &c." Serv. 1719, 4to.; "Clavis Talmudica, &c." Hanau, 1740, 4to. Gen. Biog.

BASIA Ultima. See Ultima.

BASIATRAHAGI, in *Botany*, a name uſed by ſome for the common *polygonum*, or knot-graſs.

BASIENTO, in *Geography*, a river of Naples, which riſes near Potenza, in the province of Baſilicata, traverſes this province, and runs into the gulf of Tarento. This is the ancient Metapontus, or Caſuentum, on which Octavius Cæſar and Mark Antony had an interview, brought about by the mediation of Octavia.

BASIL, St., denominated the *Great*, in *Biography*, was born in Cappadocia, in the year 328 or 329. Having received inſtruction from his father in polite literature, he purſued his ſtudies at Antioch under Libanius, at Cæſarea in Paleſtine, at Conſtantinople, and at Athens; in which latter place he formed an intimate acquaintance with Gregory Nazianzen, and was introduced to Julian, afterwards emperor. In 355, he returned to his native country, and became a profeſſor of rhetoric, and a pleader. His religious zeal, however, ſoon induced him to viſit the monaſteries in the deſerts of Egypt and Lybia; and here his imagination was ſo impreſſed with the auſterities of the devout ſolitaries in theſe ſequeſtered manſions, that he withdrew to a retired ſpot in the province of Pontus, and embraced the monaſtic life. He was ſoon joined by his brother and ſeveral friends, to whom he gave a ſet of aſcetic rules; and he is regarded as the founder of all ſimilar inſtitutions in Pontus and Cappadocia. His monaſtic life continued, but not without ſome interruption by other avocations, for twelve years. Having been ordained prieſt by Euſebius biſhop of Cæſarea, he again withdrew to his ſolitude; but as his fame increaſed, he was elected to this ſee on the death of Euſebius in 369, 370, or 371. Here he ſucceeded Athanaſius in the conduct of the Trinitarian controverſy. Many attempts were made by the emperor Valens, who was an Arian, partly by friendly ſolicitations and partly by angry menaces, to induce him to communicate with Eudoxus, the Arian biſhop of Conſtantinople; but altogether without effect. Baſil however, remaining firm and inflexible, was left in the free poſſeſſion of his conſcience and his throne. The emperor himſelf aſſiſted at the ſolemn ſervice of the cathedral, and ſubſcribed the donation of a valuable eſtate for the uſe of an hoſpital which Baſil had lately founded in the neighbourhood of Cæſarea. The biſhop employed himſelf with much aſſiduity in endeavouring to reconcile the eaſtern and weſtern churches, which had differed on account of the two rival biſhops of Antioch; and he alſo attempted to terminate the diſputes between the two churches reſpecting the hypoſtaſes: but his endeavours were unavailing. He was likewiſe engaged in diſputes more perſonally intereſting to himſelf; for the emperor having divided his province of Cappadocia into two parts, Anthimus biſhop of Tyana, the metropolitan of the new moiety, attempted to enlarge his limits. Baſil reſiſted this uſurpation; and, erecting the little border town of Saſima into a biſhopric, with a view of ſecuring his boundaries, he appointed his friend Gregory Nazianzen to this ſee. Gregory ſubmitted with reluctance to this humiliating exile, and embraced the firſt opportunity that offered of withdrawing from it to the government of his native church of Nazianzus, of which his father had been biſhop above 45 years. After ſome other theological contentions, Baſil cloſed his life in 378, or 379, or 380, after having been biſhop ſomewhat more than eight years. The talents and accompliſhments of this prelate have been highly extolled; and, allowing for ſome alloy of ſpiritual pride, not without juſtice. Few of the fathers occupied a higher rank. His ſtyle is pure, elegant, and dignified; ſo that Eraſmus makes no ſcruple in equalling or even preferring his eloquence to that of Demoſthenes and the moſt celebrated orators of ancient Greece. His erudition was extenſive; his reaſonings more cloſe and forcible, and his illuſtrations of ſcripture more natural than thoſe of many of the fathers. Many writings have been aſcribed to Baſil without ſufficient reaſon; and, therefore, many learned moderns, among whom we may reckon Cave, Fabricius, Tillemont, Dupin, and eſpecially Garnier, have taken laudable pains in diſtinguiſhing the ſpurious from the genuine. Of the various editions of his works that have been publiſhed, the firſt in Greek was that of Frobenius at Baſil in 1532, under the inſpection of Eraſmus; and the beſt modern edition of all his works, conſiſting of "Homilies, Epiſtles, Commentaries, and Moral Treatiſes," is that of the learned Benedictines, D. Garnier and D. Prudent Morand, at Paris, 3 vols. folio, from 1721 to 1730, with a Greek text: this edition contains a faithful and elegant Latin verſion, and valuable notes. The "Life of St. Baſil" was written at large by M. Hermant, in 2 vols. 4to. 1674. Cave, H. L. vol. i. p. 238, &c. Dupin. Bib. t. ii. p. 154, &c. Dupin. Eccl. Hiſt. vol. i. p. 122, &c. Fabr. Bib. Græc. t. viii. p. 60. 69. Lardner's Works, vol. iv. p. 400. Gibbon's Hiſt. vol. iv. p. 269. vol. v. p. 19.

Basil, biſhop of Ancyra, was placed in that ſee, in 339, by the council of Conſtantinople which depoſed Marcellus, and he himſelf was depoſed at the council of Sardica in 347, though by the favour of the emperor he retained his ſee. In 351, he was preſent at the council of Sirmium, and had a diſpute with Photinus. Epiphanius reckons him among the chief of the Semi-Arians, who held the Son to be of like ſubſtance to the Father; Sozomen ſays he was in eſteem for eloquence and learning; and Theodoret obſerves, that he was in great favour with the emperor Conſtantius for his piety. His peculiar opinion with regard to the identity of the ſubſtance of the Father and the Son was, by his influence, eſtabliſhed in the council of Ancyra held A. D. 358; and he maintained it in ſeveral diſputes with the Eunomians and

Acacians,

Acacians, in the presence of Constantius. However, the Acacians prevailed against him in the council of Constantinople, A. D. 360, and procured his deposition: nevertheless he kept possession of his see, and was acknowledged as bishop by the orthodox prelates. Basil is supposed to have died, either at the end of Jovian's reign, or the beginning of that of Valens. Cave, Hist. tom. i. p. 210. Lardner's Works, vol. iv. p. 125.

Basil, in *Botany*. See Ocymum.

Basil, *Field*. See Chenopodium.

Basil, *American Field*. See Monarda.

Basil, *Syrian Field*. See Ziziphora.

Basil *Stone, and Wild*. See Thymus.

Basil, *Order of St.*, in *Ecclesiastical History*, is the most ancient of all the religious orders. It takes its name from St. Basil, bishop of Cæsarea, in Cappadocia, about the middle of the fourth century; who is supposed to have been the author of the rules observed by this order, though some dispute it. The order of St. Basil was anciently very famous in the East, and still continues in Greece. The habit of the monks is black, and plain, consisting of a long cassock, and a great gown with large sleeves; on their head, they wear a hood, which reaches to the shoulders; they wear no linen; sleep without sheets, on straw; eat no flesh; fast often; and till the ground with their own hands. The historians of this order inform us, that it has produced 1805 bishops, and beatified, or acknowledged as saints, 3010 abbots, 11,805 martyrs, and an infinite number of confessors and virgins. They likewise place among the religious of this order of St. Basil 14 popes, several cardinals, and many patriarchs, archbishops, and bishops. It likewise boasts of several emperors and empresses, kings and queens, princes and princesses, who have embraced the rule of St. Basil.

This order was introduced in the West in 1057, and was reformed in 1579 by pope Gregory XIII. who united the religious of this order in Italy, Spain, and Sicily, into one congregation; of which the monastery of St. Saviour, at Messina, is the chief, and enjoys pre-eminence over the rest. Each community has its particular rule, besides the rule of St. Basil; which is very general, and prescribes little more than the common duties of a Christian life.

Basil, *Basle*, or *Bâle*, in *Geography*, one of the new cantons of Switzerland, which joined the Helvetic confederacy in 1501. It is bounded on the south-west and south by the canton of Soleure, on the east by Lower Argow and the canton of Baden, on the north-east by the territory of Rheinfelden, one of the forest towns, and on the north-west by Alsace, and on the west by the bishopric of Basle. Its extent is about 160 square miles, and its population is estimated at 40,000 persons. The lower parts of this canton are fertile in corn and wine, and also fit for pasture; but the mountains are extremely barren. It has many medicinal springs and baths, and the air is temperate and salubrious. The religion of this canton is the reformed, or Protestant. As to its ancient government, the bishops of Basle once possessed the sovereignty over the city and canton; but when they quitted this town in 1501, and retired, first to Friburg in Brisgau, and afterwards established their residence at Porentru, they lost the inconsiderable authority and few prerogatives that belonged to them. Upon the introduction of the reformation in 1525, the constitution was in some measure changed, and the power of the aristocracy limited. Before the late revolution, the government was aristocratic, inclining towards a democracy. The supreme legislative power resided in the great and little councils, consisting of about 300 members, and the authority of these two councils was without controul; they enacted laws, declared war and peace, contracted alliances, and imposed taxes; they elected the several magistrates, appointed their own members, nominated to all employments, and conferred the right of burghership. The general administration of government was committed, by the great council, to the senate or little council; that is, to a part of its own body. This senate, composed of sixty members, together with the four chiefs of the republic, two burgomasters, and two great tribunes, was divided into two bodies, which acted by rotation; the acting division continued in office one year, decided finally in all criminal causes, superintended the police, and exercised several other powers subordinate to the sovereign council. The collective body of citizens assembled only once a year, when the magistrates publicly took an oath to maintain the constitution, and to preserve the liberties and immunities of the people inviolate. The reciprocal oath of obedience to the laws was administered to the citizens in their respective tribes. But, notwithstanding the boundless prerogatives of the great council, the meanest citizen was legally capable of being admitted into that body, and, by the singular method of election, might possibly be chosen; for the vacancies in the two councils were supplied from all ranks of citizens, the members of the university only excepted. These citizens were divided into eighteen tribes, fifteen of which belonged to the larger towns, and three to the smaller; each of the fifteen tribes returned four members to the senate, and each of the eighteen sent twelve to the great council. As these elections were formerly determined by a plurality of voices, the richest person was always almost certain of being chosen; to prevent which, a regulation, called a "ternaire," was established; that is, three candidates were nominated, and from these the successor was appointed by lot. In 1740, an act was passed, by which the "ternaire" was changed into a "senaire," by which six candidates were put in nomination, and drew lots for the charge; six tickets, containing the names of the respective candidates, and separately placed in silver eggs, were put into one bag, and the same number of tickets, five being blanks, and one marked with the vacant employment, were put into another bag: the reigning burgomaster and the great tribune, appointed to be the drawers of this official lottery, both at the same instant took a ticket from each bag, and the candidate whose name came out with the ticket on which the employment was written, obtained the post.—But it is now needless to pursue the detail.—In 1798, the Helvetic confederacy was dissolved by the invading power of France, and, according to the distribution of that year, Basle was constituted one of the eighteen departments into which Switzerland was divided: but according to the constitution of 1801, Basle was made one of the departments, with the addition of the lower part of the Frickthal to Seckingen, with the right of deputing three representatives to the diet.

Basle was the first canton which separated from the old Helvetic confederacy, and adopted the new constitution fabricated in France. Its situation near the frontiers, exposed it to the intrigues of the French agents, and without foreign support, rendered it incapable of resistance. The peasants of the canton were likewise dissatisfied with the monopoly of power and commerce vested in the burghers of the town. Encouraged by the French, and excited by their own turbulent demagogues, they peremptorily required emancipation and independence. The progress of the revolution in this canton was almost instantaneous; the magistrates were incapable of resistance, and obliged to resign their authority; and sixty delegates, appointed by the people, were invested with a provisional government, until the new constitution should be consolidated. Coxe's Travels in Switzerland, vol.

vol. i. What other changes await the Swiſs cantons, time muſt develope. See SWISSERLAND.

BASIL, or BASLE, the capital of the canton of the ſame name, is the largeſt, and ſeems formerly to have been one of the moſt populous towns in Swiſſerland. Its extent is capable of containing above 100,000 inhabitants, and it is ſaid to have 220 ſtreets, and ſix market-places or ſquares; whereas it can now ſcarcely number more than 14,000. Among the cauſes which have contributed to its decreaſe, Mr. Coxe mentions the jealouſy of the citizens with regard to the burgherſhip, which they ſeldom deign to confer upon foreigners; and, on this account, no ſupply can be obtained to balance that gradual waſte of people which takes place in great cities, from an influx of ſtrangers, who are not permitted to carry on commerce, or to follow any trades. The late law that allows the freedom of the town and the right of burgherſhip to be conferred upon ſtrangers, is clogged with ſo many reſtrictions, that it by no means anſwers the purpoſe for which it was intended.

Baſle is beautifully ſituated on the banks of the Rhine, near the point where the river, which is here broad, deep, and rapid, after flowing for ſome way from eaſt to weſt, turns ſuddenly to the north. It conſiſts of two towns, joined together by a long bridge; the large town lying on the ſide of Swiſſerland, and the ſmall town on the oppoſite bank of the river. Its environs are very beautiful, conſiſting of a fine level tract of fields and meadows. It was anciently called Baſilea, as we learn from Ammianus Marcellinus; and in the middle ages, Baſula: and it appears in hiſtory, ſoon after the reign of Charlemagne; having ſucceeded AUGST, or the Auguſta Rauracorum. Baſle is very favourably ſituated for commerce; and of this advantage the inhabitants have availed themſelves, by eſtabliſhing a great variety of manufactures, particularly of ribbands and cottons; and by the extenſive trade that is carried on by the principal merchants. The cathedral is an elegant Gothic building, and contains the marble tomb of the famous Eraſmus, who choſe this city as his favourite place of reſidence, and publiſhed from hence the greateſt part of his valuable works. Baſle has, beſides the cathedral, ſix parochial churches, and ſeveral other public buildings; ſuch as a public granary and an arſenal, a town-houſe, and a ſtately palace belonging to the margrave of Baden Dourlach, a chamber of curioſities, ſeveral hoſpitals, &c. In the town-houſe is an exquiſite piece of the ſufferings of Chriſt, by Holbein, who was a native of this place; and a ſtatue of Munatius Plancus, the Roman general, who founded Auguſta Rauracorum. In the arſenal is ſhewn the armour in which Charles the Bald loſt his life, with the furniture of his horſe, and the kettle-drums and trumpets of his army. On the ſtair-caſe of the council-houſe is a picture of the laſt judgment, in which, though painted before the reformation, popes, cardinals, monks, and prieſts, are repreſented in the torments of hell. Upon a wall that incloſes the burial-ground of the church of the Proteſtants in the ſuburbs of St. John, is painted, in oil colours, the "dance of death," erroneouſly attributed to Holbein, as it was painted before he was born, in which the king of terrors is repreſented as mixing with all ranks and ages, and complimenting them in German verſes on their arrival at the grave. From this ancient painting, it is thought, that Holbein took the firſt hint towards compoſing his famous drawings on the "dance of death." Prints were taken from ſome of theſe drawings, by Hollar, which are now very ſcarce. The univerſity of Baſle, founded by pope Pius II. in 1459 or 1460, was formerly eminent in the literary hiſtory of Europe. It was honoured by the celebrated names of Oecolampadius, Amerbach, the three Bauhins, Grynæus, Buxtorf, Wolfius, Iſelin, the Bernouillis, and Euler; and it ſtill boaſts of ſeveral members who are ornaments to their native town by their learning and talents. The public library contains a ſmall collection of books, remarkable for ſeveral rare and valuable editions, particularly of thoſe printed in the 15th century. Beſides books, this library contains ſome valuable MSS. In a ſuite of rooms belonging to it, are a cabinet of petrifactions, ſome ancient medals and gems, a few antiquities found at Auguſt, a large number of prints, and ſome fine drawings and paintings, conſiſting chiefly of originals by Holbein, moſt of which are in the higheſt preſervation. Baſle is famous for the excellence of its police, and the ſtrictneſs of its ſumptuary laws. Although the uſe of coaches is not prohibited, yet no citizen or inhabitant is allowed to have a ſervant behind his carriage. No perſon, it is ſaid, without the city, muſt wear lace of gold or ſilver; and all young women are prohibited from wearing ſilks. By ſuch regulations, a diſtinguiſhing ſimplicity of manners prevails even in the richeſt families. It was formerly a ſingularity belonging to this town, that all its clocks were an hour faſter than the real time, which, according to ſome, was introduced during the council of Baſle, in order to ſummon the cardinals and biſhops in due ſeaſon for the diſpatch of buſineſs: others ſay that they were put forward, in order to defeat a conſpiracy, by one of the burgomaſters, who had notice of the deſign; by which the conſpirators, thinking that they had miſſed the time and were too late, were induced to retire: others ſay, that the ſun-dial on the cathedral, which regulates the clocks, declines ſomewhat from the eaſt, and this circumſtance, according to Bernouilli, occaſions a variation from the true time of about 45 minutes. The inhabitants have long tenaciouſly maintained this ancient cuſtom, and reſiſted every change; till in the late new order of things, a revolutionary change has taken place with regard to the clocks as well as the government, and they have been altered to the true time. Baſle was formerly the ſee of a biſhop; but though there is one that now bears the title, he lives at Porentru near Alſace, and has no juriſdiction in this city.

The famous council of Baſle began its ſittings in 1431, continued its deliberations, and proceeded in enacting laws and publiſhing edicts, until the year 1443, notwithſtanding the efforts of pope Eugenius, who had been depoſed from the papacy by the council in 1439, and his adherents, to put a ſtop to their proceedings. And though in that year the members of the council retired to their reſpective places of abode, yet they declared publicly that the council was not diſſolved, but would reſume its deliberations at Baſle, Lyons, or Lauſanne, as ſoon as a proper opportunity occurred. Accordingly, in the year 1449, when Felix V. reſigned the papal chair, the fathers of the council of Baſle aſſembled at Lauſanne, ratified his voluntary abdication, and, by a ſolemn decree, ordered the univerſal church to ſubmit to the juriſdiction of Nicholas as their lawful pontiff. Nicholas ſet the ſeal of his approbation and authority to the acts and decrees of the council of Baſle. The two grand points that were propoſed to the deliberation of the famous council of Baſle, were the union of the Greek and Latin churches, and the reformation of the church univerſal, both in its head and in its members, according to the reſolution that had been taken at the council of Conſtance. In 1435, this council publicly aboliſhed the "annats;" and in 1436, a confeſſion of faith was read, which every pontiff was to ſubſcribe on the day of his election; the number of cardinals was reduced to twenty-four; and the papal impoſitions called "expectatives," "reſervations," and "proviſions," were annulled. Moſh. Eccl. Hiſt. vol. iii. p. 420, &c. N. lat. 47° 35'. E. long. 7° 29' 30".

BASIL, or BASLE, *Biſhopric of*, a principality of Germany, in the circle of the Upper Rhine, may be claſſed under two general diviſions: the firſt lies to the ſouth of Pierre Pertuis, and forms a part of Switzerland; the ſecond, to the north of the ſame boundary, includes that diſtrict which is properly ſituated within the German empire. The ſovereign, that is the biſhop of Baſle, or, as he is called by the Proteſtants, the prince of Porentru, whoſe principal reſidence is Porentru, the capital of his dominions, was formerly elected by the chapter of eighteen canons, reſident at Arleſheim, and confirmed by the pope. He was a prince of the German empire, and did homage to the emperor for that part of his territory which lies in the circle of the Upper Rhine. He was always conſidered as an ally of the Swiſs, by his union with the Catholic cantons, firſt formed in 1579, and renewed at different intervals, particularly in 1671 and 1697, and by being included in the treaty which thoſe cantons contracted with France in 1715: but as he was not comprized among the allies of the Swiſs, in the league between the thirteen cantons and Louis the XVIth, in 1777, he was not deemed a member of the Helvetic confederacy. The firſt particular alliance with France was concluded in 1739, between the biſhop and Louis the XVth, and was renewed in 1780. The population of that part of the biſhopric of Baſle that was allied to the cantons amounted to 24,000. The form of government was a limited ſovereignty, the biſhop being bound, on all important occaſions, to conſult his chapter; and his prerogative being confined, by the great immunities enjoyed by his ſubjects in general, and particularly by thoſe of the reformed communion. He nominated to all employments both civil and military, and appointed the bailiffs or governors; criminal juſtice was adminiſtered in his name, and he had the power of pardoning. In civil proceedings, he received an appeal from the inferior courts; but in his German dominions, when the cauſe exceeded the value of a ſtipulated ſum, it might be carried to the chambers of Wetzlar or Vienna. The ſubjects of the biſhop are partly Proteſtants and partly Catholics: the Proteſtants inhabit the greater part of the valley of Munſter, and the whole diſtrict to the ſouth of Pierre Pertuis, and are about 15,000; the Catholics amount to 35,000. The French and German languages are both ſpoken in the biſhop's dominions. The whole biſhopric of Baſle is now annexed to France. In 1792, their troops overran the country of Porentru on the German part, under the pretence of delivering the natives from ſlavery, and took poſſeſſion of the famous paſs of Pierre Pertuis. This diſtrict was ceded to France by the treaty of Campo Formio, and is formed into the department of Mont Terrible. In 1798, the Helvetic part of the territory was taken poſſeſſion of, in the name of the republic, by general St. Cyr, under a declaration that France ſucceeded to the property, dominions, rights, and prerogatives of the biſhop. This diſtrict was alſo annexed to the department of Mont Terrible. The biſhopric of Baſle is a fertile country, and many forges are employed in the manufactures of iron and ſteel.

BASIL, among *Joiners*, denotes the angle to which the edge of an iron tool is ground. To work on ſoft wood, they uſually make it about 12 degrees; for hard wood 18: it being obſerved that the more acute or thin the baſil is, the better and ſmoother it cuts; and the more obtuſe, the ſtronger and fitter it is for ſervice.

BASILAN, or BASSEILAN, in *Geography*, one of the Philippine iſlands; 12 leagues in circumference, very fertile, eſpecially in fruit and rice; 6 leagues S. W. of Mindanao. N. lat. 5° 51′. E. long. 121° 30′.

BASILAR BONE, in *Anatomy*, a barbarous denomination given to the *os ſphenoides*, on account of its being ſituated at the bottom or baſis of the ſkull; or becauſe a great part of the brain reſts upon it, as on its baſis.

BASILARIS *Arteria*. See ARTERY.

BASILE, *St.* in *Geography*, a town of Italy, in the kingdom of Naples, and province of Otranto, 18 miles eaſt of Matera.

BASILE, *St.* is alſo a town of the kingdom of Naples, in the province of Baſilicata; 11 miles N. E. of Turſi.

BASILEUS, *βασιλευς*, a title aſſumed by the emperors of Conſtantinople, excluſive of all other princes; to whom they give the title *rex*, *king*. The ſame quality was afterwards given by them to the kings of Bulgaria, and to Charlemagne; from the ſucceſſors of which laſt they endeavoured to wreſt it back again.

The title baſileus has been ſince aſſumed by other kings, particularly the kings of England; "*Ego Edgar totius Angliæ baſileus confirmavi.*"

Hence alſo the queen of England was intitled *baſilea*, and *baſiliſſa*.

BASILEUS, in *Ornithology*, a name by which many of the old authors called the *Regulus Criſtatus* of Aldrovand, the MOTACILLA REGULUS of the Linnæan ſyſtem, or the golden-creſted wren.

BASILI, in *Geography*, a river of European Turkey, which runs into the gulf of Colokitia, 4 miles N. N. E. of Colokitia.

BASILI, *St.* a town of European Turkey, in the Morea; 8 miles S. of Corinth.

BASILIA, a town of Poland, in the palatinate of Volhynia; 32 miles W. S. W. of Conſtantinow.

BASILIA, or BASILICO, a fortified town north of Corinth, ſituate upon the coaſt of the gulf of Lepanto.

BASILIANS. See BOGOMILI.

BASILIC, BASILICA, is uſed, in *Eccleſiaſtical Writers*, for a church. In which ſenſe this name frequently occurs in St. Ambroſe, St. Auſtin, St. Jerom, Sidonius Apollinaris, and other writers of the fourth and fifth centuries.

M. Perrault ſays, that baſilics differed from temples, in that the columns of temples were without ſide, and thoſe of baſilics within.

Some will have the ancient churches to have been called baſilicæ, becauſe generally built in the faſhion of the Roman halls called by that name; others, becauſe divers churches were formed of thoſe halls. Some have ſuppoſed that, on the converſion of Conſtantine, many of the ancient baſilicæ were given to the church, and turned to another uſe, viz. for Chriſtian aſſemblies to meet in; and they refer to that paſſage in Auſonius, where ſpeaking to the emperor Gratian, he tells him, the baſilicæ, which heretofore were wont to be filled with men of buſineſs, were now thronged with votaries praying for his ſafety; by which it is apprehended he muſt mean, that the Roman halls or courts were turned into Chriſtian churches: and hence it has been conceived, that the name baſilicæ came to be a general name for churches in after-ages. See BASILICA.

BASILIC is chiefly applied, in modern times, to churches of royal foundation; as thoſe of St. John de Lateran, and St. Peter of the Vatican, at Rome, founded by the emperor Conſtantine.

BASILIC appears alſo to have been given, in later ages, to churches before conſecration.

BASILICS were alſo little chapels built by the ancient Franks over the tombs of their great men; ſo called, as reſembling the figure of the ſacred baſilicæ or churches.

Perſons of inferior condition had only tumbæ, or porticuli, erected over them. By an article in the Salic law, he that

that robbed a tumba or porticulus, was to be fined fifteen ſolidi; but he that robbed a baſilica, thirty ſolidi.

BASILICA, or BASILICUS, in *Anatomy*, the name of a vein, ariſing from the axillary branch, and running the whole length of the arm. The baſilica is one of the veins opened in bleeding in the arm. See VEIN.

BASILICA, in *Architecture*. This word, which has ſucceſſively received very different acceptations, is derived from βασιλευς, king, and οικος, houſe: it means therefore, etymologically, royal houſe. Perhaps the halls of juſtice acquired this name in early antiquity, when the judging the people might be regarded as the peculiar regal prerogative; and it was natural that they ſhould retain this appellation, when juſtice was no longer adminiſtered by kings. Among the public edifices compoſed of a ſingle building, the baſilica appears to have been one of the largeſt. It was, among the Romans, an ample hall adjoining to the Forum, in which the magiſtrates judged under cover; which diſtinguiſhed it from the fora, where they held their ſittings in the open air. Here the tribunes and centumvirs adminiſtered juſtice, and the juriſconſulti and legiſts in the pay of the republic, adviſed thoſe who came to conſult them. Young orators declaimed in ſeparate apartments, and the porticos were occupied by merchants and traders. Thus theſe edifices were at the ſame time applied to the purpoſes of commerce and judicature.

It is to be lamented that the antique baſilicas have ſo entirely periſhed, that the conſtruction and diſpoſition of them are involved in great doubt and obſcurity. Vitruvius, the only ancient architect whoſe writings have deſcended to us, gives the following deſcription of the Roman baſilica.

"The baſilica ſhould be adjoined to the forum on the warmeſt ſide, that the merchants may confer together without being incommoded by the weather. The breadth is not made leſs than the third, nor more than the half of the length, unleſs the nature of the place oppoſes the proportion, and obliges the ſymmetry to be different. But if the baſilica has too much length, chalcidicæ are made at the ends, as they are in the baſilica of Julia Aquiliana. The columns of the baſilica are made as high as the portico is broad. The portico is the third part of the ſpace in the middle; the upper columns are a fourth part leſs than the lower. The pluteum, which is between the upper columns, ſhould alſo be made a fourth part leſs than the ſame columns, that thoſe who walk in the floor above may not be ſeen by the merchants below. The epiſtilium, zophorus, and coronæ, are proportioned to the columns, in the manner explained in the third book."

The baſilica, however, which Vitruvius erected at the colony of Julia of Fanum, did not conform to the foregoing precepts. It is thus deſcribed: "the middle teſtudo (aiſle or nave) is 120 feet long, and 60 feet broad; the ſurrounding portico between the walls and columns is 20 feet broad. The columns, continued the whole height of the building, are 50 feet, including the capitals, and 5 feet in diameter; having behind them pilaſters 20 feet high, which ſuſtain the beams that bear the floor of the upper porticos. Above theſe pilaſters are others 18 feet high, which ſupport the ceiling of the upper porticos, which is laid lower than the roof of the teſtudo, the ſpace between being left open in the intercolumniations for light. The columns in the breadth of the teſtudo are four, including thoſe of the angles; and in the length, of the ſide next the forum, including the ſame angles, eight. On the other ſide there are but ſix, the two in the middle being omitted, that they may not obſtruct the view of the pronaus of the temple of Auguſtus, which is ſituated in the middle of the ſide wall of the baſilica. The tribunal in this building is in the figure of a hemicycle, extending in front 46 feet, and receſſing in the centre of the curvature 15 feet; ſo that thoſe who attend the magiſtrate obſtruct not the merchants in the baſilica."

From the preceding deſcriptions it would appear, that the ancient baſilica conſiſted of a great nave in the middle, ſurrounded with only one range of porticos; and it is thus that it has been repreſented in the deſigns of all who have reſtored it from the words of Vitruvius. However, the fragments of the plan of Rome taken under Septimius Severus, which ſtill exiſt, ſhew a part of the baſilica Æmiliana; and in this authentic record we find two rows of columns on each ſide, which, ſuppoſing an exterior wall, would give two ranges of porticos. But this valuable relic gives reaſon to doubt, whether the baſilicas were ſurrounded with walls, or whether their porticos, open on every ſide, communicated with the public places. The deſcription of Vitruvius explains nothing in this particular; but it may perhaps be inferred from what he recommends relative to the warmth of the expoſure, that they were not incloſed.

Suppoſing the entrance of the baſilica to be at one end, the other was terminated by a hemicycle, in which was placed the tribunal; this circular end anſwers to the abſidium of the Chriſtian baſilica. The chalcidicæ mentioned by Vitruvius have given riſe to various conjectures, which it would be uſeleſs to detail, as we have no data from which any other inference can be drawn, than that they were ſome kind of apartments, ſeparated by a partition, at the ends of baſilicas.

Before the excavations made at Otricoli, and the diſcoveries which were the reſult, we had only conjectures on the form and nature of the ancient baſilica; uncertain veſtiges were all that remained of thoſe of Rome, and the ſituation of the famous baſilicas, Æmilia and Fulvia, was ſought in vain at Præneſte. The monument of Otricoli, therefore, ought to be very precious if we find in it a true baſilica, of which the reader will be enabled to judge from the following deſcription.

To diſcern the eſſential character of a baſilica, it will be uſeful previouſly to conſider the difference between it and a temple. The original form of a temple is an oblong cella or body, ſurrounded with porticos; and even where the lateral porticos were ſuppreſſed, they were never deprived of a pronaus or portico in front. In ſhort, in the baſilica the porticos were internal and external in the temple. Now the edifice of Otricoli has no exterior colonade, neither pronaus nor periſtile. It is a ſquare building, ſurrounded with a ſimple wall. In the middle the entrance is by a ruſtic opening, without any veſtige of decoration. The interior conſiſts of a great hall, divided by porticos into three naves or aiſles. The portico immediately oppoſite the entrance is compoſed of three arches; eight Corinthian columns form the remaining three porticos; the further end of the building is occupied by a hemicycle or tribunal, on each ſide of which is a ſmall apartment. The tribunal is aſcended by ſeveral ſteps; and round the interior of the edifice is continued a pedeſtal, on which were ſtatues which have been tranſported to the Muſeum Vaticanum. The ceiling was probably of wood, as there are no remains of a vault. No veſtiges lead even to ſuſpect that in the middle there might be a baſe for a ſtatue, or any thing that indicates a temple.

This monument is certainly deficient in many of the characteriſtics of a baſilica; its plan is an exact ſquare inſtead of an oblong, and the upper galleries are wanting. However, conſidering to what variations theſe edifices were ſubject, according to the riches, the ſize of towns, and the diverſities of ſituation; and how much Vitruvius, the author

of the precepts which ſhould fix our ideas on this ſubject, has departed from his own rules in the conſtruction of his baſilica, it will perhaps be impoſſible not to recognize, in the edifice of Otricoli, an example of the ancient baſilica.

But we cannot quit this diviſion of the ſubject without mentioning a monument, intereſting at any rate from the ſingularity of its architecture, and ſtill more ſo if it preſerve to us the form of the Grecian baſilica. This edifice, one of the antiquities of Pæſtum, is in length the double of its breadth; it is formed by ranges of Doric columns, to the number of nine in each front and eighteen on each wing including the angles. On a line with the central column of each front a range of columns is continued through, dividing the building into two parts; at the foot of theſe columns the pavement is elevated and adorned with moſaic. Theſe interior columns ſupported the roof, which was probably a terrace. The uneven number of columns in the fronts, and the narrowneſs of their intercolumniations compared with thoſe of the wings, prove ſufficiently that the principal entrances muſt have been at the ſides; and this circumſtance, together with the abſence of any exterior wall to incloſe a cella, ſhews that this edifice could not have been a temple. But to the purpoſes of a baſilica it ſeems very well adapted; open on every ſide, it admitted an eaſy acceſs, while the elevation or bank in the middle, would afford a tribunal ſuited to the ſimplicity of the age.

The Eccleſiaſtical Baſilica. It is not probable that the ancient baſilicas were ever converted into Chriſtian churches; in that caſe, we ſhould ſtill be in poſſeſſion of ſome of theſe monuments of antiquity. The moſt ancient baſilicas of the Chriſtians, thoſe which date from the firſt centuries of the public exerciſe of our religion, were built expreſsly for their uſe; and the details of their architecture, announce but too clearly the time of their conſtruction. But theſe new temples reſembled ſo much the antique baſilicas, that they retained their name; and indeed if we examine the buildings of antiquity, we ſhall find no other ſo well calculated for the purpoſes of our religion. Theſe edifices, at once ſimple in plan and magnificent in decoration, were of a form and diſpoſition the moſt advantageous that can be imagined for large halls, and their conſtruction combined ſolidity with economy. Their ſolidity is proved by the duration of fourteen centuries of ſome of theſe buildings; and their economy conſiſts in the lightneſs of the points of ſupport, and in that of the covering which was only of carpentry. In moſt of the baſilicas, the walls and the points of ſupport only occupy one tenth of the total ſpace; which, in buildings vaulted and ſupported with arcades, like many modern churches, take up at leaſt twice that ſuperficies, and require beſides materials and modes of conſtruction which quadruple the expence.

It is to Conſtantine, that the firſt Chriſtian churches known by the name of baſilicas are to be referred. This prince ſignalized his zeal by the erection of monuments which announced the triumph of the religion which he had embraced. He gave his own palace on the Cœlian mount to conſtruct on its ſcite a church which is recognized for the moſt ancient Chriſtian baſilica. A modern building has ſo much maſked and diſfigured the ancient, that only the ſituation and plan of this monument can be diſcovered.

Soon after, he erected the baſilica of St. Peter of the Vatican. This magnificent edifice was conſtructed about the year 324 upon the ſcite of the circus of Nero and the temples of Apollo and Mars, which were deſtroyed for that purpoſe. It was divided internally into five aiſles from eaſt to weſt, which terminated at the end in another aiſle from north to ſouth, in the centre of which was a large niche or tribunal, giving the whole the form of a croſs. The larger aiſle was incloſed by forty-eight columns of precious marble, and the lateral aiſles had likewiſe forty-eight columns of ſmaller dimenſions; two columns were placed in each wing of the terminating aiſle. The whole was covered with a flat cieling, compoſed of immenſe beams which were caſed with gilt metal and Corinthian braſs taken from the temples of Romulus and Jupiter Capitolinus. A hundred ſmaller columns ornamented the ſhrines and chapels. The walls were covered with paintings of religious ſubjects, and the tribunal was enriched with elaborate moſaics. An incredible number of lamps illuminated this temple; in the greater ſolemnities 2400 were reckoned, of which one enormous candelabrum contained 1360. The tombs of pontiffs, kings, cardinals, and princes, were reared againſt the walls or inſulated in the ample porticos.

This ſuperb temple was reſpected by Alaric and Totila, and remained uninjured in the various fortunes of Rome during the lapſe of twelve centuries; but crumbling with age, it was at laſt pulled down by Julius II. and upon its ſcite has ariſen the famous baſilica, the pride of modern Rome.

The third great baſilica built by Conſtantine, that of St. Paul on the road to Oſtia, ſtill exiſts. The interior of this building reſembles preciſely that of St. Peter which has juſt been deſcribed. Of the forty columns incloſing the great aiſle, twenty-four are ſuppoſed to have been taken from the mauſoleum of Adrian; they are Corinthian, about three feet diameter, fluted their whole length, and cabled to one third: the columns are of blue and white marble, and antiquity preſents nothing in this kind more precious for the materials and the workmanſhip. But theſe beautiful remains ſeem only to be placed there to the diſgrace of the reſt of the conſtruction, which is of the age of Conſtantine and Theodoſius, and which moſt ſtrikingly exemplifies the rapid decline of the arts.

The churches we have hitherto deſcribed bear a very complete reſemblance to the antique baſilica in plan and proportion. The only remarkable difference is, that the ſuperior galleries are ſuppreſſed, in the place of which a wall is raiſed upon the columns of the great aiſle, which is pierced with windows, and ſupports the roof.

The church of St. Agneſe out of the walls, though not one of the ſeven churches of Rome which retain the title, is however a perfect imitation of the antique baſilica. This reſemblance is ſo complete, that without the teſtimony of writers who inform us that it was built by Conſtantine at the requeſt of Conſtantia his ſiſter or daughter, and without the details of its architecture which forbid us to date it higher, it might be taken rather for an ancient tribunal of juſtice than a modern church. It forms an oblong internally, three ſides of which are ſurrounded with columns forming the porticos; the fourth ſide oppoſite the entrance is receſſed in a ſemicircle; this is the tribunal. The firſt order of columns carries a ſecond, forming an upper gallery, above which begins the ceiling of the edifice. The ſhortening of the columns, recommended by Vitruvius, is obſerved in the upper order.

We have hitherto obſerved in the Chriſtian baſilicas but ſmall variations from the antique conſtruction: they were ſtill ſimple quadrilateral halls divided into three or five aiſles, the numerous columns of which ſupported the flat ceiling; but the croſs form, the emblem of Chriſtianity, which began to be adopted in theſe buildings, operated the moſt eſſential changes in their ſhape. The interſection of the croſſing aiſles produced a centre, which it was natural to enlarge and make principal in the compoſition; and the invention of

domes

domes ſupported on pendentives enabled the architects to give ſize and dignity to the centre, without interrupting the viſta of the aiſles. The church of St. Sophia at Conſtantinople was the firſt example of this form.

The ſeat of the Roman empire being transferred to Conſtantinople, it is natural to ſuppoſe that the diſpoſition of the ancient St. Peter's of Rome, eſteemed at that time the moſt magnificent church in the world, was imitated in that which Conſtantine erected for his new capital under the name of St. Sophia. This laſt did not exiſt long: Conſtantius the ſon of Conſtantine, raiſed a new one which experienced many diſaſters. Deſtroyed in part, and rebuilt under the reign of Arcadius, it was burnt under Honorius, and re-eſtabliſhed by Theodoſius the younger; but a furious ſedition having ariſen under Juſtinian, it was reduced to aſhes. This emperor having appeaſed the tumult, and wiſhing to immortalize his name by the edifice he was about to erect, aſſembled from various parts the moſt famous architects. Anthemius of Tralles and Iſidore of Miletus were choſen; and as they had the boldneſs to attempt a novel conſtruction, they experienced many difficulties and diſaſters: but at laſt they had the glory of finiſhing their deſign.

The plan of this baſilica is a ſquare of about 250 feet. The interior forms a Greek croſs, that is, a croſs with equal arms; the aiſles are terminated at two ends by ſemicircles, and at the other two by ſquare receſſes, in which are placed two ranges of tribunals. The aiſles are vaulted, and the centre, where they interſect, forms a large ſquare, upon which is raiſed the dome, of about 110 feet diameter. The dome, therefore, is ſupported upon the four arches of the naves and the pendentives or ſpandrels which connect the ſquare plan of the centre with the circle of the dome.

The general effect of the interior is grand; but whatever praiſes the bold invention of this immenſe dome may merit, it muſt be confeſſed that there are times in which princes, however great and liberal, can only produce imperfect monuments, of which this edifice is a ſtriking example. All the details of its architecture are defective and barbarous.

However, from the communication eſtabliſhed between Greece and Italy at the revival of letters, this baſilica, the laſt as well as the moſt magnificent of the lower empire, was that which influenced moſt the form and architecture of the new temples. The Venetians, in the tenth century, copied with ſucceſs the beſt parts of the diſpoſition of St. Sophia in the church of St. Mark. This is the firſt in Italy which was conſtructed with a dome ſupported on pendentives; and it is alſo this which firſt gave the idea, which has been imitated in St. Peter's of the Vatican, of accompanying the great dome of a church with ſmaller and lower domes to give it a pyramidal effect.

From this time to the erection of the baſilica of St. Peter's we find the churches approach, more or leſs, to the form of the ancient baſilica or the new conſtruction. The church of Santa Maria del Fiore of Florence, from the magnitude of its dome and the ſkill which Brunelleſchi diſplayed in its conſtruction, acquired a celebrity which made the ſyſtem of domes prevail; and this ſyſtem was finally eſtabliſhed in the noble baſilica of the Vatican, which has become the type and example of later ones. The form of the antique baſilica was entirely loſt, and the name, which has been retained, is the only remain of their ancient reſemblance.

In the pontificate of Julius II. the beginning of the ſixteenth century, the baſilica of St. Peter's was begun from the deſigns of Bramante. This great man formed the idea of ſuſpending in the centre of the building a circular temple as large as the pantheon, or, as he expreſſed it, to raiſe the pantheon on the temple of peace; and, in fact, we find great reſemblance in ſize and diſpoſition between theſe two edifices and the project of Bramante. He was ſucceeded in his office by San Gallo, who almoſt entirely loſt ſight of the original plan; but Michael Angelo, to whom at his death the undertaking was committed, concentered the diſcordant parts, and contracted the whole into the form of the Greek croſs. Michael Angelo died in 1564, while he was engaged in erecting the dome; but he left plans and models, which were ſtrictly adhered to by his ſucceſſors Vignola, J. de la Porte, and Fontana, who terminated the dome. The building was carried on under many ſucceeding pontiffs; and at laſt, by lengthening the longitudinal naves, it acquired the form of the Latin croſs; in that particular, approaching to the original deſign of Bramante.

The general form of this edifice externally is an oblong, with circular projections in three of the ſides; the plan of the interior conſiſts of a Latin croſs, the interſection of the arms of which is enlarged and formed into an octagon; the head of the long aiſles and the ends of the croſs aiſles are terminated in hemicycles, and the great naves are accompanied with lateral aiſles and with ſeveral incloſed chapels. The octagon centre ſupports a circular wall enriched with pilaſters and pierced with windows, above which riſes the magnificent dome.

Thus we have traced the progreſs of the baſilica from the quadrilateral hall of the ancients with its ſingle roof and flat ceiling ſupported on ranges of columns, to the croſs-ſhaped plan, central dome, and vaulted aiſles ſupported on maſſy piers of the modern cathedral. It only remains to treat of the

Modern Baſilica. We give this name with Palladio to the civil edifices which are found in many Italian cities, and the deſtination of which is entirely ſimilar to the antique baſilica.

In imitation of the ancients, ſays this celebrated architect, the cities of Italy conſtruct public halls which may rightly be called baſilicas as they form part of the habitation of the ſupreme magiſtrate, and in them the judges adminiſter juſtice. The baſilicas of our time (he continues) differ in this from the ancient; that thoſe were level with the ground, while ours are raiſed upon arches in which are ſhops for various arts and the merchandize of the city. There the priſons are alſo placed, and other buildings belonging to public buſineſs. Another difference is that the modern baſilicas have the porticos on the outſide, while in the ancient they were only in the interior. Of theſe halls there is a very noble one at Padua; and another at Breſcia, remarkable for its ſize and ornaments.

But the moſt celebrated is that of Vicenza; the exterior part of which was built by Palladio, and the whole ſo much altered that it may paſs for his work. The body of the building is of much greater antiquity, though the date of it is unknown.

Time and various accidents had reduced this edifice to ſuch a ſtate of decay, that it was neceſſary to think ſeriouſly of preventing its total ruin: for this purpoſe the moſt eminent architects were conſulted, and the deſign of Palladio was approved. He removed the ancient loggias, and ſubſtituted new porticos of a very beautiful invention. Theſe form two galleries in height, the lower order of which is ornamented with Doric engaged columns, at very wide intervals, to anſwer to the internal pillars of the old building; the ſpace between each column is occupied by an arch reſting on two ſmall columns of the ſame order, and a pilaſter at each ſide againſt the large columns, which leaves a ſpace between it and the ſmall columns of two diameters. The upper portico of Ionic columns is diſpoſed in the ſame manner, and a baluſtrade is placed in the archways. The entablature

entablature of the [illegible] over each column.

[illegible]; the [illegible] by [illegible] with a [illegible] Roman basilica, from the deſcription of Vitruvius. *Plate* III. the baſilica at Paeſtum. *Plate* IV. the plan of the old baſilica of St. Peter, [illegible]. *Plate* V. plan of the modern St. Peter's of the Vatican. Vitruvius. Arch. de A. Palladio. [illegible]. Freye. Math.

BASILICA, Βασιλικὰ, the name of the Roman laws, tranſlated into Greek by order of the emperor Baſil and Leo, and which were of force in the eaſtern empire till its diſſolution.

The baſilics comprehend the inſtitutes, digeſts, code, and novels, and ſome [illegible] of Juſtinian and other emperors. The collection conſiſted of ſixty books, for which reaſon it was called ἑξηκοντάβιβλος. It is ſuppoſed to be chiefly the work of the emperor Leo the Philoſopher, who denominated it from his father Baſilius Macedo, who firſt began it in 867, and carried the work to forty books. It was publiſhed by Leo, with the addition of twenty books more, in 880; and thirty years after, corrected and [illegible] by his ſon Conſtantine Porphyrogenitus. Six books of the baſilica were tranſlated into Latin in 1557, fol. by Gentianus Hervetus. Of theſe ſixty books, there are now remaining only forty-one; an edition of which, with a Latin verſion, was publiſhed by Charles Annibal Fabrottus, at Paris, in 1647, in 7 tomes folio: the other nineteen are in ſome meaſure ſupplied by Fabrottus, from the "Synopſis Baſilicorum," &c. Four other books have been ſince diſcovered, and are inſerted in Girard Meerman's "Novus Theſaurus Juris Civ. et Canon." tom. v. Of the whole work, the ſixty books, Jo. Leunclavius has printed at Baſil, in 1575, an ecloge or ſynopſis. On the ſubject of the baſilics, Fabricius (Bib. Græc. t. xii. p. 425—514.), Heineccius (Hiſt. Juris Romani, p. 396—399.), and Giannone (Iſtoria Civile di Napoli, tom. i. p. 450—458.), as hiſtorical civilians, may be uſefully conſulted.

BASILICATA, in *Geography*, a province of the kingdom of Naples, bounded on the north by the Capitanata and the Terra di Bari, on the eaſt by the gulf of Tarento, on the ſouth by Principato Citra and Calabria Citra, and on the weſt by Principato Ultra. Its extent is about 1,605,047 moggies, 5 moggies making 4 Engliſh acres; and the number of its inhabitants about 325,682. Its rivers are Bradano, Baſiento, Salandrella, Acri, and Sinao; its lakes are Lagonagro and Olmo; its mountains are for the moſt part branches of the Apennines; and its principal places are Acerenza, Melfi, Monte-Peloſo, Tricarico, Potenza, Anglona, Venoſa, and Muro: its ruined cities are Metapontum and Heraclea. This province produces corn, wine, oil, ſaffron, cotton, honey, and wax.

BASILICI, βασιλικοὶ, in the *Greek Empire*, was a denomination given to the prince's mandatories, or thoſe who carried his orders and commands.

BASILICON, or Basilicum, in *Pharmacy*, is the pompous denomination formerly given to an officinal unguent or plaſter, much reſembling and ſuperſeded by the Unguentum *Reſina Flava*.

BASILICUS, or Basilica, in *Aſtronomy*, is the name of a fixed ſtar of the firſt magnitude in the conſtellation Leo; called alſo *regulus*, and *cor leonis*.

Basilicus *Sinus*, in *Ancient Geography*, the gulf of Mallaſſo, a gulf of Aſia Minor, in Caria, which it ſeparates from Ionia.

BASILIDÆ, a people of Scythia, according to Pliny. Herodotus ſays, that their habitation was below the cataracts of Boryſthenes.

BASILIDES, in *Biography*, an hereſiarch of Alexandria in Egypt, who flouriſhed in the former part of the ſecond century. Baſnage refers him to the year 121, Mill to 123, and Cave to the year 112. Grabe ſays, that he began to ſpread his notions in the time of Trajan, but chiefly under Adrian; and that he probably did not die before the beginning of the reign of Antoninus Pius: and this opinion is confirmed by Clement of Alexandria, who informs us, that he or his followers boaſted of his having been taught by Glaucias, a diſciple of St. Peter. Baſilides has generally obtained the firſt place among the Egyptian Gnoſtics. He was the author of ſeveral works, of which the principal was his "Twenty-four Books of Commentaries," ſuppoſed by Beauſobre, Fabricius, and Jones, to be the "Goſpel of Baſilides," mentioned by Origen, and after him by Ambroſe and Jerome. As none of his works are extant, we derive our knowledge of them from thoſe who have detailed and expoſed his errors; among whom are Irenæus, Tertullian, Clemens Alexandrinus, Origen, Epiphanius, &c. Baſilides acknowledged the exiſtence of one ſupreme God, ſelf-exiſtent, and perfect in wiſdom and goodneſs, who produced from his own ſubſtance ſeven beings, or æons, of a moſt excellent nature. From two of theſe, called Dynamis and Sophia, i. e. power and wiſdom, proceeded angels of the higheſt order, who formed a heaven for their habitation; and theſe angels again produced other inferior angelic beings: theſe were ſucceeded by other generations of angels, and new heavens were alſo created, until the number of angelic orders, and of their reſpective heavens, amounted, as Irenæus has ſuggeſted, and others have believed, to 365, the number of days in the Egyptian year. Beauſobre diſputes this account; and it is ſuggeſted, that Baſilides might poſſibly ſay, there were 365 angels, who preſided each over one day of the year; which is a notion that ſeems to have been entertained by ſome perſons in the eaſt. Baſilides aſcribed the formation of this lower world to angels; conceiving it to be unworthy of the Supreme Being to give form and beauty to matter, and to be the author of the many evils that are in this world. Theſe angels, perceiving matter, which was eternal, agitated in a tumultuous manner, determined to reduce it to order; and having in their minds an idea of the world of ſpirits to which they belonged, and which ſerved for them as a model, propoſed to form a material world that ſhould reſemble it, and to create a race of beings to inhabit it. This deſign was executed, and approved by the Supreme Being; who added a reaſonable ſoul to the animal life with which alone the inhabitants of this new world were at firſt endowed, and who gave to the angels the empire over them. Theſe angelic beings became gradually depraved by the influence of malignant matter, and endeavoured to efface from the minds of men the knowledge of the Supreme Being, and to arrogate to themſelves the worſhip that was his due. The moſt arrogant and turbulent of theſe fallen angels preſided over the Jewiſh nation. At length the Supreme Deity, obſerving and compaſſionating the ruined and wretched ſtate of the world, ſent from heaven his firſt-begotten Nus, or Chriſt, the chief of the æons, to reſtore the knowledge of the Supreme God, and to deſtroy the empire of thoſe angels that preſided over the world, and particularly that of the arrogant leader of the Jewiſh nation. The god of the Jews, alarmed at this, ſent forth his miniſters to ſeize the man Jeſus, and put him to death. They executed his commands; but their cruelty could not extend to Chriſt, the heavenly being, againſt whom their efforts were vain. According to Irenæus's

Irenæus's account, Jesus appeared as man, but was not so in reality, and wrought many miracles: however he was not crucified; the Jews having, through mistake, crucified Simon the Cyrenian in his stead. Many of the ancient writers, upon the authority of Irenæus, accused Basilides of denying the reality of Christ's body, and of maintaining that Simon was crucified in his stead. But this accusation, as far as it refers to Basilides himself, is groundless; for he seems to have considered the divine Saviour, as compounded of the man Jesus, and Christ the Son of God. To this purpose Beausobre says, that, though Basilides did not believe the incarnation, or hypostatic union of the Son of God with flesh, yet he never denied that Jesus was a real person, in whom the Understanding, or Son of God, displayed his power, whom he filled with his gifts and illuminations, and invested with extraordinary influence. With regard to the ridiculous story of Simon transformed into Jesus, and crucified in his stead, he represents it as a tale which Irenæus derived from some unknown source. As Basilides believed the death of Jesus, who was a real and most excellent man, in whom the first-begotten of the Father chose to dwell, though not of the Son of God, he probably believed his resurrection; that is, that his soul ascended to heaven, and the body was left to lie in the grave, or was dissipated into the air, and among the elements of which it was composed. As the ancient Catholic writers do not particularly say that Basilides denied the resurrection of Jesus, though they assure us he and his followers denied the resurrection of the body; it is not unlikely that he admitted the resurrection, or the advancement and glorification of the soul of Jesus. Basilides believed the fact of the baptism of Jesus; and his followers, as Clement informs us, celebrated the day of his baptism as a festival, which was the 15th day of the Egyptian month Tubi, corresponding to the 9th or 10th of our January, in the 15th year of Tiberius; and they spent the whole preceding night in reading, and probably in prayers. Some persons have supposed that Basilides denied the necessity or reasonableness of our suffering martyrdom for Jesus; and yet it appears from the testimony of Clement, that he esteemed martyrdom an honourable suffering, though it is the punishment of sins committed either in this life, or in a pre-existent state. Basilides taught, that the soul only would be saved; but that the body is in its nature corruptible, and incapable of immortality. As for the spirits of the disobedient, it is said to have been his opinion, or that of his followers, that they would pass successively into other bodies. Basilides has been falsely accused of believing that actions are indifferent in their own nature, and of allowing and encouraging the practice of wickedness. On the contrary, he is represented by those whose testimonies are most credible, as strongly recommending the practice of virtue and piety, and condemning not only the actual commission of iniquity, but even every inward propensity of the mind to a vicious conduct. However, some of his practical opinions gave offence to the orthodox Christians; for he allowed men to conceal their religion, and even to deny Christ, when their lives were in danger, and to partake of the feasts of the Gentiles that were instituted in consequence of the sacrifices offered to idols: not to add, that the irregular lives of some of his disciples seemed to justify the unfavourable opinion that was entertained concerning their master. The Basilidians have been also accused of magical practices: but Tertullian says nothing of this kind; and the passage of Irenæus upon which this charge is founded, is supposed to have been corrupted. Besides, the ancient fathers perpetually confound astronomy and astrology with magic; and hence Lardner is induced to be very doubtful about the truth of this accusation. Irenæus says, that the Basilidians called the prince of the heavens Abraxas, that name having in it the number 365; and the gems, or figures, bearing this name are supposed to have originated from Basilides. However, many of these Egyptian talismans appear to have an earlier date; and the magic of this sect was probably no more than the practice of certain superstitions, rather of a foolish than of a malignant nature. See ABRAXAS.

Basilides had many followers, and his sect survived to the fifth century. Beausobre, and after him Lardner, have given a learned and candid examination of his doctrine, in all its particulars. See Beausob. Hist. du Manicheisme, t. ii. Lardner's Works, vol. ix. p. 272—307. Mosheim, Eccl. Hist. vol. i. p. 223, &c.

BASILIDIANS, the followers of Basilides, of whom an account has been given in the preceding article.

BASILINEA, in *Entomology*, a species of PHALÆNA that inhabits Austria. The wings are greyish-brown undulated, with a little black line at the base; crest of the thorax bifid. Fabricius.

BASILINOPOLIS, or BASINOPOLIS, in *Ancient Geography*, an episcopal town of Asia Minor, in Bithynia.

BASILIPOTAMO, in *Geography*, the ancient Eurotas, a river of the Morea in European Turkey, which falls into the gulf Calochina.

BASILIPPUM, in *Ancient Geography*, a town of Bætica in Spain, about 20 miles from Hispalis or Seville; now Cantillana, a citadel of Andalusia, on the Guadalquivir.

BASILIS, a town of Peloponnesus, in Arcadia, founded, according to Pausanias, by Cypselus, and situated near the Alpheus. In his time it was in ruins, among which was a temple of the Eleusinian Ceres.

BASILISCUS, in *Ornithology*, one of the synonymous names of the golden-crowned wren, among old writers. This name is a diminutive of the word *basileus*, king; and was given it on account of its golden crown.

BASILISCUS, in *Zoology*, a species of LACERTA, which, according to Linnæus, has the tail long and round; dorsal fin radiated; and back of the head crested. This is the basilisk of modern naturalists, and seems to unite the two genera of Lacerta and Draco. The remarks of Dr. Shaw (in the Gen. Zool.) on this extraordinary creature are highly interesting, and ought not to escape attention. It is, according to this writer, particularly distinguished by a long and broad wing-like process or expansion continued along the whole length of the back, and to a very considerable distance on the upper part of the tail, and furnished at certain distances with internal radii analogous to those in the fins of fishes, and still more so those in the wings of the draco volans, or flying lizard. This process is of different elevation in different parts, so as to appear strongly sinuated and indented, and is capable of being either dilated or contracted at the pleasure of the animal. The occiput, or hind part of the head, is elevated into a very conspicuous pointed hood, or hollow crest.

Notwithstanding its formidable appearance, adds this author, the basilisk is a perfectly harmless animal; and, like many others of the lizard tribe, resides principally among trees, where it feeds on insects, &c. It has long ago been admirably figured in the work of Seba; and as it is an extremely rare species, has sometimes been considered, from the strangeness of its form, as a fictitious representation. There is, however, in the British Museum, a very fine specimen, well preserved in spirits, and which fully confirms the excellency of Seba's figure; from which, in all probability, Linnæus himself (who never saw the animal) took his specific description. The colour of the basilisk is a pale cinereous

pereous brown, with ſome darker variegations towards the upper part of the body. Its length is about a foot and half. The young or ſmall ſpecimens have but a ſlight appearance either of the dorſal or caudal proceſs, or of the pointed occipital creſt. The baſiliſk is principally found in South America, and ſometimes conſiderably exceeds the length before mentioned, meaſuring three feet, or even more, from the noſe to the extremity of the tail. It is ſaid to be an animal of great agility, and is capable of ſwimming occaſionally with perfect eaſe, as well as of ſpringing from tree to tree by the help of its dorſal creſt, which it expands in order to ſupport its flight.

Among the French naturaliſts, the Iguane is a diſtinct genus of the oviparous quadrupeds, in which the Linnæan *lacerta baſiliſcus* is included under the name of baſiliſk.

The baſiliſk of the ancients exiſted only in the glowing fancy of their poets: they feigned it to be the moſt malignant of all poiſonous ſerpents; as a creature whoſe breath empoiſoned the very air, and whoſe baneful glance would alone prove fatal to all other animals. A creature gifted with ſuch extraordinary powers could have no common origin, and therefore it was aſſerted to be the produce of the egg of a cock brooded upon by a ſerpent. Galen ſays its colour is yelloviſh, and that it has three little elevations on its head, ſpeckled with whitiſh ſpots, that have ſomewhat the appearance of a crown. Ælian, Matthiolus, Pliny, Lucan, and others of the moſt diſtinguiſhed ancients, relate many marvellous properties of this creature; but, notwithſtanding their authority, the baſiliſk, as they repreſent it, is moſt unqueſtionably fabulous. It is needleſs to add to this article any of the fables of Jerome Lobo, although Dr. Johnſon has received ſome of them with an unwarrantable degree of credulity. The learned Proſper Alpinus informs us, on the authority of ſome relations, which he ſeems to have credited, that near the lakes contiguous to the ſources of the Nile, there is a number of baſiliſks, about a palm in length, and the thickneſs of a middle finger; that they have two large ſcales which they uſe as wings, and creſts and combs upon their heads, from which they are called baſiliſci or reguli, that is, crowned, creſted, or kingly ſerpents. And he ſays, that no perſon can approach theſe lakes without being deſtroyed by theſe creſted ſnakes. Our traveller, Mr. Bruce, obſerves, that having examined the lake Gooderoo, thoſe of Court Ohha and Tzana, the only lakes near the ſources of the Nile, he never ſaw one ſerpent there, crowned or uncrowned; and that he never heard of any: and, therefore, he believes this account as fabulous as that of the Acontia and other animals mentioned by Proſper Alpinus, lib. iv. cap. 4. The baſiliſk is a ſpecies of ſerpent frequently mentioned in ſcripture, though never deſcribed farther than that it cannot be charmed ſo as to do no hurt, nor trained ſo as to delight in muſic; which all travellers who have been in Egypt allow is very poſſible, and frequently ſeen. (Jerem. viii. 17. Pſalm ix. 13.) However, it is the Greek text that calls this ſerpent baſiliſk; the Hebrew generally calls it tſepha, which is a ſpecies of ſerpents real and known. Our Engliſh tranſlation very improperly renders it cockatrice, a fabulous animal that never did exiſt. The baſiliſk of ſcripture ſeems to have been a ſnake, not a viper; as its eggs are mentioned (Iſaiah, ix. 5.): whereas it is known to be the characteriſtic of the viper to bring forth living young. Bruce's Travels in Abyſſinia, vol. v. p. 201.

Basilisk is alſo myſtically uſed by the alchemiſts, to denote the ſublimate mercury of the philoſophers.

Basilisk, or Basilisc, in *Artillery*, alſo denotes a great piece of ordnance; thus denominated from its reſemblance to the ſuppoſed ſerpent of that name. The baſiliſk throws an iron ball of two hundred pounds weight. It was much talked of in the time of Solyman emperor of the Turks, in the wars in Hungary; but ſeems now out of uſe. Maffeus ſpeaks of baſiliſks made of braſs, which were drawn each by a hundred yoke of oxen. Modern writers alſo give the name baſiliſk to a much ſmaller and ſizeable piece of ordnance, which the Dutch make fifteen feet long, and the French only ten. It carries forty-eight pounds.

Basilium Flumen, in *Ancient Geography*, a river of Aſia, which, according to Strabo, flowed between the Euphrates and Tigris; but Ammianus Marcellinus ſays that it was a branch of the Euphrates, directed towards Cteſiphon, and deſigned for conveying water into the interior part of Babylonia. The emperors Trajan and Severus opened this canal after it had been filled up, and formed by it a communication between the Tigris and Euphrates.

Basilius, in *Biography*, a phyſician and monk of Bulgaria, in the 12th century, was the founder of the ſect called Bogomili. After teaching his doctrine many years in ſecrecy, he was ſeduced to Conſtantinople by the emperor Alexius Comnenus, who, under pretence of learning his doctrines at a private audience, placed a ſecretary behind a curtain, who penned down what Baſilius delivered. The emperor afterwards convoked a council, which, on the refuſal of Baſilius to retract, committed him to the flames in 1118. See Bogomili.

Basiluzzo, in *Geography*, one of the Lipari iſlands in the Mediterranean, about two miles in circumference, and raiſed ſome poles above the ſurface of the ſea. On the ſouth ſide is a narrow bay; and on the ſummit is a plain of no great extent, and the only part capable of cultivation, though it produces only a little corn and pulſe. This ſcanty vegetation is nouriſhed by a thin cruſt of decompoſed lava, under which is ſoon diſcovered the ſolid lava, which, in many ſituations, is granitous, the quartz, felſpar, and mica, being very apparent in it. Two little cottages, which belong to the proprietors of this ungrateful ſoil, are the only buildings, near which are ſome ancient ruins. Rabbits are the only animals found in this iſland; and as they were very miſchievous to the corn, the inhabitants introduced cats, which followed them into their ſubterranean holes. This iſland, as well as thoſe that are in its vicinity, have been produced by volcanic fires. Spallanzani's Travels in the Two Sicilies, vol. ii. p. 142, &c.

Basin of Minas, a body of water of conſiderable extent and irregular form, ſituate in Nova Scotia, at the eaſt end of the bay of Fundy, and connecting with its north-eaſt branch by a ſhort and narrow ſtrait. The country on its banks is generally a rich ſoil, and is watered by many ſmall rivers. The ſpring-tides riſe here 40 feet.

Basinet, Bacinet, or Basnet, in *Ancient Armour*, a ſpecies of light helmet, much uſed, both here and abroad, in the thirteenth and fourteenth centuries. Its name was undoubtedly taken from its form, and means a little baſon. The helmet of Don Quixote gives the reader an exact idea of it. In the manuſcript illuminations of the times it frequently occurs; but as it materially differed from the ſtate helmet, it is rarely, if ever, found upon ſepulchral monuments. Fauchet (Œuvres, f. 524. edit. 1610.) cites Froiſſart (vol. iii. c. cxix.), to prove that it had a vizor like the helmet; and obſerves, that the French warriors of that æra thought the beſt lances came from Bourdeaux, and the beſt helmets and baſinets from Paris, where, in his time, a "Rue de la Heaumerie" exiſted. The baſinet is particularly mentioned in the ſtatutes of Robert king of Scotland; and its frequent uſe in England may be judged of from an inquiſition,

22 Edw. III., whence Laurence de Haſtings, earl of Pembroke, appears to have held the manor of Aſton Cantloue, in capite, by the ſingular tenure of finding, in every war with Wales, for forty days, a foot-ſoldier, armed with a bow without a ſtring, and a baſinet (cum uno baſneto ſine cappa). See Cowel.

BASINGSTOKE, or Basinge, John, in *Biography*, a man of diſtinguiſhed learning in the thirteenth century, was born at Baſingſtoke in Hampſhire, and educated partly in the univerſity of Oxford, and partly in that of Paris. From Paris he travelled to Athens; and on his return to England brought with him a great number of Greek MSS., and introduced the uſe of the Greek numeral figures into this kingdom. He was eminently inſtrumental in promoting the ſtudy of the Greek language; and with this view he tranſlated from the Greek, into Latin, a grammar, which he intitled "The Donatus of the Greeks." His other works were "A Latin tranſlation of the Harmony of the Goſpels;" a volume of Sermons; and "A Latin Commentary upon Lombard's Sentences." He was preferred firſt to the archdeaconry of London, and afterwards to that of Leiceſter; and died in 1252. Gen. Dict.

Basingstoke, in *Geography*, a large populous town of Hampſhire, in England, 16 miles N.N.E. of Winchester, and 46 W. from London, whence it is a great thoroughfare to the weſtern counties. It appears that this place was of inferior conſideration to Baſing, in its neighbourhood, previous to the conqueſt; the latter place being the head of the barony of Ports. In 1233, Peter de Rupibis, biſhop of Wincheſter, was poſſeſſed of the advowſon of both the churches, and gave the preſentations to the priory of Selborne in Hampſhire. Theſe afterwards were given, among other eſtates, by biſhop Wainfleet to Magdalen college, Oxford, in which the patronage is now veſted. In the church lies buried the mother of Walter de Merton, biſhop of Rocheſter, founder of Merton college. Baſingſtoke gave birth to John de Baſingſtoke, a learned Grecian ſcholar, in 1252, and the intimate friend of Matthew Paris, and biſhop Groſthead. Henry III., at the deſire of biſhop Merton, founded an hoſpital at this place for aged prieſts from his college at Oxford: of this collegiate chapel, which was endowed in 1261, there are now no remains. A beautiful ruin overlooks the town on the north ſide, called Holy Ghoſt chapel. This was founded by ſir William, afterwards lord, Sandes, who, with biſhop Fox, obtained a licence from Henry VIII. to found a brotherhood, to continue in perpetual ſucceſſion, for the maintenance of a prieſt to perform divine ſervice, and for the inſtruction of youth in literature. The town is a corporation, governed by a mayor, high-ſteward, recorder, &c. Its trade conſiſts in the manufacture of druggets and ſhalloons; and the market, held on Wedneſday, is very conſiderable for corn; the trade of the town alſo is much benefited by a navigable canal. Baſing-houſe, in this neighbourhood, is rendered famous by the bold ſtand its poſſeſſor, Powlet marquis of Wincheſter, made againſt the parliament forces, during the civil wars in the reign of Charles I. Population; houſes 512, inhabited by 2589 perſons.

Basingstoke *Canal*. This was the firſt channel of communications with the Thames by means of canal navigation; and in 1777, an act was obtained for uniting the waters of the river Lodden at a place called Newman ſprings, near the village of Baſing, to the river Wey, near Weybridge in Surrey, where it falls into the Thames. One important object of this canal is the carriage of ſhip-timber from the woods in Hampſhire, to the public and private dockyards on the Thames. The length of the courſe of Baſingſtoke canal is nearly 44 miles. Warner's Hiſtory of Hampſhire, 4to.

BASIOGLOSSUS Muscle, in *Anatomy*, the front part of the Hyoglossus; which see.

BASJOURA, in *Geography*. See Bagiura.

Basire, or Baſire, Isaac, in *Biography*, a learned and active divine in the ſeventeenth century, was born in 1607, according to Wood (Athen. Oxon.), in the iſle of Jerſey, but according to others in France, and after an education in ſome ſchool or univerſity, not aſcertained, he became maſter of the free-ſchool at Guernſey. At length he obtained ſome preferments in England, the laſt of which was the archdeaconry of Northumberland, with the annexed rectory of Howick; and in 1662, he received the degree of doctor in divinity at Cambridge by mandate. In the beginning of the civil wars, he was plundered and driven to fly; upon which he repaired to king Charles at Oxford; and in 1641, a licence was granted to him, under the public ſeal of the univerſity, to preach the word of God throughout England. Upon the ſurrender of Oxford to the Britiſh parliament, he determined to leave the kingdom, and to propagate the doctrine of the Engliſh church among the Greeks, Arabians, &c. Accordingly he firſt went to Zante, an iſland near the Morea; and there imparted to the Greek inhabitants the doctrine of the eſtabliſhed church, in a vulgar Greek tranſlation of our church catechiſm. From hence he was compelled by the Latins to retreat to the Morea, where, at the deſire of the metropolitan of Achaia, he preached twice in Greek, at a meeting of ſome of the biſhops and clergy. He afterwards embarked for Syria, and during his abode at Aleppo, furniſhed the patriarch of Antioch with an Arabic tranſlation of our church catechiſm. From Aleppo he travelled, in 1652, to Jeruſalem, and through the whole of Paleſtine. At Jeruſalem he was honoured by the Greek patriarch with his bull, or patriarchal ſeal, and he received many tokens of reſpect from the Latins. At his departure from Jeruſalem, the pope's vicar gave him his diploma in parchment, under his own hand and ſeal, in which he was ſtyled "a prieſt of the church of England, and doctor of divinity." On his return to Aleppo, he paſſed over the Euphrates into Meſopotamia, intending to convey the church catechiſm in Turkiſh to ſome of their biſhops, who were moſtly Armenians. In 1653, after wintering at Aleppo, he travelled by land to Conſtantinople, where the French Proteſtants deſired him to be their miniſter, promiſing to ſecure to him a competent ſtipend. Before he quitted the eaſtern parts, it was his intention to have paſſed into Egypt, to viſit the Coptic churches, to confer with the patriarch of Alexandria, and to impart to them a competent knowledge of the doctrines and forms of the church of England. But it is not known whether he accompliſhed this deſign. In Tranſylvania, whither he next removed, he was honoured by Ragotzi II., prince of that country, with the divinity-chair in his new-founded univerſity of Alba Julia or Weiſſenburg, and endowed with a very ample ſalary. During his travels, he collated the ſeveral confeſſions of faith of the different ſorts of Chriſtians, Greeks, Armenians, Jacobites, Maronites, &c. which he kept by him in their own languages; and it was his conſtant endeavour, as long as he remained in the Eaſt, to perſuade the ſeveral ſects of Chriſtians to introduce a canonical reformation of ſome errors, and to unite with the church of England. But it is ſaid, that his good intentions for this purpoſe were defeated by the artifices of the court of France. Upon the reſtoration of king Charles II., Dr. Baſire was recalled by his majeſty to England, and reſtored to his preferments and dignities. Having quietly enjoyed his ample revenues for ſeveral years after the reſtoration, he

he died in 1676, in the 69th year of his age, and was buried in the yard belonging to the cathedral of Durham. He appears to have been learned, active, and induſtrious, zealouſly attached to the church of England, and eminently diſtinguiſhed by his loyalty. His publications were not very numerous: the principal of them were his "Deo et Eccleſiæ Sacrum," or ſacrilege arraigned and condemned by St. Paul, Oxford, 1646, 4to. and London, 1668, 8vo; "The Hiſtory of the Engliſh and Scotch Preſbytery," Lond. 1659, 1660, 8vo; "The dead man's real ſpeech," a funeral ſermon for Dr. Coſin biſhop of Durham, to which is annexed his life; Lond, 1673, 8vo; and his "Diatriba de antiqua Eccleſiæ Britanniæ Libertate," printed at Bruges by a royal exile in 1656, 8vo, and tranſlated into Engliſh under the title of "The ancient Liberty of the Britannic Church, &c." Annexed to it is "A Letter, written by Dr. Baſire to the Hon. ſir Richard Brown, reſident at Paris for his majeſty of Great Britain; relating his travels and endeavours to propagate the knowledge of the doctrine and diſcipline eſtabliſhed in the Britannic church, among the Greeks, Arabians, &c.; dated from Pera, near Conſtantinople, 20th Jul. 1653." Of this letter ſir R. Brown obſerves, "that he could never read it but as a kind of nine-and-twentieth of the Acts." This book was printed at London in 1661, ſmall 8vo. Biog. Brit.

BASIS, in the *Ancient Muſic* and *Poetry*, denotes the equability of ſounds proceeding in the ſame tenor. In which ſenſe, baſis ſtands contradiſtinguiſhed from *arſis*, or elevation, as well as from *theſis*, or depreſſion.

Basis, in *Architecture* and *Chemiſtry*. See Base.

Basis, in *Oratory*, denotes the fourth member of a complete exordium, being that which ſucceds the *apodoſis*, and prepares the way for the propoſition.

BASKERVILLE, Sir Simon, in *Biography*, ſon of Thomas Baſkerville, an apothecary at Exeter, was, at the age of eighteen years, ſent to Exeter college, Oxford, where he ſoon diſtinguiſhed himſelf by his ſuperior ability and induſtry, which procured him a fellowſhip in the college before he had taken his degree of bachelor in arts. In 1606, he was choſen ſenior proctor in the univerſity. He now applied himſelf ſolely to the ſtudy of anatomy and phyſic; and in 1611, was admitted to the degree of bachelor, and doctor in medicine, at the ſame time. Having acquired conſiderable reputation for his ſkill in his profeſſion, he removed to London, and was choſen fellow, and ſome years after, preſident of the college of phyſicians there. He had alſo the honour of being appointed phyſician to king James, and afterwards to king Charles the Firſt, by whom he was knighted. As his practice extended with his fame, he acquired ſo much wealth as to be called the rich Sir Simon; which will not be wondered at, if it be true, as was reported of him, that he had 100 patients on his liſt at a time. He died July 5th 1641, aged ſixty-eight years, and was buried in the cathedral of St. Paul's. It does not appear that he left any manuſcripts for publication, or any offspring to inherit the wealth he had accumulated. Wood's Athenæ Oxon. Biograph. Dict.

Baskerville, John, an ingenious artiſt, entitled to commemoration on account of his improvements in printing and type-founding, was born at Woverley in Worceſterſhire, in the year 1706, and inherited a ſmall eſtate. Having acquired in early life a ſkill and taſte for fine writing and cutting in ſtone, he removed to Birmingham at the age of twenty, where he ſettled as a writing-maſter; but he ſoon directed his attention to the art of japanning, which he followed with ſingular ingenuity and ſucceſs as long as he lived. In 1750 he turned his thoughts to letter-founding, which he purſued with great labour and expence. An edition of Virgil in royal 4to. in 1756, was his firſt great performance; which has ſince fetched thrice its original price. He afterwards printed many of the Latin claſſics, and ſeveral Engliſh ones, in 4to. and ſmaller ſizes. The paper and ink, as well as the type, were prepared by himſelf; and the beauty of his workmanſhip was unrivalled. The type was diſtinguiſhed by a peculiar fineneſs and ſharpneſs, which gave the printing a ſtrong reſemblance to fine print-hand writing; and the paper had a remarkable gloſs, which ſet off the type, but not without offending the eye. It is obſerved, however, that Baſkerville's editions are not remarkable for their correctneſs. Deriving little encouragement from bookſellers, he ſet up a type-foundery for ſale, which buſineſs was for ſome time carried on by his widow, after his death in 1775. After many ineffectual attempts for the diſpoſal of his types and matrices, they were ſuffered, not much to the credit of this country, to be removed to Paris, where they were purchaſed by a literary ſociety for 3700l. and employed in a ſplendid edition of Voltaire's works. Mr. Baſkerville was diſtinguiſhed by the elegance of his taſte in his houſe, and every thing that belonged to him. The pannels of his carriage were elegant pictures, and he was drawn by a beautiful pair of cream-coloured horſes. He ſeems to have been inclined to oſtentation and ſingularity: however, he was polite and hoſpitable to ſtrangers, and ambitious of cultivating acquaintance with ingenious men. He was not connected with any religious ſect, and was buried under a mauſoleum in his own grounds. Biog. Brit. Gen. Biog.

BASKET, a kind of veſſel made of oſier, wicker, ruſhes, or the like, of different figures and ſizes, according to the purpoſe which it is intended to ſerve.

Baſkets have their uſes not only in the œconomical, but military affairs; at ſieges, they make uſe of a ſmall baſket filled with earth and ranged on the top of the parapet.

They are about a foot and a half high, as much in diameter at top, and eight or ten inches at bottom; ſo that being ſet together, they leave a ſort of embraſures at the bottom, through which the ſoldiers fire, without expoſing themſelves.

Basket alſo imports a kind of meaſure or quantity of certain commodities.

Basket, *corbeille*, in *Architecture*, a kind of vaſe, or figured piece of ſculpture, in form of a baſket, filled with flowers or fruits, ſerving to terminate ſome decoration.

Basket-*fiſh*, in *Natural Hiſtory*, a name given by the Engliſh in North America to a very remarkable fiſh, ſometimes caught in the ſeas thereabout, though not frequently any where.

Mr. Hooke, to whom it was referred by the Royal Society to name it, has called it *Piſcis echinoſtellaris viſciformis*, the body of it reſembling an egg-fiſh, or *echinus marinus*, and the arms a ſtar-fiſh, and finally, the dividing of the branches being more like that of the branches of miſletoe than any other natural production we are acquainted with.

This fiſh ſpreads itſelf from a pentagonal mouth-piece, or root, in the centre of which the mouth is placed, into five main limbs or branches; and each of theſe, at its firſt iſſuing out of the body, is divided into two: this makes ten. Each of theſe ten again divides into two, which makes twenty, and ſo on, each dividing to the fourteenth time; at which place they make more than fourſcore thouſand limbs. Theſe are too ſmall to be traced farther by the eye, or preſerved in carriage: but it is very probable that even theſe were again divided, perhaps ſeveral times.

The branches between the joints are not all equally of a length, though, for the moſt part, they are pretty nearly ſo. The arms or branches are never very ſtrong; but when they

are dry, they are much more brittle than before; the leaſt force imaginable deſtroying them.

The ſhoals of Nantucket, an iſland on the coaſt of New-England, at times furniſh the fiſhermen with this creature; but it is remarkable, that they are never ſeen there unleſs when taken by hooks in fiſhing for other fiſh. They claſp the hook-bait faſt, and encircle it with all their arms, coming up, when drawn by it, in form of a wicker baſket; whence the name: but when they have been ſome time out of the water, they become flat.

The uſe of the numerous arms of this fiſh is plainly to catch its prey. It probably extends them to their full length while under the water, and then claſps hold of any thing fit for food that chances to ſwim over them. The fiſhermen have ſometimes found the arms containing ſmall mackrel, or pieces of larger. Phil. Tranſ. N° 57 and 74. It is evident from the deſcription, that this fiſh is of the *ſtella arboreſcens*, or branched ſtar-fiſh kind; but whether the ſame with the commonly known kind, called the *caput meduſæ*, is not evident from this deſcription. The body of this fiſh, by what is related of its protuberance, and reſemblance to the *echini marini*, may probably be the *aſteropodium* in its foſſil ſtate. See Asterias, and Asteropodium.

Basket *ſalt*. This is brine ſalt, made from the water of our ſalt ſprings in Cheſhire, and elſewhere, differing from the common brine ſalt in the fineneſs of the grain, and in its whiteneſs and purity.

In the preparing of this kind of ſalt, ſome uſe reſin, and other additions, to break the grain and make it ſmall; others effect this by keeping up a very briſk fire under it, and ſtirring it all the while: but the moſt approved method is only to take out of this kind the third draught of every pan that is working for the common brine ſalt, and to do this before the granules or cryſtals are perfectly formed. By this means the ſalt is very fine; and when it has been hard preſſed down into ſmall wicker baſkets, it is dried at the ſtove in them, and ſo kept for ſale.

BASKING-Shark, in *Ichthyology*, the Engliſh name of Squalus Maximus.

Baskinridge, in *Geography*, a town of America, in Somerſet county, New Jerſey, on the W. ſide of a N. W. branch of Paſſaic river, nearly 6 miles N. E. from Pluckemin, and 7 S. S. W. from Morriſtown.

BASNAGE, Benjamin, in *Biography*, ſon of a French miniſter, firſt ſettled at Norwich, in England, and afterwards at Charenton, in Normandy, was born in 1580; and devoting himſelf to his father's profeſſion, ſucceeded him at Charenton, where he ſpent the remainder of his life. In 1623 he aſſiſted at the ſynod of Charenton, as deputy from the province of Normandy; and he was choſen, on account of his diſtinguiſhed talents and prudence, moderator of the national ſynod of Alençon, in 1637. He was afterwards aſſociated to the moderator of the ſynod of Charenton in 1644, and being deputed by this ſynod to the queen-mother, received from her tokens of eſteem. He was alſo deputed by the proteſtant churches in France, to king James VI. of Scotland; and being allowed to viſit that country, he was eminently uſeful in ſerving the intereſts of his conſtituents. Baſnage had ſeveral diſputes with the Catholics, and wrote "a Treatiſe on the church" which was much eſteemed. He alſo left an imperfect "Work againſt the indiſcreet worſhippers of the bleſſed virgin." He died in 1652, in the fifty-firſt year of his ſeniority, and left two ſons of diſtinguiſhed merit. Gen. Dict.

Basnage, Antony, eldeſt ſon of the former, was born in 1610, and became miniſter of Bayeux. He diſtinguiſhed himſelf by his firmneſs and reſolution during the perſecution of the proteſtants; and after having been impriſoned at Havre-de-Grace, at the age of 75 years, he was releaſed by the reſtoration of the edict of Nantes, and fled to Holland. He died at Zutphen in 1691. Gen. Dict.

Basnage, Henry, younger ſon of Benjamin, was born at Sainte Mere Egliſe, in Lower Normandy, in 1615. Educated to the profeſſion of the law, he became one of the moſt learned and eloquent advocates of the parliament of Normandy, into which he was admitted in 1636; ſo that he was employed in every cauſe of importance. In 1677 he was appointed commiſſioner for the affairs of religion, and diſcharged the office with great honour. He was highly eſteemed as an author, as well as an advocate; and in 1678 he publiſhed the "Coutume de Normandie," with ample commentaries, of which a ſecond edition, in 2 vols. folio, was publiſhed in 1694. At the ſame time was publiſhed a third edition of his "Traité des Hypotheques," a Treatiſe on Mortgages. He died at Rouen in 1695. Gen. Dict.

Basnage, Samuel, de Flottemanville, ſon of Antony, was firſt co-paſtor with his father at Bayeux, and afterwards at Zutphen. He was eminent for his learning; and publiſhed in Latin a continuation of Caſaubon's Critical Examination of Baronius's Annals, entitled "De Rebus Sacris et Eccleſiaſticis Exercitationes Hiſtorico-criticæ," Ultraject. 4to. 1692; and alſo "Annales Politico-Eccleſiaſticæ," 3 vols. folio, 1706. He died in 1721. Gen. Dict. Nouv. Dict. Hiſt.

Basnage de Beauval, James, eldeſt ſon of Henry, the moſt illuſtrious of the name, and fitter, ſays Voltaire, for being miniſter of ſtate than of a pariſh, was born at Rouen in 1653. Having acquired a competent knowledge of Greek and Latin, and ſeveral modern languages, he went, at the age of ſeventeen, to Geneva, where he ſtudied philoſophy and divinity. Upon his return to Rouen, he commenced the exerciſe of his profeſſion as paſtor of the church in 1676, and in conſequence of the revocation of the edict of Nantes, retired to Holland, and ſettled as miniſter at Rotterdam. Such was the reputation he acquired for political ſagacity, that when the Abbé du Bois came to the Hague, in 1706, under the character of ambaſſador plenipotentiary, to negociate a defenſive alliance between France, England, and the States-General, he was ordered by the duke of Orleans, regent of France, to conſult Mr. Baſnage, and to be directed by his advice: and as a reward for his aſſiſtance on this occaſion, he obtained a reſtitution of his eſtate in France. His works are very numerous and valuable; the principal are as follow, viz. "A Hiſtory of the Church," in French, 2 vols. Rotterdam, 1699; "The Hiſtory of the Reformed Churches," part of the above work, printed ſeparately in 2 vols. 4to. 1725: "The Hiſtory of the Jews, from Jeſus Chriſt to the preſent time, being a continuation of the hiſtory of Joſephus," written in French; of this work, diſtinguiſhed by erudition and critical ſkill, the beſt edition is the ſecond of the Hague, in 15 vols. 12mo. 1716; "The Republic of the Hebrews," 3 vols. 8vo. Amſt. 1705; "Jewiſh Antiquities," 2 vols. 8vo. 1713; "Diſſertation on Duels and Chivalry," 8vo. 1720; "Annals of the United Provinces, ſince the Peace of Munſter," 2 vols. fol. Hague, 1719 and 1726; "A Treatiſe on Conſcience," 2 vols. 8vo.; "Sermons;" "On the Holy Communion;" "Theſaurus Monumentorum Eccleſiaſticorum et Hiſtoricorum, &c." fol. 4 vols. Amſt. 1725, being a new edition of the "Lectiones Antiquæ" of Henry Canifius, enriched with learned prefaces and remarks. The matter of Baſnage is good, but his ſtyle, though ſufficiently perſpicuous, is ſtiff and inelegant. In the latter part of his life he removed to the Hague, and died there in 1723. He was polite and affable, benevolent and friendly, and more mild in his diſpoſition than moſt controverſialiſts.

troverſialiſts. Many of his writings are eſteemed equally by catholics and proteſtants. Gen. Dict. Nouv. Dict. Hiſtor.

Bassage de Beauval, Henry, younger brother of the preceding, was born at Rouen in 1659, and became a counſellor in the parliament of Normandy. Attached to his religious profeſſion he quitted his proſpects at the bar, and took refuge in Holland, where he publiſhed in 1684, a ſmall but valuable tract "On Religious Toleration." He alſo wrote a ſequel to the "Nouvelles de la Republique des Lettres" of Bayle, under the title of "L'Hiſtoire des Ouvrages des Savans," commencing in 1687, concluded in 1709, and comprehending 24 vols. 12mo. This work is reckoned judicious and impartial, but the writer's own reflections are ſometimes ſo intermixed with thoſe of the authors whoſe works he reviews, that they cannot be eaſily diſtinguiſhed. His new edition of "Furetiere's Dictionary," 3 vols. fol. was printed in 1701. He died at the Hague in 1710. Gen. Dict. Nouv. Dict. Hiſtor.

BASON, Pelvis, in *Anatomy*. See Pelvis.

Bason, *or delfe*, among *Glaſs Grinders*. Theſe artificers uſe various kinds of baſons, of copper, iron, &c. and of various forms, ſome deeper, others ſhallower, according to the foci of the glaſſes that are to be ground. In theſe baſons convex glaſſes are formed, as concave ones are formed on ſpheres or bowls.

Glaſſes are worked in baſons two ways. In the firſt, the baſon is fitted to the arbor, or tree of a lath, and the glaſs (fixed with cement to a handle of wood) preſented and held faſt in the right hand within the baſon, while the proper motion is given by the foot of the baſon. In the other the baſon is fixed to a ſtand or block, and the glaſs with its wooden handle moved. The moveable baſons are very ſmall, ſeldom exceeding five or ſix inches in diameter; the others are larger, ſometimes above ten feet in diameter. After the glaſs has been ground in the baſon, it is brought ſmoother with greaſe and emery: and poliſhed firſt with tripoly, and finiſhed with paper cemented to the bottom of the baſon. See Grinding.

Bason, among *Hatters*, is a large, round ſhell, or caſe, ordinarily of iron, placed over a furnace; wherein the matter of the hat is moulded into form.

The hatters have alſo baſons for the brims of hats, uſually of lead, having an aperture in the middle, of a diameter ſufficient for the largeſt block to go through.

Bason, in *Hydraulics*, is alſo uſed on various occaſions for a ſmall reſervatory of water: as the baſon of a jet-d'-eau, or fountain; the baſon of a port, of a bath, &c. which laſt Vitruvius calls labrum. Baſons are made either with clay, cement, or lead; but they are moſt uſually made with clay. In the making of them this way, the diameter muſt be made four feet longer on each ſide than the baſon is to be. This will be taken up by the walls of clay. For the ſame reaſon, it muſt be dug two feet deeper than the intended depth of the water; becauſe it is to be laid over eighteen inches thick with clay, and ſix inches with gravel and paving. The wall is to be made with ſhards, rubbiſh, or flints, with the natural earth for mortar: and the clay muſt be well worked, and trod firmly down with the naked feet.

The way of making them with cement is, to allow one foot nine inches every way for the work; then cut the banks perpendicularly, and raiſe a wall of maſonry a foot thick, made of pebble ſtones, or the like, laid in mortar of lime and ſand: the bottom is then to be covered to the ſame thickneſs; and then the ſolid lining of the cement is to be backed up againſt the walls, and over the bottom. This is to be made of ſmall flints in beds of mortar made of lime and cement. When this ſolid is eight inches thick, it muſt be plaſtered over the whole ſurface with cement well ſifted, before it be mixed with the lime; and with this it is to be wrought over ſmooth with a trowel. The proportion of this cement ſhould be two-thirds of the cement, or powdered tile, to one-third of lime; and this cement has the property of hardening ſo under water, that it will become like ſtone or marble, and it will not be ſubject to decay for a long time.

After the finiſhing, the baſon ſhould, for four or five days, be anointed over very often with oil, or bullock's blood, to keep it from ſlawing or cracking in the drying; and after this, the water ſhould be let in as ſoon as may be.

The leaded baſons are made with walls a foot thick, and a bottom of half a foot. Theſe muſt be of rubble ſtones, cemented with plaiſter; for the lime will injure and eat the lead. The ſheets of lead are to be ſpread over the ſides walls and bottom, and ſeamed with ſolder. Theſe baſons, however, are but little in uſe now, from the expence of making them, and the danger of the lead being ſtolen.

The waſte pipes of fountains ought always to be made large enough for fear of choaking. When the waſte water is to be carried off into common ſewers, it may be carried away in drains, or earthen pipes; but when it is to ſerve for baſons that lie below it, it is to be conveyed in leaden ones. Miller.

There are divers ſorts of baſons; as

Bason *figured*, that whoſe plan or circumference makes ſeveral turns and returns, either ſtraight, circular, or the like. Such are moſt of the baſons of fountains at Rome.

Bason *with a baluſtrade*, that whoſe cavity is ſurrounded with a baluſtrade of ſtone, marble, braſs, or the like.

Bason *with a trench*, or *baſſin à rigole*, that whoſe border being of marble, or other ſtone, has a trench cut in it, from whence, at certain diſtances, ſprings out a thread of water, which lines the trench, and forms a kind of nape or gargle around the baluſtrade. Such is that of the fountain of the rock of the Belvidere at Rome.

Bason *en coquille*, that ſhaped like a ſhell.

Bason is likewiſe uſed for a Dock.

Bason *of the ſea*. See Sea.

Bason, *ſale by the*, in *Commerce*, at Amſterdam, is uſed for the public ſales made under the direction of the ven du meeſter; thus called, by reaſon that, before adjudging the lot or commodity to the laſt bidder, they uſually ſtrike a braſs baſon to give notice of it.

Bason *harbour*, in *Geography*, lies on the eaſt ſide of Lake Champlain, in the townſhip of Ferriſburg, and ſtate of Vermont, 4½ miles ſouth-weſterly from the mouth of Otter creek.

Basons *of a balance*, in *Mechanics*, two pieces of braſs, or other matter, faſtened to the extremities of the ſtrings; the one to hold the weight, the other the thing to be weighed.

BASOVA, in *Geography*, a town of Siberia, on the river Lena, 20 miles ſouth of Orienga.

BASOUDA, a large town of Hindoſtan, belonging to the diſtrict of Bhilſah, in the route from Agra to Oujein.

BASQUES, Les, a country of France, before the revolution, ſituate between the ſea, Spain, the river Adour, and Bearn towards the Pyrenean mountains, and comprehending Labour, Lower Navarre, and the diſtrict of Soule.

BASQUE Road lies on the coaſt of France, ſouth-eaſt from the iſland of Rhé, north-eaſt from the iſland of Oleron, north from the iſland d'Aix, and ſouth from the weſt point of the entrance into Rochelle, and directly weſt without the bay of Chatelaillon.

BASQUEVILLE, a town of France, in the department of the Lower Seine, and chief place of a canton in the diſtrict of Dieppe, 3 leagues S.S.W. of Dieppe, and 7½ N.N.W. of Rouen.

BASRAH. See Bassora.

BASROUCHE, a town of Perſia, in the province of Taberiſtan, 27 miles weſt of Farabat.

BASS, among *Gardeners*, a ſoft kind of ſedge or ruſh, uſed in binding plants, &c.

Bass, in *Geography*, an iſland, or inſulated rock, on the coaſt of Scotland, near the mouth of the firth of Forth, at a ſmall diſtance from the town of North Berwick in Eaſt Lothian. On the ſouth ſide it has a conical form, and towards the north it precipitously overhangs the ſea. The caſtle, or ancient ſtate priſon, is on the edge of the precipice. It is acceſſible only on the ſouth-weſt ſide, and here only by one perſon at a time, with the aſſiſtance of a rope or ladder. On the top of it is a ſpring; and a cavern paſſes through the rock from north-weſt to ſouth-eaſt. This iſland is about a mile in circuit, and in ſummer abounds with birds and their eggs, &c. The ſolan geeſe arrive here in March, and retire in October or November. It contains a ſmall warren for rabbits, and affords paſture for a few ſheep. At the revolution it was ſupported by a party of the adherents of king James, and it was the laſt place in the three kingdoms that ſubmitted to the new government; upon which its fortifications were neglected. This iſland is the ſouth entrance into the frith of Forth; and the iſland of May, ſeven miles from it, at N.N.E. eaſterly is the north entrance. N. lat. 56° 3′. W. long. 2° 35′.

Bass *Harbour*, a harbour of Mount Deſert iſland, in the diſtrict of Maine, North America, ſeven miles from Soil Cove.

Bass *Strait*, ſo called from its diſcoverer Mr. Baſs, a ſurgeon, is more than 30 leagues wide, containing a chain of ſmall iſlands that run north and ſouth, and ſeparates Van Diemen's land, hitherto conſidered as its ſouthern extremity, from New Holland. Mr. Baſs, accompanied by Mr. Flinders, a naval gentleman, entered this ſtrait between the latitudes of 39° and 40° ſouth, and actually circumnavigated Van Diemen's land. This diſcovery ſerves to expedite the paſſage from the cape of Good Hope to port Jackſon: for, although a line drawn from the cape to 44° of ſouth latitude, and to the longitude of the ſouth cape of Van Diemen's land, would not ſenſibly differ from one drawn to the latitude of 40°, to the ſame longitude; yet a ſhip will be four degrees nearer to port Jackſon in the latter ſituation, than in the former. But beſides a ſaving of four degrees of latitude along the coaſt, the paſſage through this ſtrait would avoid the north-eaſt winds, which have retarded and endangered ſhips on opening the ſea round the ſouth cape and cape Pillar. This ſtrait likewiſe preſents another advantage. From the prevalence of the north-eaſt and eaſterly winds off the ſouth cape, many ſuppoſe that a paſſage may be made from thence to the weſtward, either to the cape of Good Hope or to India; but the fear of the great unknown bight between the ſouth cape and the ſouth-weſt cape of Leewen's land, lying in about 35° ſouth and 113° eaſt, has hitherto prevented the trial from being made. The ſtrait evades a part of this danger, by preſenting a certain place of retreat, ſhould the ſhip be oppoſed by a gale at the firſt eſſay; and ſhould the wind come at ſouth-eaſt, ſhe need not fear making a good ſtretch to the W.N.W., which courſe, if made good, is within a few leagues of going clear of all. There is beſides King George the Third's ſound, diſcovered by Capt. Vancouver, ſituate in S. lat. 35° 3′, and E. long. 118° 12′; and it is hoped, that a few years will diſcloſe many others upon the coaſt, as well as confirm or diſprove the conjecture that a ſtill larger than Baſs ſtrait diſmembers New Holland. Collins's Account of New South Wales, p. 192, 193.

Bass, in *Muſic*. See Base.

BASSAD, or Besd, an Arabian name for the purple *fucus* of the Greeks, uſed by the women to paint their cheeks, and by the dyers of cloths. It has been ſo far miſunderſtood by late authors as to be interpreted by the word coral; but the error of this is evident, ſince coral has none of theſe properties. See Margian.

BASSAIM, in *Geography*. See Basseen.

BASSAMUER Rock lies on the coaſt of France, in the Engliſh channel, and is a ſhoal that bears about a league N. by W. from La Clarte church, near the point ſo called, to the ſouth from the ſeven iſlands.

BASSAN, Giacomo, in *Biography*, a celebrated painter, whoſe real name was Giacomo de Ponte, was called Baſſan from the town of Baſſano on the river Brenta, where his father lived and followed the ſame profeſſion. He was born in 1510, and became a diſciple of Bonifacio; and after having improved himſelf in his art by ſtudying and copying the works of Titian and Parmeggiano at Venice, he returned to his native town. Here he formed a ſtyle different from that of his maſters, and guided by his own genius, he aſſumed a manner of colouring and deſigning peculiar to himſelf, and copied all his objects from nature. His ſubjects were generally taken from ſuch parts of ſcripture as afford the rural ſcenery of animals and landſcape connected with ſome ſtory; ſuch as the journeyings of the patriarchs, the Iſraelites in the deſert, the flight of Joſeph and Mary into Egypt, &c. In all theſe ſubjects his figures were well deſigned; moſt of them were formed from his wife, children, and ſervants, and the animals in his court-yard; and they had of courſe a pleaſing reſemblance of nature. Although his compoſitions cannot boaſt of any great degree of elegance or dignity, they are diſtinguiſhed by force and truth; his colouring was admirably lively and natural; and his chiaroſcuro and perſpective were correctly diſplayed. His touch was free and ſpirited; and in his landſcapes his diſtances were always true. Although he had many excellencies, his drawing was incorrect, and his draperies were deſtitute of variety. His works are eaſily diſcriminated from thoſe of other painters, by the ſimilitude of characters and countenances in the figures and animals; by his taſte in the buildings, utenſils, and draperies; and by a violet or purple tint that predominates in every one of his pictures. Baſſan painted much, and with eaſe; ſo that his pictures were ſent by wholeſale to merchants, who diſperſed them over Europe. His real pictures, however, are not common; as many of thoſe that are called originals are copies by his ſons, who were inferior to himſelf, or by ſome painter of meaner abilities. Baſſano practiſed alſo in portrait, and painted ſeveral excellent likeneſſes of the doges of Venice, of Arioſto, Taſſo, and other perſons of eminence. His houſe at Baſſano, to which he was attached, and which the ſolicitations of the emperor Randolph could not induce him to leave, was the place of reſort to many perſons of diſtinction, and the receptacle of the arts, particularly of muſic, of which he was a maſter. In his private conduct Baſſan was regular; and his charity was ſo profuſe, that his wife was under a neceſſity of reſtraining his liberality. He lived to the age of 82, and died in 1592. Several of his capital pieces are in the churches of Baſſano, Venice, Vicenza, and other towns of Italy. Some of his ſmaller works may be found in moſt of the principal collections of Europe; but thoſe that are really originals fetch a high price. Many of them have been engraved.

Giacomo Baſſan had four ſons, who were painters. *Franceſco*, the eldeſt, was the moſt eminent. He was born in 1550. He painted in the ſtyle and manner of his father, and

and greatly excelled his brothers in deſigning, drawing, and colouring. He was employed in the church of St. Mark at Venice, in conjunction with Tintoretto and Paolo Veroneſe. By inceſſant application he increaſed the natural melancholy of his diſpoſition, and put an end to his life in 1594, by throwing himſelf out of a window. *Leandro* was born in 1558, ſettled at Venice, painted in the ſtyle of his father and brother, but with inferior merit, and particularly excelled in portraits. The portrait of the doge Grimani procured for him the honour of knighthood. His life was irregular, and he diſtreſſed himſelf by a conſtant ſuſpicion of the intention of his companions to poiſon him. He died in 1623. The other two brothers, viz. *Giovanni Battiſta* and *Girolamo*, the former born in 1553 and dying in 1613, and the latter born in 1560 and dying in 1622, chiefly employed themſelves in copying the works of their father and eldeſt brother. Pilkington.

BASSANI, Giambatista, in *Muſical Biography*, was chiefly known in England, at the beginning of the laſt century by his *Motets*, which were more graceful and pleaſing than thoſe of any of his countrymen, except Cariſſimi and Stradella. But he has many titles to an honourable place in muſical hiſtory. He was not only author of thirty-one different works in favour all over Europe during the limited longevity of muſical productions, but the firſt compoſer for the violin in Italy, who ſeems to have written for it with the ſpirit and intelligence of a real maſter of the inſtrument. He was a native of Bologna, maeſtro di capella of the cathedral, Academico Filarmonico of that city, and violin-maſter to Corelli. Baſſani, who flouriſhed from about the year 1675 to 1703 (the date of his laſt work), was a man of extenſive knowledge and abilities in his art; having been not only a ſucceſsful compoſer for the church, the theatre, and the chamber, but an excellent performer on the violin, as we were aſſured by Padre Martini his townſman, who was old enough to have formed his opinion from thoſe who had often heard him perform. And, indeed, his ſonatas for the violin, and accompaniments for that inſtrument to his maſſes, motets, pſalms, and cantatas, manifeſt a knowledge of the finger-board and bow, which appears in the works of no other compoſer, anterior to Corelli, which we have been able to find; and the lovers of the pure harmony and ſimple melody of that admirable maſter would ſtill receive great pleaſure from the performance of Baſſani's ſonatas for two violins and a baſe; in which they would hear, not only the general muſical language of the time, but the mild accents and grateful tones of Corelli's own mellifluous voice.

BASSANIA, in *Ancient Geography*, a town of Macedonia, on the frontiers of Illyria, ſituate, according to Livy, about 5 miles from Liſſus, and belonging to the Cavians.

BASSANO, in *Geography*, a town of Italy, belonging to the ſtate of Venice, in the Treviſano, on the Brenta, 12 miles north of Vicenza.

Bassano, a town of Italy, in the ſtate of the church, near which Dolabella defeated the Etruri and Boii, 3 miles weſt of Orta.

BASSANTIN, James, in *Biography*, a Scots aſtronomer, in the ſixteenth century, was the ſon of the laird of Baſſantin, in the Mers, and born in the reign of king James IV. The rudiments of knowledge, and particularly of that ſkill in various branches of the mathematics for which he was afterwards ſo diſtinguiſhed, he acquired in the univerſity of Glaſgow. For further improvement he travelled through various parts of the continent, and at length ſettled at Paris, where he taught the mathematics with applauſe in the univerſity of that city. During his abode in this city, he imbibed that zeal for the deluſions of judicial aſtrology, which was then ſo prevalent, and which few aſtronomers had judgment or reſolution ſufficient to diſcountenance. After having acquired great reputation and ſome fortune in France, he returned to his own country in 1562. At York, in his journey through England, he had an interview with ſir Robert Melvil, brother of ſir James Melvil, who, in his "Memoirs," relates the converſation that paſſed between them. It appears that Baſſantin communicated to Melvil certain predictions relating to his miſtreſs, Mary queen of Scots, who was then treating with Elizabeth after having taken refuge in her dominions. Of theſe predictions ſome were true, and others were falſe; but ſuch was the political ſagacity of Baſſantin, that we may aſcribe them to this ſource rather than to his ſkill in the occult ſciences, for which however he ſeems to have been ambitious of being thought diſtinguiſhed. Of his mode of life during the remaining period of it, we have no account; but he appears to have been a zealous proteſtant, and a partiſan of the earl of Murray. He died in 1568. To a ſlight acquaintance with polite literature, Baſſantin added a conſiderable degree of mathematical and aſtronomical knowledge, conſidering the dark period in which he lived. His principal work in aſtronomy was written in French, and tranſlated into Latin by Tornæſius, and publiſhed at Geneva by 1599, folio, under the title of "Aſtronomia, Jacobi Baſſantini Scoti, opus abſolutiſſimum, &c. &c." He alſo publiſhed "Paraphraſe de l'Aſtrolabe, avec un amplification de l'uſage de l'Aſtrolabe," or an ample explanation of the aſtrolabe, printed at Lyons in 1555, and at Paris in 1617, 8vo.; "Super Mathematica Genethliaca," or of the calculation of nativities; "Arithmetica;" "Muſica ſecundum Platoni;" and "De Matheſi in genere." Biog. Brit.

BASSANUS, in *Ornithology*, a ſpecies of Pelecanus, as large as a common gooſe, with a wedge-ſhaped tail; body white; bill and primary quill-feathers black; and face blue. Gmelin. Latham, &c.

This is the common gannet, or ſoland gooſe; a bird found in great plenty on all the northern coaſts of Britain, but rather leſs common to the ſouthward. The adult birds have the plumage nearly all white; but during the firſt years it is of a duſky colour, and only ſpeckled with white. The bill is blueiſh-aſh colour, about ſix inches in length, and has the noſtrils placed in a furrow; the mouth within is black; the throat is bare; and the ſkin very dilatable, forming a pouch of ſufficient ſize to contain five or ſix herrings; the legs are black, marked with a ſtripe of pea-green before; and the claw of the middle toe is pectinated. The male and female are very much alike in plumage. The gannet is particularly abundant in the iſle of Aiſſa in the firth of Clyde; the rocks adjacent to St. Kilda; the ſtalks of Souliſkerry, near the Orkneys; the Skelig iſles off the coaſts of Kerry, Ireland; and the Baſs iſland in the firth of Edinburgh. Dr. Hervey gives ſome account of the latter in theſe words. "There is a ſmall iſland, called by the Scotch *Baſs iſland*, not more than a mile in circumference; the ſurface is almoſt wholly covered during the months of May and June with neſts, eggs, and young birds; ſo that it is ſcarcely poſſible to walk without treading on them; and the flocks of birds in flight are ſo prodigious as to darken the air like clouds; and their noiſe is ſuch that you cannot without difficulty hear your next neighbour's voice. If you look down upon the ſea from the top of the precipice, you will ſee it on every ſide covered with infinite numbers of birds of different kinds, ſwimming and hunting for their prey; if in ſailing round the iſland you ſurvey the hanging cliffs, you ſee in every cragg or fiſſure of the broken rocks innumerable birds of various ſorts and ſizes, more than the ſtars

ſtars of heaven when viewed in a ſerene night; if from afar you ſee the diſtant flocks either flying to or from the iſland, you would imagine them to be a vaſt ſwarm of bees."

"The gannet," obſerves Dr. Latham, "inhabits the colder parts of this kingdom, and more eſpecially ſeveral of the northern iſles, and in particular that of Baſs in Scotland, whence the name. It generally firſt makes its appearance in March, and after making a circuit of the iſland, departs in October or November. This race ſeems to be in purſuit of the herrings and pilchards, whoſe motions it watches; and the fiſhermen know the coming of theſe fiſh by the appearance of the birds. That this is the inducement ſeems probable, as they are likewiſe ſeen, in the month of December, as far ſouth as the coaſt of Liſbon and Gibraltar, plunging for ſardinæ. The gannet is alſo common on the coaſts of Norway and thoſe of Iceland, and now and then met with on the ſouthern coaſts of Greenland. In America, it is found on the coaſts of Newfoundland where it breeds, migrating in winter as far as Carolina: ſaid alſo to have been met with frequently in the ſouthern ocean; but we are not clear whether the ſort meant by them is the common gannet, or the leſſer one."

"The gannets," Mr. Pennant remarks, "are birds of paſſage. Their firſt appearance in thoſe iſlands being in March, and their continuance till Auguſt or September, according as the inhabitants take or leave their firſt egg; but in general the time of breeding and that of their departure ſeems to coincide with the arrival of the herring, and the migration of that fiſh, which is their principal food, out of thoſe ſeas."—"I have in the month of Auguſt," he adds in another place, "obſerved in Caithneſs their northern migrations. I have ſeen them paſſing the whole day in flocks, from five to fifteen in each. In calm weather they fly high, in ſtorms they fly low and near the ſhore; but never croſs over land, even when a bay with promontories intervenes, but follow at an equal diſtance the courſe of the bay, and regularly double every cape. I have ſeen many of the parties make a ſort of halt for the ſake of fiſhing; then darting headlong into the ſea, make the water foam and ſpring up with the violence of their deſcent: after which they purſued their route. I enquired whether they ever were obſerved to return ſouthward in the ſpring, but was anſwered in the negative; ſo that it appears, they annually encircle the whole iſland."

They are well known on moſt of our coaſts by different names. In Cornwall and in Ireland they are called *gannets*, and by the Welſh *gan*. It comes on the coaſts of Cornwall in the latter end of the ſummer or beginning of Autumn, hovering over the ſhoals of pilchards that come up through the St. George's channel from the north ſea. The gannet ſeldom comes near the land, but is conſtant to its prey; and when the pilchards retire, which happens about the end of November, they are ſeen no more.

The neſt of the gannet is compoſed of various materials, ſuch as graſs, and water-plants intermixed with any thing the bird finds floating on the water. Each bird, if undiſturbed, would lay only one egg in the year; but if that be taken away, they will lay another; and if that be taken away alſo, they will lay a third, but no more. The young gannets, as well as the eggs, are eaten. Martin aſſures us, that the inhabitants of St. Kilda conſume annually no leſs than 22,600 young birds of this ſpecies, beſides an amazing quantity of their eggs; theſe being their principal ſupport throughout the year: they preſerve both eggs and fowls in pyramidal ſtone-buildings, covering them with turf aſhes to preſerve them from moiſture. This is a dear-bought food, and earned at the hazard of their lives, either by climbing the moſt difficult and narrow paths, where to appearance they barely cling, and that too at an amazing height above the raging ſea; or elſe, being lowered down from above, they collect their annual proviſion, thus hanging midway in the air, and placing their whole dependence on the uncertain footing of one perſon who holds the rope by which they are ſuſpended at the top of the precipice. The young birds are a favourite diſh with the North Britons in general during the ſeaſon they are conſtantly brought from the Baſs iſle to Edinburgh, and are roaſted and ſerved up a little before dinner as a whet: the price they are ſold for in the markets is about twenty-pence a piece.

The following account of the gannets in the iſle of St. Kilda is given by Mr. Macauley. "The rocks are in ſummer totally covered with ſoland geeſe and other fowls, and appear at a diſtance like ſo many mountains covered with ſnow. The neſts of the ſoland gooſe, not to mention thoſe of other fowls, are ſo cloſe, that when one walks between them, the hatching fowls on either ſide can always take hold of one's clothes; and they will often ſit till they are attacked, rather than expoſe their eggs to the danger of being deſtroyed by the ſea-gulls: at the ſame time an equal number fly about, and furniſh food for their mates that are employed in hatching; and there are, beſides, large flocks of barren fowls of the different tribes that frequent the rocks of St. Kilda.

"The ſoland geeſe equal almoſt the tame ones in ſize. The common amuſement of the herring-fiſhers ſhows the great ſtrength of this fowl. The fiſhers fix a herring upon a board, which has a ſmall weight under it to ſink it a little below the ſurface of the ſea: the ſoland gooſe obſerving the fiſh, darts upon it perpendicularly; and with ſo much force, that he runs his bill irrecoverably through the board, and is taken up directly by the fiſhers.

"The ſoland geeſe repair to St. Kilda in the month of March, and continue there till after the beginning of November. Before the middle of that month they, and all the other ſea-fowls that are fond of this coaſt, retire much about the ſame time into ſome other favourite regions; ſo that not a ſingle fowl belonging to their element is to be ſeen about St. Kilda from the beginning of winter down to the middle of February. Before the young ſoland geeſe fly off, they are larger than their mothers, and the fat on their breaſt is ſometimes three inches deep. Into what quarter of the world theſe tribes of wild fowl repair, after winter ſets in, whether into the northern ocean, the native country and winter-quarters of herrings in general, or into ſome other region near the ſun, or whether they be of the ſleeping kind, they who pry into the myſteries of natural hiſtory, or have converſed much with writers of voyages can beſt explain. I ſhall only pretend to ſay that theſe different nations of the feathered kind are taught to chuſe the propereſt habitations and feeding places, and to ſhift their quarters ſeaſonably by the unerring hand of God.

"From the account given above of the multitudes of ſea-fowls that ſeek their food on this coaſt, we may juſtly conclude that there muſt be inexhauſtible ſtores of fiſh there. Let us for a moment confine our attention to the conſumption made by a ſingle ſpecies of fowls. The ſoland gooſe is almoſt inſatiably voracious; he flies with great force and velocity, toils all the day with little intermiſſion, and digeſts his food in a very ſhort time; he diſdains to eat any thing worſe than herring or mackrel, unleſs it be in a very hungry place, which he takes care to avoid or abandon. We ſhall take it for granted that there are a hundred thouſand of that kind around the rocks of St. Kilda; and this calculation is by far too moderate, as no leſs than twenty thouſand

ſand of this kind are deſtroyed every year, including the young ones. We ſhall ſuppoſe, at the ſame time, that the Iceland geeſe ſojourn in theſe ſeas for about ſeven months in the year; that each of them deſtroys five herrings in a day, a ſubſiſtence indifferently poor for ſo greedy a creature, naſeſs it were more than half ſupported at the expence of other fiſhes. Here we have 100,000,000 of the fineſt fiſh in the world devoured annually by a ſingle ſpecies of the St. Kilda ſea-fowls," &c.

In concluding this account of the gannet, it is proper to obſerve that *le grand fou* of Buffon and Briſſon, and *Soland Goſe* of Catesby, an inhabitant of the Bahama iſlands, of Florida, is ſuppoſed to be the young of the bird called by ſailors *Boobies*; and that called by the former *le fou de la Caroline*, and by Albin *the ſmall gannet*, a different ſpecies.

BASSAWS, or BISSA, *Baſſa*, in *Geography*, lie on the weſt coaſt of Africa, beginning about weſt, or to the ſouth of weſt from Sierra Leone, and running out far to ſea in rounds and hollows, ſo that ſhips cannot clear them without ſtanding off out of ſight of land.

BASSE, Bass, or LA BASSE, a town of France, in the department of the north, and chief place of a canton in the diſtrict of Lille; ceded by the Auſtrians to France by the treaty of Aix-la-Chapelle in 1668; fortified by Vauban of conſiderable ſtrength, but diſmantled by Louis XIV. It is ſituated on the Deule, 2 leagues eaſt of Bethune, and 3½ ſouth-weſt of Lille. N. lat. 50° 53'. E. long. 3° 0'.

BASSE, in *Ichthyology*, the Engliſh name of a fiſh found on ſome of the Britiſh coaſts, and named *perca labrax*. Linn. Syſt. 482. ed. 12.

BASSE-*Cour*, in *Building*, a court ſeparated from the principal one, and deſtined for the ſtables, coach-houſes, and livery-ſervants.

BASSE-*Cour* of a country-ſeat, is the yard or place where the cattle, fowls, &c. are kept.

That where ſtrange creatures of divers ſorts are kept for curioſity, is called by the French *menagerie*. The Romans gave the name of *vivarium* to that place, where beaſts were kept for the public ſhews.

BASSE, in *Middle Age Writers*, denotes a collar for cart-horſes, made of flags. Hence alſo the round matted cuſhions of flags, uſed for kneeling in churches, are called baſſe; in Kent, a *truſs*.

BASSE *de Flute traverſiere*, Fr. in *Muſic*, a ſide-flute, a fifth below the uſual compaſs of the German flute, now out of uſe in France; and we never remember its uſe in England.

BASSE-*Flute*. When, at the beginning of the laſt century, the flute-à-bec, or common flute, was in general uſe and favour, there were flutes of every ſize and pitch. F natural being the beſt in tune, and the eaſieſt key on the common flute, all ſongs and other favourite airs were tranſpoſed for the flute into that key, or into C natural, at the bottom of the plate, when printed. The baſe flute was an octave below this F, and the octave flute an octave higher. See FLUTE.

BASSE *Tonique*, the baſe of the key-note, or Tartini's third ſound, produced by the concurrence of two treble notes perfectly in tune, and ſteadily ſuſtained with two voices, violins, flutes, hautbois, or by two ſtrings in double ſtops on one violin, or two keys on the organ. See TERZA SUONA.

BASSEEN, or BAÇAIM, in *Geography*, a fortified city, ſituate on the point of the continent on the weſtern coaſt of the peninſula of India, oppoſite to the north end of Salſetta. It lies in N lat. 19° 19', and under the ſame meridian as Bombay. This place fell into the hands of the Engliſh, after a ſmart ſiege in 1780, but was reſtored to the Mahrattas, together with all the other conqueſts made on that ſide of India, at the peace of 1783; Salſetta and the ſmall iſlands excepted.

BASSENTO, a river of Italy, in the kingdom of Naples, which runs into the Grati, near Cotenza.

BASSERSTORF, a town of Switzerland, in the canton of Zurich, 4 miles N.E. of Zurich.

BASSET, or PASSE, a game with cards, ſaid to have been invented by a noble Venetian; for which he was baniſhed. It was firſt introduced into France, by ſignior Juſtiniani, ambaſſador of Venice in 1674. Severe laws were made againſt it by Louis XIV, to elude which they diſcarded baſſet under the name of *pour & contre*, that is, for and againſt; which occaſioned new arrets and prohibitions of parliament. The parties concerned in it are, a dealer or banker and punter, who ſupervites the loſing cards, and the punter, or any one who plays againſt the banker.

Beſides theſe, there are other terms uſed in this game; as, 1. The *paroli*, or *ſiſe*, which is the firſt card turned up by the *tailleur* belonging to the pack; by which he gains half the value of the money laid down on every card of that ſort by the punters. 2. The *couch*, or firſt money which every punter puts on each card; each perſon that plays having a book of thirteen ſeveral cards before him, on which he may lay his money, more or leſs, at diſcretion. 3. The *paroli*, which is, when a punter having won the firſt ſtake, and having a mind to purſue his good fortune, crooks the corner of his card, and lets his prize lie, aiming at a *ſept et le va*. 5. The *mort*, when having won the firſt ſtake, the punter is willing to venture more money on the ſame card. 5. The *pay*, when the punter having won the firſt ſtake, be it a ſhilling, half crown, guinea, or whatever he laid down on his card, and not caring to hazard the paroli, leaves off, or *goes the pay*; in which caſe, if the card turn up wrong, he loſes nothing, having won the couch before; whereas, if it turn right, he by this adventure wins double the money ſtaked. 6. The *alpiew*, much the ſame with paroli, and uſed when a couch is won by turning up, or crooking the corner of the winning card. 7. *Sept et le va*, the firſt great chance or prize, when the punter having won the couch, makes a paroli, and goes on to a ſecond chance; ſo that if his winning card turns up again, it comes to *ſept et le va*, which is ſeven times as much as he laid down on his card. 8. *Quinze et le va*, is the next higher prize, when the punter, having won the former, is reſolved to puſh his fortune, and lay his money a ſecond time on the ſame card, by crooking another corner; in which caſe, if it come up, he wins fifteen times the money he laid down. 9. *Trent et le va*, is the next higher prize, when the punter crooking the fourth corner of his winning card, if it turn up, wins thirty-three times the money he firſt ſtaked. 10. *Soixant et le va*, is the higheſt prize, and entitles the winner to ſixty-ſeven times his firſt money; which, if it were conſiderable, ſtands a chance to break the bank: but the bank ſtands many chances firſt of breaking the punter. This cannot be won, but by the *tailleur*'s dealing the cards over again.

The rules of the game of baſſet are as follow: The banker holds a pack of fifty-two cards, and having ſhuffled them, he turns the whole pack at once, ſo as to diſcover the laſt card; after which he lays down all the cards by couples. The punter has his book of thirteen cards in his hand, from the king to the ace; out of theſe he takes one card or more at pleaſure, upon which he lays a ſtake. The punter may, at his choice, either lay down his ſtake before the pack is turned, or immediately after it is turned, or after any number of couples are down. Suppoſing the punter to lay down his

ſtake

ſtake after the pack is turned, and calling 1, 2, 3, 4, 5, &c. the places of thoſe cards which follow the card in view, either immediately after the pack is turned, or after any number of couples are drawn. Then if the card, upon which the punter has laid a ſtake, comes out in any odd place except the firſt, he wins a ſtake equal to his own. If the card, upon which the punter has laid a ſtake, comes out in any even place except the ſecond, he loſes his ſtake. If the card of the punter comes out in the firſt place, he neither wins nor loſes, but takes his own ſtake again. If the card of the punter comes out in the ſecond place, he does not loſe his whole ſtake, but only one half; and this is the caſe in which the punter is ſaid to be faced. When the punter chooſes to come in after any number of couples are down, if his card happen to be but once in the pack, and is the laſt of all, there is an exception from the general rule; for though it comes out in an odd place, which ſhould entitle him to win a ſtake equal to his own, yet he neither wins nor loſes, from that circumſtance, but takes back his own ſtake.

This game has been the ſubject of mathematical calculations. Mr. De Moivre ſolves this problem; to eſtimate at baſſet the loſs of the punter under any circumſtance of cards remaining in the ſtock, when he lays his ſtake, and of any number of times that his card is repeated in the ſtock. From this ſolution he has formed a table, ſhewing the ſeveral loſſes of the punter in whatſoever circumſtances he may happen to be. See Doctr. of Chances, p. 63.

From this table it appears, 1. That the fewer the cards are in the ſtock, the greater is the loſs of the punter. 2. That the leaſt loſs of the punter, under the ſame circumſtances of cards remaining in the ſtock, is when his card is but twice in it; the next greater when but three times; ſtill greater when four times; and the greateſt when but once. The gain of the banker upon all the money adventured at baſſet, is 15s. 3d. per cent. De Moivre, Doctr. of Chances, p. 69. edit. 3.

Basset, in *Zoology*, the name given by Buffon to that kind of dog which is called in England the turnſpit, *canis vertagus* Gmelin. Of this kind he makes two varieties; le baſſet à jambes droites, and le baſſet à jambes torſes; the firſt having ſtraight legs, and the laſt crooked ones.

BASSETERRE, in *Geography*, a general name given by the French to the low lands of the Weſt India iſlands; ſuch are the S.W. part of the two parts of Guadaloupe iſland, ſeparated by a ſmall arm of the ſea, called the Salt river; and alſo the N.W. part of the iſland of Martinico.

Basseterre *Town*, a ſea-port town on the S.W. coaſt of the iſland of St. Chriſtopher in the Weſt Indies, and capital of the iſland, ſituated at the mouth of a river, opening into a bay, called Baſſeterre road. The town contains about 800 houſes, and is defended by three batteries. N. lat. 17° 24′. W. long. 62° 37′.

Basseterre *Town*, is alſo a ſea-port town on the S.W. coaſt of the iſland of Guadaloupe, regularly built, with ſome handſome houſes, and defended by a citadel. N. lat. 15° 59′ 30″. W. long. 61° 59′ 15″.

BASSETING, in the *Coal Mines*, denotes the riſe of the vein or coal towards the ſurface of the earth, till it come within two or three feet of the ſurface itſelf.

This is alſo called by the workmen *croping*, and ſtands oppoſed to *dipping*, which is the deſcent of the vein to ſuch a depth that is rarely, if ever, followed to the end.

BASSI, Angelo, in *Biography*. See Poliziano.

Bassi, Laura, an Italian lady, diſtinguiſhed by her acquirements, was the wife of Dr. Joſeph Verati of Bologna. She underſtood the Greek, Latin, and French languages, as well as her own, and was eminent for her literature and ſcience. In 1732, ſhe was honoured with the doctorial dignity, and ſhe kept up a correſpondence with many learned perſons in Europe, who admired her talents and accompliſhments. She commenced a courſe of lectures in philoſophy in 1745, and continued them to her death. Her morals were pure, and her character amiable; and ſhe was liberal in her acts of charity to the poor and orphans. She died at an advanced age at Bologna in 1778. Nouv. Dict. Hiſt.

BASSIA, in *Botany*, ſo named by Kœnig in honour of Ferdinando Baſſi, curator of the botanic garden at Bologna. Lin. gen. Reich. n. 645. Schreb. 805. Juſſ. 132. Gærtn. t. 104. Claſs and order, *dodecandria monogynia*. Nat. Ord. *Dumoſæ; Sapotæ* of Juſſ. Gen. Char. *Cal.* perianth four-leaved; leaflets coriaceous, ovate, permanent. *Cor.* monopetalous, bell-ſhaped; tube inflated, ovate, fleſhy; border ſhorter than the tube, eight-parted; diviſions ovate, almoſt upright. *Stam.* filaments ſixteen; eight below the jaws, and eight in the middle of the tube; anthers linear, ſagittate, acute, villoſe on the inſide, ſhorter than the corolla. *Piſt.* germ ſuperior, ovate; ſtyle ſubulate, twice as long as the corolla; ſtigma acute. *Per.* drupe fleſhy, milky. *Seeds*, nuts five, oblong, three-cornered.

Eſſ. Char. *Cal.* four-leaved. *Cor.* eight-cleft; tube inflated. *Stam.* 16; drupe five-ſeeded. (Berry five-celled, with a ſeed in each cell. G.)

Species, 1. B. *longifolia*. Illippe Malabaris, and Miele Ceylonenſibus. "Leaves ovate-lanceolate, peduncles axillary." A lofty tree, with the outmoſt branches recurved, thickiſh, and covered with a grey [illegible]; leaves on them alternate, approximating, petioled, entire, veined, naked, half a foot long, and deciduous; petioles roundiſh, ſhort; peduncles axillary, from one to five, filiform, one-flowered, upright; after flowering, prolonged and pendulous; berry oblong, ſlightly compreſſed, ſmooth, ſhining, and yellow, with a white band. A native of Malabar and Ceylon. 2. B. *dubia*. Seed large, half-moon ſhaped; flatted like a lens, ſmooth and ſhining, of a dark cheſnut colour, excepting an oblong, rugged, umbilical area, which is almoſt white. The ſhell is thick, ſtony, and very hard. The ſeeds of baſſia are not eaſily diſtinguiſhed from thoſe of ſapota, without attending to the albumen, of which baſſia is entirely deſtitute; and the inner integument is alſo commonly wanting. 3. B. *obovata*. Forſt. Florul. n. 200. "Leaves obovate; peduncles heaped, terminating." A native of the iſle of Tanna, in the South ſeas. Martyn's Miller's Dict.

BASSIANO, Laudi, in *Biography*, born at Placenza, diſcovering early a propenſity to the knowledge of medicine, was ſent to Padua, where he ſtudied under Baptiſt Monti, and, having performed the uſual exerciſes, in 1544 he was admitted doctor in philoſophy and phyſic. In 1547 he was made profeſſor in thoſe ſciences, and acquired conſiderable reputation as a public teacher. Going to his houſe, in 1562, he was aſſaulted by an aſſaſſin, who killed him by ſtabbing him in ſeveral parts of his body with a bayonet. He left ſeveral publications, of which the principal are, "Iatrologia ſive dialogi duo, in quibus de univerſæ artis medicæ, præcipue vero morborum omnium et cognoſcendorum et curandorum abſolutiſſima methodo, diſſeritur," Baſileæ 1543, 4to.; "De origine et cauſa peſtis," Patav. 1555, 8vo; "De prodigioſis partubus." Haller. Bib. Med. Eloy. Dict. Hiſt.

BASSIN's River, in *Geography*, is ſituated on the coaſt of Labrador, in North America, nearly oppoſite to the north point of Newfoundland.

BASSING, a town of France, in the department of the Meurte, and chief place of a canton in the diſtrict of Dieuze, 1½ league N.E. of Dieuze.

BASSIUS, Henry, in *Biography*, ſon of Gerard Baſſius, or Bas, a burgeſs of Amſterdam at Bremen, born in 1690. In 1713, he went to Halle, where he ſtudied medicine under Frederic Hoffman, in 1715 to Strafburg, and two years after to Baſle; attending himſelf particularly to acquiring a knowledge of the improvements that had been lately made in anatomy and ſurgery. Returning home to Halle, he was created doctor in medicine; and ſoon after profeſſor in anatomy and ſurgery, which office he continued to hold till the time of his death, March 5th 1754. His works are, "Diſputatio de fiſtula ani & vesicæ urinaria," 8vo. 1715: "Obſervationes anatomico-chirurgicæ duodecim," Halæ 1721, with figures, repreſenting ſome inſtruments invented by the author,—a work much commended by Haller; "Tractatus de morbis venereis," Lugd. 1730, 8vo.; a poſthumous work, to which the editor has added ſome valuable obſervations. He alſo publiſhed, in the German language, "Commentaries on Nuck's Art of Surgery," 8vo. 1728. Haller. Lib. Anat. et Chir. Eloy. Dict. Hiſt.

BASSO CONTINUO, in *Muſic*, originally meant the accompaniment to the higher parts of a ſonata, concerto, or chorus, in whatever cliff it was written, which ſerved as a baſe, when the real baſe was ſilent; as in fugues, and other movements; to let the accompanier on the organ or harpſichord know what was doing by the other inſtruments, while his part was at reſt. This may ſtill be ſeen in the organ part (organo) to Corelli's Sonatas, Op. 1ma, which were compoſed in the ſeventeenth century, after which the cuſtom was diſcontinued, there being no inſtance of it in his other works. Though in the ſonatas of Baſſani, his maſter, and in thoſe of Torelli, it is conſtant. Handel, in his hautbois concertos, and in his twelve grand concertos, calls the ripieno baſe, baſſo continuo.

It was to this kind of choral baſe for the organ or harpſichord, in eccleſiaſtical muſic, that the harmony of the whole ſcore, without a treble part, was firſt expreſſed by figures over the baſe notes. Baſſo continuo, by an awkward tranſlation, is, in Engliſh, ſynonimous with *thorough-baſe* which ſee.

It was in the beginning of the ſeventeenth century that Ludovico Viadana (not Viana, as erroneouſly written by Rouſſeau, and copied from him in both editions of the Encyclopedie) one of the moſt diſtinguiſhed eccleſiaſtical compoſers of that time, invented the indication of chords by figures, in what the Italians call the baſſo continuo, and the Engliſh thorough-baſe, or accompaniment on keyed inſtruments, lutes, harps, and, in recitatives, even violoncellos; but we have found ſeveral inſtances of the minute beginnings of this expedient before the time of Viadana; though he was doubtleſs the firſt who drew up general rules for expreſſing harmony by figures over the baſe in 1615. Draudius, in an ample liſt of his eccleſiaſtical compoſitions, which were very numerous, tells us of one that authenticates his claim to this invention, which was a collection of all his choral pieces, of one, two, three, and four parts; "with a continued and general baſe, adapted to the organ according to a new invention, and uſeful for every ſinger as well as organiſt; to which are added ſhort rules and explanations for accompanying a general baſe, according to the new method." Viadana was therefore the firſt who compoſed an organ-baſe different from the voice-part, in the execution of which the new-invented figures enabled the performer to give the fingers the whole harmony of the ſeveral parts of a full compoſition, without ſeeing the ſcore.

In 1731, Mattheſon, in his "Groſſe general baſſe ſchule oder der exemplariſchen organiſten proben," a treatiſe on thorough-baſe, has given a liſt of twenty-two writers on accompaniment from the time of its invention in 1606. The invention has been indiſputably ſecured to Viadana in Draudius's Catal. ii. (Draudio Bibliotheca Claſſica, 2 vols. 4to. Frankofurti 1625.), where there is a liſt of all his works, and among the reſt, "Da. Ludovici Viadanæ Itali opera omnia ſacrorum concertuum, 1, 2, 3, & 4. voc. cum baſſo continuo & generali, organo applicato, novaque inventione pro omni genere et ſorte cantorum et organiſtarum accommodata. Adjuncta inſuper in baſſo generali hujus novæ inventionis inſtructione et ſuccincta explicatione, Latine, Ital. et Germ. ap. Steinium 4. 1613."

In the liſt which Mattheſon has given of twenty-two authors on accompaniment before 1731, it is obſervable that only one book is in Engliſh; and that written by Keller a German, who lived in queen Anne's time, and dedicated to her majeſty ſix ſonatas for two flutes and a baſe.

In Rameau's ſyſtem, and ſtill leſs in that of the abbé Feytou, as the fundamental baſe can have no melody, but what ariſes from its own harmony or ſingle common chord, la baſſe continue may be regarded as a kind of low treble under the modes and tenor, or as a variation of the fundamental baſe.

Basso Solo, Ital. a baſe confined to a few bars or notes, repeated to different and varied treble parts. The Engliſh call this kind of monotonous movement a ground. During the ſeventeenth century, the Italians and their imitators were very fond of writing upon a ground-baſe; Stradella and Purcell frequently manifeſted their ingenuity under ſuch reſtrictions; nor had the faſhion quite ſubſided in Handel's time, as may be ſeen in the laſt chorus of his Dettingen Te Deum, and elſewhere in his numerous and admirable works. See Ground, Ciacona, and Chaconne.

Basso *Cantante*, Ital. *Baſſiſte*, Fr. the vocal baſe-part, or the baſe ſinger in an oratorio, opera, or concert.

Basso *Relievo*, Italian, *Bas-relief*, French, in *Sculpture*, is the repreſentation of figures on a back ground, in ſuch a manner that no part of them is detached from it; alto relievo, high relief, has the groſſer parts attached to the back ground whilſt the ſmaller parts are free from it: ſome diſtinguiſh a third kind, or mezzo relievo, middle relief, between both; although it muſt be acknowledged that all three kinds are implied, in a general mode of ſpeaking, by the common term of baſſo-relievo, or bas-relief, becauſe almoſt all figures in relievo, even alto relievo, are more compreſſed or flattened than their inſulated archetypes in nature. This, like many other terms in the art of deſign, is of modern date, and was moſt likely invented or at leaſt compounded and applied, in the eleventh or twelfth centuries, when ſculpture and architecture began to revive in Italy, and theſe kinds of works became a very conſiderable decoration to the new cathedrals. The Greeks, to whom we muſt look for the beſt definitions in this art, as well as the moſt excellent works, called this ſpecies ſimply anaglypta, carved (Pliny, lib. 33. c. 11.); that which we call alto-relievo was diſtinguiſhed by them from the low-relief, by the word, toreuticen, rounded. Pliny, l. 34. c. 8.

Baſſo-relievo, although a conſiderable province of ſculpture, is in a particular manner allied to architecture and under its dominion; as any conſiderable work of this kind muſt be made for the pediment, frieze, or pannel of a building, or architectural form, ſuch as a ſarcophagus or pedeſtal: and therefore the general ſhape of the ground, the diſtribution and projection of the figures, muſt be ſubſervient to the ſurrounding and containing parts, in order that they may produce a beautiful whole.

It is well remarked by the authors of the French Encyclopedie, that "the origin of baſſo-relievo is confounded with that of the hieroglyphic; that is to ſay, it owes its birth

birth to figured writing. Under this point of view, it is common to all people, and is found among the moſt ſavage. It was invented by neceſſity, appropriated by religion. The progreſs alone of the arts of imitation could perfect theſe primitive ſigns and give them life. This honour was reſerved for the Greeks. In Greece the arts were in ſome ſort the miniſters of religion; in Egypt and in Aſia they were the ſlaves. A religious reſpect for theſe primitive characters, which worſhip had ſanctified, feared perhaps to change the ideas in changing the forms to which they were attached: all contributed, among the Egyptians, to retain the genius in a kind of infancy, from which religion prevented them from emerging."

All the larger hieroglyphics engraven in the ſurface of Egyptian architecture, or on the figures of men and inferior animals may be conſidered as baſſo-relievo; and as the art is ſimple, it may be conſequently of the moſt ancient kind; becauſe the figure was ſunk in ſuch a manner, that the ſurface of the ground was left, forming an encloſure or outline whoſe greateſt depth was equal to the greateſt projection of the figure, which was productive of theſe advantages. As many of the hieroglyphics were cut in granite, a very brittle marble, it prevented the danger of ſpoiling the outline in ſinking the back-ground, one-third of the labour was ſaved, and a ſtrong ſhadow all round the figure, particularly when the ſun ſhone on it, defined its form to the ſight. All the temples and palaces enumerated by Ripaud, and deſcribed by Denon in the late expedition of the French into Egypt, ſhew that the greater part of thoſe edifices, as well as inferior works, were covered with hieroglyphics, or ſacred figure-writing in the kind of bas-relief above deſcribed: the largeſt of theſe formed regular ornaments to the friezes, centres over the doors, correſponding tablets, or pannels where the ſymmetry of the architecture required. The principal of theſe figures, according to a compariſon of what we find in Orus Apollo, Iamblichus on Hieroglyphics, and other authors, with the hieroglyphics themſelves, ſeem to be the repreſentation of ſome characteriſtic or attribute of the divinity, and the operations of his providence in nature, accompanied by acts of adoration: the inferior figures and characters are ranged in lines like writing.

Beſides the hieroglyphics, the Egyptians employed bas-relief, with the ground levelled to the loweſt part of the figure, to deſcribe the political or military proweſs of their heroes, and for other hiſtorical purpoſes. Of this kind are thoſe in the palaces of Karnac, engraved by Denon, and thoſe deſcribed in the Bird's Well, of which there is a ſpecimen in the hall of the Britiſh Muſeum. It is in a ſoft calcareous ſtone in very low relief: the ſubject, men ſlaying oxen. The human figures are in violent action, which they ſeem to have attempted in hiſtorical more than in ſacred ſubjects. Nor is it ſurprizing that ſuch actions are extravagant, and not well rendered; when we ſee by the works themſelves, that the ſtock of knowledge which the ſculptors poſſeſſed, was inſufficient to account for the parts of the body by a fine proportion, beautiful outline, and the anatomical changes of appearance in the different circumſtances of motion. But the prodigious quantity of this kind of labour ſtill remaining muſt have occupied the diligence of ſo many hands for a ſeries of ages, that they could have had little leiſure to make advances, either in the ſentiment or ſcientific perfection of their figures. This may account, in part at leaſt, for the execution of the quadruped being better than that of the human figure, which is ſo much more difficult.

It is neceſſary to give a general account of the character and ſtyle of deſign in the Egyptian figures, becauſe what is ſaid on this ſubject will be in a great meaſure applicable to the early progreſs of the arts among the Hindoos, Perſians, and Greeks, allowing for ſome peculiarities in each nation. The arts of deſign are ſtrictly imitative in the early attempts; and we find in the Egyptian figures, compounded of different animals, that each part is a copy of nature. In the human figure, the body and limbs were repreſented in general forms. The face, as being the moſt intereſting part of the perſon, was more minutely expreſſed. The form of the face was a rounded egg, lines of the eye-brows and lids, ſimple curves, inclining upwards from the noſe, the bottom of the noſe and the line of the mouth inclined upwards in the ſame direction with the eyes. The eyes were full, nearly on a level with the forehead and cheeks, and the lines of the eye-brows, lids, and borders of the lips, marked with preciſion. The chin appeared ſmall and bony, the neck round, the ſhoulders high and broad, except the marking of the breaſt, little diſtinction of the muſcular forms in any part of the body and limbs, the loins narrow, the limbs round, rather ſtraight and ſlender, their joints ſlightly indicated, the hands and feet rather flat, the fingers and toes rounded, without the appearance of joints, and nearly of the ſame length. According to a figure Denon found, meaſured by 22 ſquares in length, the half of the figure each way was from the diviſion of the thighs, the head was rather leſs than a ſeventh part of the figure's height. See Denon's Voyage, plate 124, fig. 1.

The quadrupeds on Egyptian monuments, are repreſented in profile, and in the ſimpleſt attitudes. The parts of which thoſe are compoſed, are fewer and more general than thoſe in the human figure. This is one reaſon why the Egyptians excelled in their animals; the mechanical manner in which the ſhoulder is drawn of the lion and ſphinx (where they have diſplayed more anatomy than in any other part) preſents a ſimple, but not juſt account of the ſtructure of that member of the body: theſe obſervations apply to the ſtate of ſculpture before the time of Alexander the Great; after which period, it partook of the improvements introduced by its Grecian conquerors.

Baſſo relievos are found in India, which decorate the excavations of Ellora and Elephantis in an aſtoniſhing profuſion. The ſubjects are ſacred, ſuitable to the temples in which they are carved; the drawing of the figures and their parts bears a ſtrong reſemblance to the Egyptian ſtyle; but inferior in this, that many of the figures have very large heads, the limbs and bodies diſproportioned. It ſeems likely that the Egyptian hieroglyphics are more ancient, becauſe more ſimple than the Hindoo baſſo relievo; the former having the ground left even with the higheſt relief, the latter having the ground cut level with the loweſt outline of the figure. For the moſt extenſive, accurate, and valuable publications of theſe ſubjects we are indebted to the abilities and unwearied labour of our countryman Thomas Daniell, Eſq. R.A.

The Perſians employed baſſo relievo like the other ancient nations as a figured writing, at once to record and repreſent the ſymbols of Almighty power and operation, their religious ceremonies, and the proweſs of their heroes. The bas-reliefs on the palace of Perſepolis and the royal tombs are arranged in lines, horizontal and perpendicular, to anſwer the double purpoſe of deſcription and architectural decoration: the ſtyle of drawing reſembles that of the figures in the later hieroglyphics, although the dreſſes are extremely different. The Egyptians are particularly diſtinguiſhed by the hood, the mitre, the full hair artificially curled, the cloſe tunic, the apron of papyrus; the Hindoos by the necklaces, bracelets, and anklets; the Perſians have long beards and hair ending in ſmall curls, caps, full tunics with regular folds and large ſleeves; the Medes in the ſame ruins of Perſepolis have cloſe tunics. The drapery in theſe bas-reliefs is rather

more like nature than that in the Egyptian hieroglyphics and other bas-reliefs, but this may be the conſequence of what the artiſts had more frequently to imitate, inſtead of a proof that the arts were more advanced in Perſia than in Egypt, which ſeems ſtill leſs probable when we conſider, the different poſitions of the human figure, the variety and extent of the hiſtorical compoſitions in the palace of Karnac, the Theban tombs, &c. and the exquiſitely neat and perfect execution of the hieroglyphics on the obeliſk of Seſoſtris, lately erected on Monte Citorio by Pius the VIth, far exceeding the workmanſhip of any figure at Perſepolis. See Denon's Egypt. Le Bruyn's Travels, vol. 2.

The earlieſt Greek ſculpture extant is ſtill more like the Egyptian in the principles of deſign, than that of any other nation. The face of the human figure has the ſame oval, the features deſcribed by the ſame ſimple curves, the eye kept full as the eaſieſt to execute, being more diſtinguiſhed by the lines of which it is formed, than by its appearance in profile; and nearly the ſame general parts repreſented the body and limbs. That there ſhould be this ſimilarity in different nations in the imitative arts, is ſtrictly agreeable to reaſon; becauſe conformably to their limited progreſs in ſcience, they will repreſent in a ſimple and groſs manner thoſe objects, the detail of which their minds have neither comprehended nor underſtood, and which in that ſtage of progreſs the hand would be as little likely to perform with the requiſite accuracy. It is equally reaſonable to expect ſuch imitations ſhould reſemble each other; being made from examples of general likeneſs, and done without the influence of manner, which is the conſequence of imitating art inſtead of nature.

It is moſt likely that ſome imitations in ſculpture of the human figure were made in Greece, previouſly to the introduction of letters by Cadmus, becauſe modern travellers have found ſuch imitations among many barbarous people unacquainted with letter-writing, and becauſe the Greeks appear to have uſed figure-writing before they were acquainted with letters: ſee Wolf's Prolegomena to Homer, page 81; who believes that figure-writing only was known in the time of Homer. But it is equally certain that ſmall bronze figures exiſt with inſcriptions of Cadmean letters on them, which are very poor and barbarous imitations of the human form; ſo that we may fairly infer, that the ſculpture previous to this period could not have been very ſuperior to the productions of Mexico, Otaheite, or the Sandwich Iſlands. In the popular ſtory of the Maid of Corinth, related by Pliny, lib. 35. cap. 12. he ſays, Dibutades the Sicyonian potter, her father, firſt invented a method of taking likeneſſes, the proceſs of which is deſcribed as follows: "His daughter being in love with a young man who was going to a foreign country, ſhe circumſcribed the ſhadow of his face with lines upon the wall by lamplight; her father took the impreſſion in clay, and baked it in the fire with his vaſes." It ſeems, therefore, that as this was the firſt invention of portraits in clay, and as this portrait was only the relief impreſſed from a line ſcratched on the wall, that it muſt have been the very firſt ſtage of baſſo-relievo. Pliny proceeding ſays, that Dibutades made another addition to baſſo-relievo, by ornamenting the loweſt row of rounded tiles, uſed to terminate roofs, with maſk faces. Theſe may be conſidered as two inventions, which diſtinguiſhed the Sicyonian ſchool. Pliny does not ſay at what time Dibutades lived, but he mentions him before Demaratus the father of Tarquinius Priſcus, who muſt have been 630 years before Chriſt.

Independently of what may be deduced from theſe quotations, concerning the progreſs of baſſo-relievo in Greece, examples in this branch of ſculpture exiſt in marble and bronze, which, with the aid of coins and gems, if properly arranged, would form a complete chronological ſeries from the introduction of letters in Greece. As the moſt ancient ſubjects to be chiefly ſelected are thoſe which bear inſcriptions, this arrangement would neceſſarily follow: the inſcriptions of Cadmean letters firſt, the Bouſtrophedon manner of writing next, and the more modern as circumſtances point out their propriety. This method would be found perfectly agreeable to the progreſs of ſcience diſcernible in the works themſelves, as well as the perfection of execution; and thus the antiquarian or the artiſt having inſured an accumulation of teſtimony, would be in little danger of miſtake. A paſſage in Pauſanias, the firſt Eliacs, or 5th book, ſhews the propriety of this method: he ſays, the cedar cheſt in which Cypſelus was preſerved by his mother (about 669 years before Chriſt), was dedicated by his poſterity in Olympia. This cheſt is deſcribed as being covered with baſſo-relievo of allegorical and heroical ſubjects, explained by Bouſtrophedon writing, which the author deſcribes as very old and difficult to read.

The earlieſt Greek ſculpture which has come down to us is equal in the proportion of the figures to the Egyptian, and ſuperior in the drawing of the body and limbs. Vitruvius informs us, that as the height of the human figure was ſix times the length of the foot, that was made the rule for the Doric column. (Book iv.) Thus we ſee the Greeks had been in the habit of meaſuring the human figure by its own parts, previous to the eſtabliſhment of architectural proportions: and we find very tolerable general forms of the muſcles and bones moſt commonly ſeen in the living body, which thoſe early Greeks copied by cloſe attention to the naked figures they conſtantly ſaw before them, without the aid of anatomical ſyſtem; for Pliny (lib. xxix. c. 1.) ſays, the art of medicine remained in the darkeſt night from the ſiege of Troy to the time of Hippocrates. A few examples from the many exiſting will ſhew the progreſs of ſculpture in baſſo relievo, from the introduction of letters in Greece to the time of Phidias: theſe ſhall be ſet down according to their apparent antiquity, and followed by general obſervations.

In Winkelmann's "Monumenti inediti," plate 3. is a print from a ſcarabæus of Jupiter in his car, holding the thunder with one hand, and trident with the other. This has the appearance of great antiquity in deſign and character, and perhaps is the oldeſt work cited in this article. The next is a patera of bronze in the Britiſh Muſeum, on which is carved Minerva ſubduing Hercules, or wiſdom prevailing over ſtrength. The next is an engraving of five of the ſeven chiefs who beſieged Thebes. The laſt is Hercules bearing away the tripod from Apollo, which, by the improved ſtyle of drawing, ſeems to approach the time of Phidias. The firſt obſervation that occurs in this part of the ſubject is, that antiquarians have fallen into a conſiderable miſtake in pronouncing many early works to be Etruſcan, which later diſcoveries have almoſt certified to be Greek. The Grecian ſubjects cut on gems, the backs of which were formed into ſcarabæi like the Egyptian ſeals, have been poſitively called Etruſcan by Winkelmann; notwithſtanding that the ſtyle of the figures is early Greek, the ſubjects are Greek, and the letters upon them are Greek: beſides which, Mr. Hawkins, a late accurate and highly-qualified traveller, has brought a Cornelian ſcarabæus found in that country to England, which has a Mercury engraved on it in that early ſtyle called Etruſcan. How many more of theſe might travellers, if they ſought for them, find in that country? And is it not likely that the Roman lords of the world would bring into their own country as many curious Greek gems as ſtatues, when a dozen of the former may be conveyed in the

palm

palm of a man's hand, whereas vaſt operations are neceſſary to tranſport only one marble or bronze ſtatue? Theſe arguments alone are ſufficient to account for the gems of this deſcription which have been found in Italy; beſides ſome which may have been wrought in that country by Greek coloniſts, or the ſcholars of Greeks. A crowd of evidence might be adduced in this place to ſhew, that the vaſes formerly called Etruſcan have been found in great abundance in Greece. Mr. Stuart and Mr. Parrs brought many fragments of them from Athens, which are lodged in the Britiſh Muſeum; Mr. Graves brought ſeveral entire and beautiful painted vaſes from Greece, ſome of which were afterwards in the poſſeſſion of Sir William Hamilton: and to theſe might be added many other teſtimonies and collections on this part of the ſubject.

One error more ſhould be refuted before we proceed: Winkelmann (vol. i. lib. 3. c. 4.), in his hiſtory of the art, aſſerts, that "the Etruſcans gave their Fauns horſes' tails; whereas the Greeks repreſented Fauns and Satyrs with ſhort tails like goats." The head-piece (p. 23. chap. 3. vol. ii.) of "Stuart's Athens," is a ſufficient anſwer: it is a bas-relief of a Bacchanalian dance, in which two Satyrs have horſes' tails. It was found in the ruins of the theatre of Bacchus, is of the ſtyle commonly called Etruſcan; but, in fact, according to the time when this theatre was built (nearly 500 years before Chriſt), it is of the ſtyle of ſculpture which prevailed in Greece immediately prior to the time of Phidias.

The general remarks on theſe works, during the period of about 550 years from the time of Cadmus to the time of Phidias, ſhall be confined to the three following: the manner of repreſenting the gods; the manner of drawing the human figure and its actions; and, laſtly, ſome obſervations on the draperies and utenſils.

From the two proofs adduced that Grecian ſculpture has been called Etruſcan from the want of ſufficient knowledge of the ſubject, and to which other proofs equally certain might be added (for inſtance, that all the early Greek coins are of the ſame ſtyle with that called Etruſcan), it will ſeem to be a ſafe concluſion, that all ancient ſculpture repreſenting Greek ſubjects, ſhould be conſidered as the work of Greeks, their coloniſts, or ſcholars, excepting in ſuch caſes as there is ſufficient reaſon to believe the contrary. — Conformably to this regulation, the following obſervations may be offered on Greek ſculpture preceding the time of Phidias. As the ancients repreſented their divinities in human forms, in the early times thoſe forms were groſs and imperfect, their aim being only to copy human nature; thus, in the gem above cited, of Jupiter with the thunder and trident, in Winkelmann's "Monumenti inediti," pl. 3. his body and limbs are formed of few parts, groſs and inelegant, his face is beardleſs, and his hair is thick and matted. Nearly the ſame may be ſaid of the Hercules on the bronze patera in the Britiſh Muſeum, above mentioned; a figure of Neptune on the oldeſt coins of Pœſtum; and the other monuments of the ſame ages, which repreſent Jupiter, Neptune, Mercury, and Hercules, by ſuch figures as they employed to repreſent common men, equally devoid of beauty and character. The face of Minerva is not more delicate than that of Hercules, nor do his limbs appear more robuſt than thoſe of Apollo. The gods were only known by their ſymbols: Jupiter by his thunder, Neptune by his trident, Mercury by his caduceus, Minerva by her helmet and ægis, &c. The gem of Jupiter with the thunder and trident above mentioned, which has alſo a four-footed animal under his car, perhaps a horſe, agrees with Orpheus's hymn to that god, in which earth and ſea are ſaid to be his; in this reſpect agreeable to the moſt ancient religion, and an argument of the high antiquity of the workmanſhip.

Concerning the manner of drawing the figure, it has been judiciouſly obſerved by the authors of the French Encyclopedie, "that the Greeks began where the Egyptians left off;" and ſome of the bettermoſt (not perhaps the very beſt) of the Egyptian figures, are nearly fac-ſimiles of the beginnings of Grecian art. However, improvements were ſoon made; they began to diſtinguiſh between muſcle and bone, and the ſurface of the body and limbs were carefully marked with their greater ſubdiviſions; the maſtoid muſcles and gullet marked the neck, the collar-bones were marked by nearly ſtraight ridges, the edges of the ribs by an high arch, the abdomen by a double row of three nearly-ſquare muſcles on each ſide of the linea alba, and the diviſion of the trunk from the limbs is ſtrongly indicated by the edge of the pelvis; the ſhoulder is rounded, the biceps of the arm defined, the elbow expreſſed; a gentle indenture down the back of the lower arm ſhewed the ſituation of the ulna, the arm tapered downwards with a graceful ſwell for the muſcles, and flatneſs for the part compoſed of bones and tendons; the inſides of the thighs were flattened in the progreſs of the ſartorius muſcles, the lower tubercle of the thigh-bone was ſhewn immediately above the knee, which was expreſſed by the form of the patella; the inſide of the ſhin was ſtrongly expreſſed, as were the calves of the legs; the ancles were neat and ſmall, rounded at the bottom; the feet and hands partook more of the forms of nature than the Egyptian, and the fingers and toes were made more neat, diſtinct, and various in the outline; on the back, the blade bones were marked as being little diſguiſed by fleſh, and the glutæi as ſmall and firm. Upon the whole, they are men in an early ſtate of ſociety, whoſe hard and conſtant exerciſe in leaping, running, feats of dexterity in war and hunting, has made the covering of their bones tendinous and elaſtic, tapered their limbs, and whoſe quick and ſtrong digeſtion has kept the loins narrow and the abdomen flat, whilſt a free and powerful reſpiration expanded and raiſed the cheſt. The firſt eſſays of ſculpture in the round figure, required that the arms ſhould be attached to the body, and the legs joined together, for ſupport, and to prevent the unſkilful artiſt from breaking his work: but this reſtraint did not extend to bas-relief, in the ſame early compoſitions of this kind; in which [illegible] poſitions as approach to reality. There are alſo figures in violent actions; as dancing ſatyrs, groups contending, and ſuch exertions as ſhew the figure with ſprawling, angular, and extravagant appearances: for hitherto the indications of grace were as ſmall as thoſe of beauty.

The draperies in the early bas-reliefs are thin, ſhewing the forms of the body and limbs; the folds regular, ſmall, and diſtinct, conſiſting chiefly of perpendiculars and zig-zags. Some of the head-dreſſes conſiſt of ſmall curls, very like the faſhions of barbarous nations deſcribed and drawn by modern travellers; and in the bronze patera in the Britiſh Muſeum above mentioned, the club of Hercules is ornamented with ſpiral flutes, like one brought by captain Cook from the Sandwich iſlands.

The bas-relief of Hercules bearing the tripod from Apollo, mentioned above, ſeems to be nearer the time of Phidias than any of the other examples; not only from the ſuperior elegance of the deſign, but likewiſe from its being in ſtyle very ſimilar to the Bacchanalian dance found in the [illegible] at Athens. This ſubject of Hercules [illegible]llo, is deſcribed by Pauſanias

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in the temple of Apollo at Delphos. It has been frequently repeated by the ancients in bas-reliefs and gems. A bas-relief of this ſubject, brought from Greece, was preſerved in the Muſeum Nani at Venice; beſides two others in the Albani collection. Thus we aſcertain this to be a Grecian work, although in a ſtyle which has been ſuppoſed Etruſcan; and by the likeneſs of its manner to the Bacchanalian dance above mentioned, its age may be nearly aſcertained.

Our ſubject now preſents the moſt important and perfect period in the art of ſculpture, beginning with the great works executed by Phidias and under his direction, during the adminiſtration of Pericles. Greece enjoyed phyſical advantages, as well as moral and political inſtitutions, peculiarly adapted to give the arts of deſign that perfection which could not be hoped for in other countries. The climate was temperate, warm, and genial, which, to penetrating and elevated genius, added beauteous perſons in its inhabitants: their games and exerciſes gave vigour and perfection to their forms; which initiated and familiarized the ſpectator with all the appearance of beauty in the human figure, in the different ſtates of exertion or repoſe, whether naked or clothed. The practice of the arts of deſign was the peculiar privilege of thoſe who poſſeſſed the greateſt natural advantages, and were the beſt inſtructed; and in the perſon of the artiſt, as well as the ſubject repreſented, were frequently united the philoſopher, the lawgiver, and the heroic defender of his country. Such were the ſtudies for the artiſts, and ſuch were the men who practiſed the art. The ſtores of theological and metaphyſical knowledge had been laid in from Egypt and the Eaſt; ſcience had accumulated; and commerce, cultivation, and patriotiſm, ſupplied the means of raiſing thoſe monuments which were to be the admiration and ſtudy of all future ages.

Theſe were the times and circumſtances in which Phidias was employed by Pericles to adorn Athens with architecture and ſculpture, with the aſſiſtance of the architects Callicrates and Ictinus, who worked under his direction. Under theſe illuſtrious men, the Propylæum, the Temple of Minerva or the Parthenon, in the citadel, and the Temple of Theſeus in Athens, were erected. The decorations of ſculpture in theſe buildings are the moſt perfect ſpecimens of art; which we muſt apply ourſelves to with the utmoſt diligence to underſtand, if we would entertain hopes of producing any thing excellent in the ſame kind. The baſſo-relievos which fill the friezes which go round the pronaos, cell, and porticus, of the Parthenon, repreſent the panathenaic proceſſion in honour of Minerva; which conſiſts of a numerous company on horſeback, victors in chariots, men leading oxen to ſacrifice, tray-bearers, choruſſes of virgins, ſome bearing candleſticks and ſome baſkets, with their aſſiſtants and attendants. The ſacred veil is produced and examined, the hierophantes explain the myſteries, and the gods themſelves are ſeated, beholding, directing, and approving the whole. The alto-relievos in the metopes are the conteſts of the Lapithæ and the Centaurs. The alto-relievos in the tympanums of the eaſt and weſt ends, are, alas! no more; war has deprived us of them. That of the eaſt end was a miracle of art, from the remaining fragments (ſee Stuart's Athens, vol. ii.); and ſuch it appeared to Sir G. Wheeler, who had the happineſs to ſee it entire. However, we know by Sir George's deſcription and drawing, that the ſubject of the eaſt end was the birth of Minerva, or rather Minerva introduced by Jupiter to the gods; that on the weſt end, the conteſt of Minerva and Neptune for the patronage of Athens. As theſe ſubjects are of the higheſt kind the mind can conceive, ſo they are the nobleſt the hand can execute: they are theological and moral, as they repreſent the gods, their operations in the government of the univerſe, and providence in the diſpoſition of human affairs; the heroes are exerted in the cauſe of juſtice, and the deſtruction of monſters.

Mr. Fuſeli, the able and learned profeſſor of painting in the Royal Academy of London, has judiciouſly applied Ariſtotle's diviſion of poetry to the arts of deſign; and he conſiders the greater productions, as either epic, dramatic, or hiſtoric. According to theſe claſſes, the ſculpture in each tympanum was entirely epic, as the gods only were repreſented in them engaged in ſingle acts; the groups in the metopes are dramatic, becauſe they repreſent a ſeries of actions; and the frieze which goes round the temple is epic, inaſmuch as the gods are preſiding; and are perhaps alſo hiſtoric, as particular perſons and events may be repreſented in the proceſſion. In the Temple of Theſeus, the alto-relievos formerly in the pediments are gone entirely; nor do we know even what the ſubjects were. In the frieze round the pronaos is the battle of Marathon, in which the apparition of Theſeus caſts great ſtones on the Perſians; Jupiter, Juno, and Minerva, Neptune, Apollo, and Diana, ſit, behold, and determine the victory, the trophy of which is raiſed by the Athenians. The battle of the Lapithæ and Centaurs is in the frieze of the porticus: the metopes are filled with the labours of Theſeus and Hercules.

The execution of theſe works is equal to the conception; the ſentiment is elevated and fit, the compoſition is noble, full, and various; the gods are ſublime and beautiful, their poſitions preſent dignity and repoſe; the heroes are vigorous and active, and an admirable ſimplicity reigns through the whole; whether you are rouſed by the terrific engagement of a Centaur and a Lapitha, or captivated by the modeſty of the virgin choruſſes. In the battles, the figure is ſhewn in thoſe claſtic curves and varied movements, thoſe uncommon but advantageous ſituations, which equally excite ſurprize and admiration; every part is intelligible; they occupy ſuch ſpaces of the ground as leave ſufficient blank to render the outline diſtinct; and their quantities are ſo diſtributed, that one part is not bare while another is crowded: the lines themſelves alſo become an ornament. The ſtories are told by one plan or ground of figures; and, like the principal characters in the tragedies of Æſchylus, Euripides, and Sophocles, their effect is weakened by no under-plot of inferior heroes. The drawing of the figures is of the fineſt ſtyle, the outline and forms are choſen, the greater parts boldly expreſſed, the leſſer parts delicately indicated, but not more than neceſſary. The heads fine, the drapery rich in folds, but perfectly natural; ſome of the remaining hands and feet of the moſt perfect beauty; and the horſes may be deſcribed in the words Sir George Wheeler uſed to expreſs his opinion of thoſe he ſaw in the eaſtern tympanum of the Parthenon: "The horſes are made with ſuch great art, that the ſculptor ſeems to have outdone himſelf, by giving them a more than ſeeming life; ſuch a vigour is expreſſed in their prancing and ſtamping, natural to generous horſes." The edges of the figures have been kept ſquare in the working, to give the bolder effect to the relief; which was not high in the proceſſion round the frieze under the portico of the Parthenon, in order that the ſculpture might not overpower the architectural members. The ſculpture in the two pediments of the Parthenon, the metopes in that temple and the temple of Theſeus, as well as that round the frieze of the latter temple under the portico, are in alto-relievo. This Phidias diſcovered; it is called *toreuticen*, rounded, by Pliny (lib. 34. cap. 8.); and he ſays, Polycletus "ſo taught *toreuticen*, alto-relievo, rounded work,

work, as Phidias had invented it:—et *toreuticen* ſic eruditſſe, ut Phidias aperuiſſe."

Beſides the baſſo-relievos above mentioned, ſeveral others in Athens are of the higheſt beauty: the figures on the Temple of the Winds; the ſtory of Bacchus and the Tyrrhenian mariners transformed into dolphins, on the Choragic Monument of Lyſicrates (Stuart's Athens, vol. i.), raiſed in the time of Alexander the Great; and two alto-relievos of the battle of the Athenians and Amazons, with another battle, ſubject unknown. (See the laſt two plates, vol. ii. of Stuart's Athens.)

Before we quit the ſubject of baſſo-relievo among the Greeks, it is proper to obſerve, that foliage ornaments in baſſo-relievo ſeem to have been introduced in Ionia about the ſame time with the Ionic capital; in the reign of Alexander the Great. (See the capital of an Ionic pilaſter enriched with foliage, in the ruins of the temple of Apollo Didymæus, tail-piece, p. 55. Rivett's Ionia.) Theſe inventions are two characteriſtics of the Ionian ſchool.

Soon after this period, the moſt eminent Grecian ſculptors and architects were almoſt entirely engaged in decorating the capital of their Roman conquerors. Moſt of their public works at home were inferior in beauty and ſpirit, in proportion as the intention was debaſed, which was chiefly that of paying ſervile compliments to their maſters; and the buildings raiſed, with a very few exceptions, were diſtinguiſhed by a colonial inferiority from thoſe of Rome, which the genius of Greece, and the ſpoils of the world, rendered the moſt magnificent of the times.

We may begin the obſervations on the baſſo-relievos executed or exiſting in Italy, by ſome notice of thoſe cut in the rock. In the garden of the Capuchins' convent at Palazzuolo, on the lake of Albano, is a tomb; and in the tufo beneath, on the ſide of the rock, are carved the faſces, the curule ſeat, the diadem, and the ſceptre. M. D'Hankerville believes this to have been the tomb of Tarquin the Elder; becauſe he received theſe regalia from the Etruſcan ſtates, and becauſe the tomb ſtands on the eſtate which belonged to him. There are other baſſo-relievos cut in the tufo, repreſenting the combats of lions and gladiators, with other apparently domeſtic ſubjects, on the ſides of a tomb at Corneto, the ancient Tarquinium: and although theſe works may be conſidered as Etruſcan, yet there are reaſons for thinking they are of Grecian origin; for Pliny (lib. 35. c. 12.) ſays, "that Demaratus, the father of Tarquin the Elder, in Hetruria, who was afterwards king of Rome, flying from Corinth, was accompanied by the modellers (*fictores*) Euchira and Eugrammus, by whom modelling was brought into Italy." There are, indeed, works known to be Etruſcan, in the gallery of Florence; among which are many ſquare cinerary urns of terra cotta: ſome of them bear baſſo relievos of Greek ſubjects, and theſe are much the beſt; the reſt are of an execution and manufactory equally ordinary. A terra cotta frieze of ſmall figures, ſeven different ſubjects, was found ſome years ſince at Velletri, and preſerved in the Borgian Muſeum. This ſeemed to be of the oldeſt Etruſcan ſtyle: but ſtill, as antiquarians have believed the ſtories to be Greek, and the frieze itſelf to be copied from a Greek original, ſo far this likewiſe muſt be conſidered as a production of the Grecian ſchool. There is a print from one of theſe ſubjects, repreſenting two women in a car drawn by two winged horſes; the firſt head-piece, vol. iii. of Winkelmann's Hiſtory of the Arts of Deſign, Fea's edition.

The taſte for carved or chaſed plate of gold and ſilver was introduced at Rome, by the immenſe quantity which Lucius Scipio brought in triumph from the ſpoils of Aſia, conſiſting of 1,400 pounds weight of chaſed ſilver, and 100,000 pounds of gold vaſes, about 150 years before Chriſt. Pliny deſcribes the ficklenefs of the Romans afterwards in works of this kind. "The vaſe of ſilver varies, by the wonderful inconſtancy of the human diſpoſition, not approving long the production of any workſhop: now we ſeek the Furnian, now the Clodian, now the Gratian, now baſſo-relievo ſharply cut, and now pictures expreſſed in lines."

Modelling in ſtucca, called *plaſticen* by Pliny, was practiſed under the firſt emperors, with extraordinary beauty, freedom, and ſlight of execution; as may be ſeen in the ornaments of the bath of purification at the temple of Iſis at Pompeia, and the baths of Livia in the palace of the Cæſars at Rome.

It may be proper to enumerate ſome of the fineſt detached baſſo-relievos in the Roman collections, previous to thoſe exiſting in the ancient buildings. In the Villa Borgheſe is one of young women in fine drapery, holding each other by the hand, and dancing. The figures are almoſt round; it is diſtinguiſhed by beauty and ſimplicity. The ſleeping Endymion of the Capitol; the ſentiment of which is perfect, the figure elegant, and the execution bold: the Perſeus delivering Andromeda from the rock; likewiſe in the Capitol: the large fragment of Antinous, in the Villa Albani: to which may be added, a moſt beautiful frieze on one ſide of the cortile of the palace Santa Croce, of Neptune and Amphitrite, ſea-nymphs, tritons, and marine animals; and another beautiful frieze in the palace Della Valle, of victory ſacrificing bulls to Mithras. Some others will be noticed under particular heads.

The alto-relievo of Auge and Telephus, mentioned with ſo much rapture by Winkelmann and ſome of his followers (ſee the Monumenti inediti, plate 72.), will only be noticed here to expoſe an hypercriticiſm. It is highly extolled for having three plans of objects in proportionate gradations of relief: it is ſelf-evident that objects placed one beyond the other on a ground, muſt have different gradations of projection; but as this work has nothing elſe to recommend it particularly, either in character, ſentiment, or compoſition, what has been ſaid is ſufficient to ſhew, that an indifferent work may become the object of admiration, by the magic of technical jargon, where ſentiment, expreſſion, a beautiful deſign, compoſition, harmony of parts, and all thoſe particulars which can alone conſtitute excellence, are wanting.

Of the baſſo-relievos executed whilſt the arts ſtill retained ſome perfection under the Roman emperors, no ſpecimens are remaining of thoſe compoſitions of figures which adorned the pediments of buildings. A fragment of the frieze on the Temple of Minerva in Rome, near the Capitol, is ſtill in tolerable condition; there are ſeveral prints of it in the "Admiranda Romanorum." There are likewiſe in the different collections, detached ſpecimens and fragments of friezes, pannels, and dies of pedeſtals. But the greateſt number of baſſo-relievos in their original places, is on the triumphal arches and columns; and the greateſt profuſion of ſubjects is to be found on the ſarcophagi. We ſhall paſs the more haſtily over theſe, becauſe we have already noticed whatever is moſt excellent in this department of ſculpture, in the ruins of Athens. The following triumphal arches are enriched with baſſo-relievo: thoſe of Auguſtus, at Suza and Rimini; that of Trajan, at Beneventum; and at Rome, thoſe of Titus, Marcus Aurelius (the baſſo-relievos of which are preſerved in the Capitol, although the arch is deſtroyed); that of Severus; the goldſmiths' arch; and that of Conſtantine. The nobleſt compoſition, perhaps, among them is the apotheoſis of Fauſtina, from the arch of Aurelius. (See Bartoli's Triumphal Arches.) The arch of Conſtantine is remarkable

able for its ſculpture, part of which was done in the reign of Trajan, and the reſt under Conſtantine; ſome of the former as remarkable for its grandeur, beauty, and boldneſs, as the latter for its barbarity; ſhewing the miſerable decay of the arts in the courſe of 2[illegible] years. The two battles, the figures in which are as large as life, forming friezes under the cornices of the impoſts in the middle opening of the arch, are grand and animated compoſitions, in a noble ſtyle of ſculpture (ſee plate 42. and the following, in the Veteres Arcus Auguſtorum). Two obſervations on the arch of Severus will ſhew, that ſculpture had declined conſiderably from the beſt ages. The principal baſſo-relievos occupy very large ſquares, containing figures, animals, cities, forts, and great warlike machines, on different plans, irregularly diſtributed, without regard to perſpective; and thus, when viewed at ſuch a diſtance that the detail becomes indiſtinct, they preſent the appearance of ruſtic work irregularly rough, and diſagreeable as mixed with regular and magnificent architecture: unlike the friezes in the temples of Athens, which, as they have only one plan of figures, each ſimply and beautifully conceived, when viewed at a diſtance in which the detail diſappears, they preſent to the eye a compoſition of lines diſtinct and harmonious, forming an ornament. It is alſo to be obſerved, that the ſmall figures in theſe great ſquares are ſo boldly relieved, that they interfere with and deſtroy the effect of the ſmaller architectural members near them.

The triumphal columns demand our particular attention, not only for their magnificent deſign, ſtructure, and materials, but alſo for the immenſity of baſſo-relievo which covers them. But here we may obſerve, that imperial grandeur, by the endeavour to outſtep, falls ſhort of real greatneſs; and that where too much is expected or intended, too little is the reſult. With reſpect to the very conception of the Trajan column, a doubt has been entertained, whether a tower might not have allowed of a more grand and ſimple deſign for the purpoſe of a ſtupendous ſtructure, than a Tuſcan column mounted on a Corinthian pedeſtal. But notwithſtanding the doubts of ſome judicious and unprejudiced perſons on this point, the column has been the wonder and delight of all beholders for 1600 years. The ſpiral baſſo-relievo, reaching from the bottom to the top of the ſhaft, repreſents Trajan's firſt and ſecond expedition againſt the Dacians, and his victory over their king Decebalus. Vaſi (in his Itinerary of Rome) ſays, "they count upon it upwards of 2,500 figures, without reckoning horſes, elephants, arms, machines of war, and an infinity of other objects;" to which may be added the four eagles on the corners of the pedeſtal, bearing feſtoons of laurel, and the arms on the die of the pedeſtal, all of maſterly, and the laſt mentioned of the moſt delicate and laborious execution. But here a defect muſt be noted, in juſtification of the firſt obſervation on this noble monument, that although the figures increaſe ſomewhat, both in ſize and projection, as they approach the top of the column, yet it is certainly true, that any perſon ſtanding on the ground cannot ſee the objects diſtinctly above one-third of the height of the ſhaft, beyond which all is confuſion. Does it not follow, that if figures of that ſize were intended to be ſeen, they ſhould not have been raiſed above one-third of the column; and if they were intended to be ſeen at a greater diſtance, their ſize ſhould have been proportionably increaſed? That this is an optical defect cannot be denied; yet critics have taken pains to make their readers believe, that every thing relating to perſpective in this column was beyond the reach of moſt modern comprehenſion for excellence; when any perſon acquainted only with the very firſt principles of perſpective, muſt perceive no attention whatever has been given to linear perſpectives from the top to the bottom of the column: ſuch injudicious praiſe proves only the abſurdity and ignorance of the eulogiſt. Certainly the ancient ſculpture contains whatever is truly excellent and admirable in the art; but let us chooſe the objects which are really poſſeſſed of thoſe qualities, always diſtinguiſhing between beauty and the want of it; and then we cannot beſtow our praiſes too liberally, nor ſtudy with too much diligence thoſe perfections we would imitate, or be thoroughly acquainted with. The Antonine column is covered with baſſo-relievo, repreſenting the victories of Marcus Aurelius over the Marcomanni. The ſculpture is inferior to that on the Trajan column; and figures, having more projection, deform the outline of the ſhaft at a near view. The Theodoſian column at Conſtantinople, drawn by Gentil Bellini (ſee Montfaucon), induce us to believe that ſculpture did not decline ſo haſtily in the Eaſt as in Italy.

Marble ſarcophagi do not ſeem to have been uſed in Rome much before the time of Craſſus, whoſe wife Cecilia Metella was buried in one. The fronts and ends of theſe coffins, from that time for many ages afterwards, were decorated with figures. Some of the fineſt compoſitions of the ancients are to be found upon them, moſt probably copied from Greek originals, by Roman manufacturing ſtatuaries; one of whom lived on the Appian way, and occupied an extent of two miles in his works, as has been ſuppoſed from the quantity of ſculpture finiſhed and unfiniſhed found on the ſpot, as well as an inſcription which confirms the fact. The ſublimity of the ſubjects leads us to think, that ſome have derived their origin from Phidias, Polycletus, and other of the greateſt maſters; as it is ſcarcely poſſible ſuch groups and ſuch expreſſion as we ſee in theſe bad copies, could at firſt have been produced by inferior artiſts. Among them are the ſtories of Prometheus, Medea, Phaëton, Oreſtes, Alceſte, the anger of Achilles, Bacchus and Ariadne, the fall of the giants, the judgment of Paris, &c. &c. Theſe continued to be repeated till after the time of Conſtantine, when ſubjects from the Old and New Teſtament ſucceeded: but theſe were ſo barbarous that they merit no farther notice at preſent; and indeed the removal of the ſeat of empire to Conſtantinople had ſo deſpoiled Rome of riches and ability, that little effort could be expected in the Weſt, and the little that was left became the ſucceſſive prey to the Northern invaders, and the unavoidable deſtruction of time, for the following ſix centuries. Bas-reliefs of the eighth century, round the capitals of columns, repreſenting Charlemagne and other figures, are in the Muſeum of French Monuments at Paris. There is alſo a bas-relief of Samſon killing the lion, on a capital in the crypt of St. Peter's church, Oxford, done in the time of Alfred. Like all the works of theſe ages, they are barbarous and unmeaning.

In 1063 the Piſans began to build their cathedral, the old bronze gate of which contains a ſeries of ſubjects from ſcripture in bas-relief; but ſo rude and groſs, that they muſt be conſidered as the very beginnings of art. There is a baſſo-relievo of the acts of Abraham forming capitals to a group of columns, in the weſt door of the cathedral of Carrara, carved between 1100 and 1200, which is rather more detailed, though the figures are groſs and diſproportioned, not being above five heads high. Similar ſpecimens may be ſeen of this age in different countries of Europe, from the firſt feeble efforts to revive ſculpture. In ſuch attempts as have been juſt mentioned, little improvement was made till towards the year 1230, when Nicolo Piſano having diligently ſtudied ſome antique baſſo-relievos on ſarcophagi at Piſa, was employed in carving ſimilar ornaments of ſacred ſubjects, in

ſeveral

several cathedrals building at that time in different parts of Italy. He was assisted by his son John, and among other pupils, by two who seem to have been particularly esteemed, Arnolpho and Lapo. Besides being architect to several cathedrals in Italy, Nicolo, with the assistance of his pupils, carved some basso-relievos in marble; which were works of wonderful merit in that age, and would certainly deserve considerable admiration and respect in any other time or country, for sublimity, sentiment, truth, and beauty of execution. The following deserve particular notice: Stories from the Life of our Saviour, on the pulpit and baptistery of Pisa; similar subjects on the pulpits of the Duomos of Sienna and Pistoia. But the greatest and most estimable of these works is on the front of the cathedral of Orvieto. This front is one of the most splendid, both for materials and art, that the mind can conceive, or the resources of nature furnish. It is built of statuary marble, wrought with the nicest care, and ornamented with the most delicate labour; the bolder mouldings and smaller pillars are relieved by Mosaic listels of the most splendid colours and gold; and magnificent Mosaic paintings of sacred subjects fill some deep ornaments immediately under the cornice. The basement between the great and two side doors, from the height of six feet to that of twenty feet, is covered with subjects from the Bible in a great number of divisions representing all the principal facts, and concluding with the Resurrection, Judgment, and final destination of the good and wicked; the subjects are divided by running ornaments of vine, and other foliage, of uncommon delicacy and fancy. There is an alto-relievo by Nicolo, on the church of St. Martin at Lucca, of the Descent from the Cross, which is extremely pathetic and simple. The basso-relievos on the oldest bronze gate of the baptistery of Florence, by Andrea Ugolino of Pisa, after designs by Giotto, of the Life of St. John the Baptist, are simple and grand. Donatello, born in Florence 1393, executed bronze basso-relievos on the two pulpits of St. Lorenzo in that city: the principal subjects are the Crucifixion and Interment of our Saviour, in which the expression is admirable. Vellano of Padua, his scholar, made some fine basso relievos of bronze in the church of St. Antony in that city. But the work of this description which obtained the highest reputation in that age, was the second bronze gate, executed by Lorenzo Ghiberti, his father, and other assistants, for the before-mentioned baptistery of St. John in Florence. On it, ten compartments are filled with subjects from the Old Testament, beginning with the Creation and ending with the meeting of Solomon and the Queen of Sheba; the spaces between the pannels are adorned with foliage, heads, and beautiful figures of prophets and sybils; the architrave is ornamented with festoons of flowers and birds, of so perfect an execution that they seem to be cast from nature: the whole is of gilt bronze. Vasari relates that Michael Angelo said, "It deserved to be the gate of Paradise." Certainly an admirable fancy, delicacy, expression, grace, and execution, are to be found in every part of it; but its general character is rendered trivial by the introduction of so many plans, so much landscape and architecture in perspective, with the affectation of picturesque effect in the chiaro scuro. But this fault must be palliated by the remembrance, that perspective was a new discovery to the moderns, wonderfully admired at the time: it had turned the brains of Paolo Uccello, a painter of great merit; and it is not to be wondered at, if Lorenzo Ghiberti, who had practised painting, should have fallen into the delusive hope of adding a new charm to sculpture, which in fact belongs to painting exclusively.—From this time little can be said in commendation of the practice of basso-relievo. Memory was substituted for imitation, fancy for nature; and the consequence was, those various species of affectation which are called manners. The schools of John of Bologna, Algardi, Bernini, will justify this remark; and whoever takes the trouble to examine their productions in this department of sculpture will see, that art more than nature has been their object.—Within the last century a number of circumstances have combined to develop the principles of sculpture, and a considerable emulation has been excited to attain its real perfections. A prodigious number of ancient statues, groupes, busts, and basso-relievos in marble and bronze, as well as pictures, have been discovered; these have been magnificently and judiciously arranged, not only in the public museums of Italy, but in private collections of the different countries of Europe. Such admirable works have excited universal curiosity and interest; the number of books on the subject have been increased by learned men and elegant critics; students have repaired in greater numbers than formerly from all parts to copy these works with great diligence; the number of contenders has produced emulation, each one endeavouring to distinguish himself above his competitors: thus they have laid up a large stock of ability for employment in their own countries, where taste for the arts of design has been gradually increasing; so that now there are sculptors in Italy, France, England, Germany, &c. who have produced basso-relievos of great merit, as well as other works of sculpture.

Winkelmann has said, "that Sculpture, like an elder sister, has introduced and led her younger sister, Painting, into the world:" this is elegantly said, and on that account is likely to obtain currency more than for the certainty of its truth. What additional value does one art acquire over the other by being older? Both arts are noble and virtuous pursuits; the fine productions of both afford intellectual and rational delight; and there is difficulty enough in the way to excellence in both, to exercise the utmost stretch of the most powerful geniuses who have engaged, or may engage, in the study of them. It should seem by Pliny's account, lib. 35, c. 3. and c. 12. that the beginning of painting and basso-relievo were alike; for the first advances towards basso-relievo were made by Dibutades's taking the impression of an outline. Ardices the Corinthian, and Telephanes the Sycionian, made the first essays towards painting, before colour was used, by outline also.—But to leave this question of little moment, let us go to those considerations which are of real importance to the subject we are treating. It has already been shewn, that basso-relievo, from the earliest ages, was used as representative writing; and the right and only good purposes to which writing as well as speaking can be applied is to honor God, and to recommend and disseminate whatever is virtuous in public or private, and useful among men. Thus was basso-relievo employed in the best ages by the ancients, according to their several systems of theology, philosophy, and ethics: and thus only it should be employed; for when it is applied to other purposes, it is a deviation from the original intention, ceases to be useful, and must engage the artist in the representation of persons and things below that standard at which he should constantly aim. Phidias gave a perfection to his Jupiter which adorned all men, and induced them to believe he had been favoured with a revelation of the god, by the human representation of power, majesty, benignity, and wisdom. And we shall find that whatever appears admirable, perfect, or lovely, in the representations of the ancient deities or heroes, is some mental or bodily perfection. The Christian religion presents personages and subjects no less favourable to painting and sculpture than the ancient classics: angels and archangels should be as perfect in youth and beauty as the youthful divinities of Greece. The heroes of the Old Testament bear so striking a resemblance to those of Greece, that eminent moderns have mistaken

them for the ſame perſons. Nothing can be found in the figures of Greece, more auguſt or ſublime than in the patriarchs or prophets: they were equally inhabitants of warm climates, favourable to the diſplay of the human figure; and their cloathing and arms were nearly ſimilar. Indeed it may be ſafely aſſerted, that the baſſo-relievos of the Laſt Judgment by Nicolo Piſani, the Crucifixion and Entombing of our Lord by Donatello, and ſome of the panels in Ghiberti's gate, prove that the Bible preſents ſubjects, and thoſe almoſt innumerable, of greater intereſt, and as abundant in all the excellence of compoſition, as any to be found in the claſſical authors: ſuch ſubjects are the proper decorations for churches and other public edifices of moſt importance to ſociety, which ſhould be perpetual ſchools of inſtruction.—After the choice of ſubject, the œconomy and manner of treating are next to be conſidered. And here ſeveral hints may be found in Ariſtotle's poetics, and in the conduct of the Greek tragedies, as uſeful for the compoſition of a baſſo-relievo as a poem; with this difference, a poem embraces a ſucceſſion of times, but a baſſo-relievo one moment only: and where this rule has been treſpaſſed, the ſame perſon has been introduced twice over. That one moment muſt repreſent an action, into which no more figures ſhould be admitted than are neceſſary; becauſe the increaſe of number is the diſtraction and loſs of expreſſion. The ſentiment, the expreſſion, and every part ſhould be as elevated and advantageous as the nature of the ſubject will admit.—Concerning the execution, the baſſo-relievos of the Parthenon temple of Theſeus, the others in the ruins of Athens, and a few more which are truly Greek, muſt be ſet up as the perfection of what has hitherto been done: the compoſitions are intelligible, becauſe the figures are diſtinctly ſeen on the back-ground and not crouded one behind another; the drawing of the figures is from choſen examples, feelingly, forcibly, and faithfully copied; the pathos of the ſubject is not weakened by the introduction of building in perſpective, or the affectation of chiaro ſcuro, which attempts to introduce the diſtances of painting in baſſo-relievo. Agatharchus employed perſpective in painting ſcenes, but Phidias and Polycletus knew that the form and expreſſion of the human figure was the object of their ſculpture.

Some very fine and extraordinary antique baſſo-relievos enrich the collections of England:—

The tomb-ſtone of Xanthippus, and a man curbing a horſe, both about the time of Phidias, are in the collection of Charles Townley, eſq.

The marquis of Lanſdown has a Greek bas-relief of Chalcas, as large as life.

At Wilton Houſe there is a fine example of the death of Meleager, and a ſmall but curious Hercules and Ægle, a baſſo-relievo compoſed of moſaic, in natural colours, which is ſuppoſed to be the only one of the kind.

The celebrated Barberini vaſe, in the poſſeſſion of the duke of Portland, is of dark blue glaſs, bearing figures in baſſo-relievo of white enamel or glaſs of admirable workmanſhip. (See Bellori Sepolchri Antichi, *Plate* 84.) Fragments of baſſo-relievos in ſimilar materials have been found in the ruins of the Cæſars' palace in Rome, where they had been fixed in the walls.

John Hawkins, eſq. the Grecian traveller, poſſeſſes a beautiful ſmall bronze baſſo-relievo of Paris, Helen, and two Genii, which he brought with him from Greece.

Plate I. 1. Contains an Egyptian hieroglyphical ſphinx. 2. An Hindoo bas-relief. 3. A Perſian bas-relief. 4. Jupiter with the thunder and trident, a Greek gem of the oldeſt ſtyle.

Plate II. 1. Minerva ſubduing Hercules, from a very ancient Greek patera of bronze in the Britiſh muſeum. 2. Apollo and Hercules contending for the tripod.

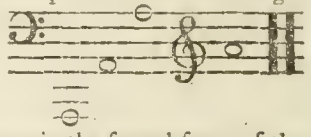
Plate III. The tomb-ſtone of Xanthippus, father of Pericles.

Plate IV. 1. A capital of a column in the weſt door of the cathedral of Carrara, repreſenting part of the hiſtory of Abraham; a work of the twelfth century. 2. A beautiful Greek baſſo-relievo, near the time of Phidias, of Zethus and Amphion confoling their mother Antiope; from the Villa Albani.

BASSO *Continuo*, in *Muſic*. See Attro.

PASSOMPIERRE, François de, *Marſhal*, in *Biography*, was a deſcendant of a diſtinguiſhed family in Lorraine, and born in 1579. Engaging betimes in military ſervice, he roſe to the office of colonel-general of the Swiſs, and in 1622, to that of marſhal of France. He was alſo employed in a diplomatic capacity to Spain, England, and Switzerland. In theſe employments he was diſtinguiſhed by his talents and conduct, and particularly by his wit, noble air, politeneſs, and generoſity. He ſpoke all the European languages, was an adept in gallantry, and much addicted to play. By his bons mots, which were ſharp and ſatirical, he offended cardinal Richelieu; who cauſed him to be confined in the Baſtile in 1631, where he continued for twelve years till the death of this miniſter. In this retreat he paſſed his time in reading and writing; and the hiſtorical works which he compoſed were the productions of his impriſonment. Theſe are "Memoirs, containing the hiſtory of his life, and of the moſt remarkable occurrences at the court of France from 1598 to 1631," 3 vols. 12mo.; "An Account of his Embaſſies," 2 vols. 12mo.; and "Remarks on the Hiſtory of Louis XIII. by Dupleix," 12mo. Theſe works abound with curious particulars and ſtrokes of ſatire. After his liberation he was reſtored to his rank of colonel of the Swiſs, and was fixed upon as governor to the young king Louis XIV, but excuſed himſelf on account of his age and infirmities. Towards the cloſe of his life he became very corpulent, and died of an apoplexy in 1646. Gen. Biog.

BASSOON, in *Muſic*, from *bas ſon*, Fr. low ſound, in oppoſition to *hautbois*, to which it is the natural baſe. Like the hautbois, it is played with a reed, and is a continuation of the ſcale downwards. It is compoſed of four different pieces or tubes, which when ſeparated are bound together like a faggot; hence by the Italians called *fagotto*. It has three keys of communication to open and ſhut the ventages, which from the length of the inſtrument are out of the reach of the fingers. It has a crook, or mouth-piece, to which the reed is fixed. (See Reed.) The whole length of the inſtrument is eight feet; but reduced to four, by being doubled up like a trumpet for convenience in performance and carriage.

Its compaſs is three octaves, 

from double AA in the baſe to *a* in the ſecond ſpace of the treble; of which the tones and ſemitones are as complete as on an organ, or any other keyed inſtrument. Every performer is not able to produce a lower ſound than double BBb in the baſe, or a higher than G in the ſecond ſpace in the treble.

In the laſt age, Miller was the favourite performer on the baſſoon in England at all public places; but we have at preſent Mr. Holmes, a ſuperior performer, at leaſt in point of tone, to any that we have ever heard elſewhere. A ſcale for this inſtrument will be found in the muſical plates.

The two Bezozzis of Turin rendered theſe kindred inſtruments, the hautbois and baſſoon, famous in Italy, during the middle of the laſt century. See Bezozzi.

BASSORA,

BASSORA, Balsora, or Basra, in *Geography*, a famous city of Aſia, in the Arabian Irak, ſituate on the weſtern banks of the Shat al Arab, which is a navigable canal, formed by the junction of the Euphrates and Tigris. This canal is navigable for veſſels of fifty tons to the Euphrates, and thence to the gulf of Perſia, from which it is diſtant about 15 leagues north-weſt. This city was founded in the year 636 by order of Omar, the ſecond caliph, to hinder the commerce that ſubſiſted between the Indians and Perſians, and to ſecure the command of the two rivers by which goods imported from India were conveyed into all parts of Aſia. The firſt colony was compoſed of 800 Moſlems; but the ſituation was ſo wiſely choſen that it ſoon became a flouriſhing and populous capital, and a place of trade, ſcarcely inferior to Alexandria. The air, though exceſſively hot, is pure and healthy; the meadows are covered with palm-trees and cattle; and one of the adjacent vallies has been celebrated among the four paradiſes or gardens of Aſia. Under the firſt caliphs, the juriſdiction of this Arabian colony extended over the ſouthern provinces of Perſia. The city has been ſanctified by the tombs of the companions and martyrs; and the veſſels of Europe ſtill frequent the port of Baſſora as a convenient ſtation and paſſage for the Indian trade. Merchants of Arabia, Turkey, Armenia, Greece, Jews, and Indians reſide here; the Engliſh and Dutch have their conſuls, and their ſhips come from India loaded with various kinds of merchandize. Thoſe from Bengal, which arrive from the month of March to June, bring white linens, ſilk, muſlins, baſtard-ſaffron, ſandal, and other woods, benzoin, varniſh, rice, lead, European tin and iron. From the coaſt of Coromandel they bring thicker cloths, white or blue; which are uſed by the Arabians for their garments. From the coaſt of Malabar they bring cardamom ſeeds, pepper, &c. From Surat they receive all kinds of gold and ſilver ſtuffs, turbans, blue cloths, indigo, and ſteel; of which the Perſians are the chief purchaſers for the manufacture of their ſabres. The principal merchandizes of the Dutch are ſpices and coffee from Java. Some Arabians bring ſlaves, and others bring pearls from Bahrein, and coffee from Mocha. The neighbouring countries alſo furniſh merchandize for exchange; of which the moſt conſiderable are the ancient copper of Perſia in ſmall cakes, drugs of various kinds, grain when it is allowed to be exported, dates, wine, and dried fruits. The merchandize is ſold for ready money, and paſſes through the hands of the Greeks, Jews, and Armenians. The Banians are employed in changing the coin current at Baſſora for that which is of higher value in India. The abbé Raynal values the merchandize annually brought to India at 525,000l.; of which the Engliſh furniſh 175,000l. the Dutch 87,500l. and the Moors, Banians, Armenians, and Arabs furniſh the remainder.

Baſſora has been ſubject to the Turks ever ſince the year 1668; and, like other cities tributary to that dominion, is governed by a cadi appointed by the prince of Baſſora. But it may now be regarded as belonging to an independent Arabian prince, who pays dubious homage to the Ottoman Porte. This prince allows full liberty to all nations to come and trade to his capital; and the police of the city is ſo well maintained, that a perſon may paſs ſafely through the ſtreets at any time of the night. The prince derives his chief revenue from the exchange of money for the horſes and camels that are ſold here, and alſo from his plantation of palm-trees, which is ſaid to be 90 miles in length. The horſes that are bred in its vicinity are in great repute, and are ſold at a high price. The income of the prince from the ſeveral articles of money, horſes, camels, and dates, is ſo great, that he has a conſiderable ſurplus after diſcharging all the expences of his tribute and government. The opulence of Baſſora is owing partly to the extenſive commerce which is carried on by the intervention of this town between Aſia and Europe, partly to its being a place whence letters may be diſpatched into all parts of Europe, particularly England and Holland, by way of Damaſcus and Aleppo, for which purpoſe Arabs, who are very ſwift-footed, are employed; and partly to the reſort of Perſian caravans in their pilgrimages to Mecca, where they pay conſiderable duties to the government, and exchange many valuable commodities. The number of inhabitants is computed to be about 50,000; the majority being Arabs: the reſt are principally Turks and Armenians. The latter are the merchants, and ſome of them are very reſpectable. As to the religion of Baſſora, beſides Mahometans, there are Syrian Jacobites and Neſtorians, and monks from Europe; and alſo ſome modern Sabæans, whom they call diſciples of St. John. The town is of great extent, and ſurrounded by a wall of clay, ſaid to be twelve miles in circumference. The Bazar, or market-place, is about two miles long and well ſupplied. The buildings of this city are moſtly conſtructed after the Turkiſh manner. The whole country about it is ſo low, that it is prevented from being inundated by a dyke or bank extending between three and four miles along the coaſt, and built of large ſquare ſtones ſo well cemented together that the ſea cannot affect it, though the ſea runs ſtrongly againſt it at the extremity of the Perſian gulf. Baſſora is 210 miles S.W. of Iſpahan, and 600 S.E. of Aleppo. N. lat. 29° 45′. E. long. 47° 40′.

BASSOS, or Baxos, *Cape*, lies in the Indian ſea, on the eaſt coaſt of Ajan in Africa, in N. lat. 4° 12′. E. long. 47° 7′.

Bassos *de Bambos*, ſhoals in the Indian ocean, lying off the eaſt coaſt of Zanguebar in Africa, in S. lat. 5°. E. long. 48° 8′.

Bassos *de Chaga*, or ſhoals of Chaga, are ſituated in the Indian ocean, in S. lat. 6° 42′. E. long. 68° 20′.

Bassos *de India*, ſhoals of India, are ſituated N. E. eaſterly from the cape of Good Hope, and are called in ſome charts Jews Rocks, between Madagaſcar iſland on the eaſt and the coaſt of Africa on the weſt, about Sofala. S. lat. 22° 30′. E. long. 40° 41′.

BASSOUES, a town of France, in the department of the Gers, and chief place of a canton in the diſtrict of Mirande, 5 leagues W. S. W. of Auch.

BASSOVIA, in *Botany*. Lin. gen. Schreb. n. 348. Aubl. 85. Juſſ. 419. Claſs and Order, *pentandria monogynia*. Gen. Char. *Cal.* perianth one-leafed, permanent, five-parted; parts ovate, acute. *Cor.* one-petalled; tube very ſhort; border five-cleft, ſpreading; clefts ovate, acute, larger than the calyx. *Stam.* filaments five, inſerted into the tube of the corolla, and oppoſite to its clefts; anthers ovate. *Piſt.* germ ovate, ſitting on a glandule; ſtyle ſhort; ſtigma thickiſh, obtuſe. *Per.* berry ovate, knobbed. *Seeds*, very numerous, kidney-ſhaped, girt with a membrane, neſtling in pulp.

Eſſ. Char. *Cor.* five-cleft, ſpreading, with a very ſhort tube; berry ovate, knobbed, with many ſeeds.

Species. B. *ſylvatica*. Aubl. Guian. 217. t. 85. Stems herbaceous, three or four feet high, branched; leaves alternate, ovate, acute, ſmooth, entire, on a petiole about an inch long; the largeſt 10 inches long and 4½ broad; flowers in axillary corymbs, green, and very ſmall. A native of Guiana, in wet forests, flowering and fruiting in June. Martyn's Miller's Dict.

BASSUET, in *Geography*, a town of France, in the department of the Marne, and chief place of a canton in the diſtrict of Vitry la Françoiſe, 6 miles N.N.E. of Vitry.

BASSUEL, Peter, in *Biography*, born in Paris in 1706, was early initiated in the knowledge of furgery, by attending the hofpitals and the lectures of the principal teachers there. In 1730 he was admitted to practice; and the academy of furgery being inftituted the following year, he was nominated by the king one of the firft members. In 1743, he was chofen demonftrator royal in therapeutics. He took part in the difpute on a queftion, then much agitated, Whether the heart was fhortened in its fyftole, or contraction, to expel the blood from the ventricles? But his opinion was formed, Haller fays, from theory only. His differtation on the fubject was publifhed in one of the medical journals of the time. He died June 4th 1757. Haller. Bib. Chir. Eloy. Dict. Hift.

BASS-VIOL, in *Muſic*. See Base-Viol.

BASSUM, in *Geography*, a town of Germany, in the circle of Weftphalia, in the county of Hoya, with a noble abbey; 16 miles weft of Hoya.

Bassure Sand, begins at Ambleteufe, a little to the fouth of St. John's, on the coaft of France, clofe to the fhore, and ftretches out S.W. by S. and S.W. by W.

Bast Island, is fituated on the coaft of Norway, 5 leagues N.W. by W. from the Sifters' ifland, which lies 4 leagues at W. by N. from Acker found.

BASTA, George, *Count*, in *Biography*, an Epirote by defcent, was born at La Rocca, a village near Tarentum; and devoting himfelf to the military profeffion, he was commander of an Epirote or Albanefe regiment of horfe, when the prince of Parma aflumed the government of the Low Countries in 1579. Under this great general he perfected himfelf in the military art, and was preferred by him to the poft of commiffary-general of cavalry, and alfo employed in many important enterprifes. The principal theatre on which his talents were exhibited, was the war in Tranfylvania and Hungary, where in 1601, he gained a fignal victory over Sigifmund Battori, and took the town of Clauſenburg. Having completed the ruin of Battori, he granted him peace on condition of his renouncing all rights over Tranfylvania. However, the feverities exercifed by Baſta againſt the proteſtants of that country did great injury to the cauſe of the emperor; and the Imperialiſts, under the count Belgioſo, were defeated. Although Baſta, in 1605, could not prevent the Turks from taking Strigonium or Gran, he made a judicious arrangement before Comorra, which hindered their further advances. Having made a peace, he ſoon after died in 1607. Baſta was the author of two profeſſional works that are much eſteemed: the "Maeſtro di campo generale" (Quarter-maſter general), printed at Venice, in 1606; and "Governo della cavalleria laggiera" (Diſcipline of the Light Horſe), Frankf. 1612. Gen. Dict.

Basta, in *Ancient Geography*, a town of Italy, in Iapygia, on the eaſtern coaſt, at a ſmall diſtance N.E. of the Salentine promontory.

Basta, in *Geography*, a town of Egypt, 40 miles N.E. of Cairo, and 31 S.S.E. of Manſora.

Basta, or *Baſtow*, a place of trade on the coaſt of Africa, before which is a road with 20 to 23 fathoms of water, and tolerably good ground.

Basta, in *Natural Hiſtory*, a ſpecies of Spongia, found in the Indian ſea, and called by Rumpfius *baſta marina*, *baſta-laut*. It is ſomewhat rigid, blackiſh, with undulated diviſions; ſtem round. Pallas. Found adhering to ſtones, and is about the thickneſs of a finger. Gmelin, &c.

BASTAGARII, in *Antiquity*, a college or company at Rome, who carried the fiſcal ſpecies out of the provinces to Rome or Conſtantinople. The directors of theſe were called *præpoſiti baſtagarum*. The word is derived from *baſtaga*, which properly imports the office of carriage or conveyance; from βαστάζω, *portare, to carry*. The denomination baſtagarii has alſo been given to thoſe who carry the inſtruments of fraud at proceſſions. Du-Cange.

Bastal, in *Geography*, the name of a romantic and fertile vale of Switzerland, lying in the direct road from Baſle to Soleure, through the midſt of the Jura mountains.

BASTAN, a town of Aſiatic Turkey, in the province of Natolia, 30 miles S.W. of Amaſia.

Bastard, Thomas, in *Biography*, a clergyman and poet of the ſixteenth century, was born at Blandford in Dorſetſhire, and educated at Wincheſter ſchool; whence he was removed to New college Oxford, and choſen perpetual fellow in 1588: but indulging too much his talent for ſatire, he was expelled the college for a libel. He afterwards became chaplain to Thomas earl of Suffolk, lord-treaſurer of England, and, by his intereſt, vicar of Bere-Regis, and rector of Hamer in his native county. He was a perſon of great natural endowments, and ſkilled in the learned languages, a celebrated poet, and, in his later years, an excellent preacher. Towards the cloſe of his life, he was deranged and involved in debt; and being confined in priſon at Dorcheſter, he died in an obſcure and mean condition in 1618. He was thrice married: firſt, as he informs us in one of his epigrams, in his youth for love; again, in maturer age, for money; and a third time, in his old age, for a nurſe. His poetical performances, which were admired in that age, were "Epigrams," and a Latin poem, entitled, "Magna Britannia," London 1605, 4to. He alſo publiſhed a collection of "Five Sermons;" and another of "Twelve Sermons," Lond. 1615, 4to. Biog. Brit.

Bastard, in *Law*, a natural child, or one that is not only begotten, but born, out of lawful wedlock.

The word is of Saxon etymology, and is compounded of *baſe*, vile or ignoble, and *ſtart*, or *ſteart*, original.

According to the civil and canon laws, a child doth not remain baſtard, if the parents afterwards intermarry; but it is an indiſpenſable condition of legitimacy, according to our law, that it ſhall be born after lawful wedlock. In this reſpect our law is far ſuperior to the Roman; becauſe marriage being principally deſigned for aſcertaining ſome perſon to whom the protection, maintenance, and education of the children ſhould belong, this end is better anſwered by legitimating all iſſue born after wedlock than by legitimating all iſſue of the ſame parties, even born before wedlock, ſo as wedlock afterwards enſues; in proof of which, Blackſtone alleges the following arguments. 1. Becauſe great uncertainty will generally attend the evidence, that the iſſue was really begotten by the ſame man; whereas, by confining it to the birth, and not to the begetting, our law has rendered it perfectly certain, what child is legitimate, and who is to take care of the child. 2. Becauſe the Roman law, by which a child may be continued a baſtard, or made legitimate, at the option of the father and mother, by a marriage "ex poſt facto," opens a door to many frauds and partialities which our law prevents. 3. Becauſe by thoſe laws a man may remain a baſtard till forty years of age, and then become legitimate by the ſubſequent marriage of his parents; and thus the main end of marriage, or the protection of infants, is totally fruſtrated. 4. Becauſe this rule of the Roman law admits of no limitations as to the time or number of baſtards ſo to be legitimated; but a dozen of them may, 20 years after their birth, by the ſubſequent marriage of their parents, be admitted to all the privileges of legitimate children. This is plainly a great diſcouragement to the matrimonial ſtate; to which one principal inducement is uſually not only the deſire of having *children*, but alſo the deſire of procreating lawful *heirs*.

Whereas

Whereas our conſtitutions guard againſt this indecency, and at the ſame time afford ſufficient allowance to the frailties of human nature. For if a child be begotten while the parents are ſingle, and they will endeavour to make an early reparation for the offence by marrying within a few months after, our law is ſo indulgent as not to baſtardize the child, if it be born, though not begotten, in lawful wedlock: for this is an incident that can happen but once, ſince all future children will be begotten, as well as born, within the rules of honour and of civil ſociety. Upon reaſons like theſe, Blackſtone ſuppoſes the peers to have acted at the parliament of Merton, when they refuſed to enact that children born before marriage ſhould be eſteemed legitimate. Stat. 20 Hen. III. c. 9. See the introduction to the great charter, edit. Oxon. 1759, ſub anno 1253.

Hence it appears, that all children born before matrimony are baſtards by our law. But if a man marries a woman groſsly big with child by another, and within three days after, ſhe is delivered, the child is no baſtard. 1 Danv. Abridg. 729. If a child is born within a day after marriage between parties of full age, if there be no apparent impoſſibility that the huſband ſhould be the father of it, the child is no baſtard, but ſuppoſed to be the child of the huſband. 1 Roll. Abr. 358. Moreover, all children born ſo long after the death of the huſband, that by the uſual courſe of geſtation they could not be begotten by him, are baſtards. But this being a matter of ſome uncertainty, the law is not exact as to a few days. It appears, upon the whole, that what is commonly conſidered as the uſual period is 40 weeks or 280 days; but if the child be born ſome time after, it only affords preſumption, not proof, of illegitimacy. This uncertainty of the period of geſtation has given occaſion to a proceeding at common law, where a widow is ſuſpected to feign herſelf with child, in order to produce a ſuppoſititious heir to the eſtate; an attempt which the rigour of the Gothic conſtitutions eſteemed equivalent to the moſt atrocious theft, and therefore puniſhed with death. In this caſe, with us, the heir preſumptive may have a writ "de ventre inſpiciendo," to examine whether ſhe be with child or not; and if ſhe be, to keep her under proper reſtraint till delivered; which is entirely conformable to the practice of the civil law: but if the widow be, upon due examination, found not pregnant, the preſumptive heir ſhall be admitted to the inheritance, though liable to loſe it again on the birth of a child within forty weeks from the death of a huſband. But if a man dies, and his widow ſoon after marries again, and a child is born within ſuch a time, as that by the courſe of nature it might have been the child of either huſband; in this caſe, he is ſaid to be more than ordinarily legitimate: for he may, when he arrives to years of diſcretion, chooſe which of the fathers he pleaſes. (Co. Litt. 8.) To prevent this, among other inconveniences, the civil law ordained that no widow ſhould marry "infra annum luctus;" a rule which obtained ſo early as the reign of Auguſtus, if not of Romulus: and the ſame conſtitution was probably tranſmitted to our early anceſtors from the Romans, during their ſtay in this iſland; for we find it eſtabliſhed under the Saxon and Daniſh governments. L. L. Ethelr. A.D. 1008. L. L. Canut. c. 71.

As baſtards may be born before the coverture or marriage ſtate is begun, or after it is determined, ſo alſo children born during wedlock may in ſome circumſtances be baſtards. As if the huſband be out of the kingdom of England, or as the law ſomewhat looſely phraſes it, "extra quatuor maria," for above nine months, ſo that no acceſs to his wife can be preſumed, her iſſue during that period ſhall be baſtards. (Co. Litt. 244.) But, generally, during the coverture acceſs of the huſband ſhall be preſumed, unleſs the contrary be ſhewn: (Salk. 123. 3 P. Wms. 276. Stra. 295.) which is ſuch a negative as can only be proved by ſhewing him to be elſewhere; for the general rule is, "præſumitur pro legitimatione." There are ſome determinations by which it appears, that the child of a married woman may be proved a baſtard by other circumſtantial evidence beſides that of the huſband's non-acceſs. 4 Term. Rep. 251. 356.

In a divorce "a mensa et thoro," if the wife breeds children, they are baſtards; for the law will preſume the huſband and wife conformable to the ſentence of ſeparation, unleſs acceſs be proved: but in a voluntary ſeparation by agreement, the law will ſuppoſe acceſs unleſs the negative be ſhewn. (Salk. 122.) So alſo if there be an apparent impoſſibility of procreation on the part of the huſband, as if he be only eight years old, or the like, the iſſue of the wife ſhall be baſtard. (Co. Litt. 244.) Likewiſe, in caſe of divorce in the ſpiritual court, "a vinculo matrimonii," all the iſſue born during the coverture are baſtards; becauſe ſuch divorce is always upon ſome cauſe that rendered the marriage unlawful and null from the beginning. Co. Litt. 235.

If a man or woman marry a ſecond wife or huſband, the firſt being living, and have iſſue by ſuch ſecond wife or huſband, the iſſue is a baſtard. (Bott. 397. pl. 521.) Before the ſtatute 2 & 3 Ed. VI. c. 21. one was adjudged a baſtard "quia filius ſacerdotis."

If a man hath iſſue, a ſon, by a woman before marriage, and afterwards marries the ſame woman, and hath iſſue, a ſecond ſon, born after the marriage; the firſt of theſe is termed in law a "baſtard eigné," and the ſecond a "mulier," or "mulier puiſné." By the common law, a "baſtard eigné" is as incapable of inheriting as if the father and mother had never married. However, there is one caſe in which his iſſue was let into the ſucceſſion, and that was by the conſent of the lord and perſon legitimate; as if upon the death of the father the "baſtard eigné" enters, and the "mulier" during his whole life never diſturbs him, he cannot upon the death of the "baſtard eigné" enter upon his iſſue. In this caſe the "mulier puiſné," and all other heirs, are totally barred of their right. This indulgence, however, is ſhewn to no other kind of baſtard; for if the mother was never married to the father, ſuch baſtard could have no colourable title at all. (Lit. ſect. 399, 400. Co. Litt. 245.) To exclude the "mulier" from the inheritance, there muſt not only be an uninterrupted poſſeſſion of the "baſtard eigné" during his life, but a deſcent to his iſſue. Co. Litt. 244. 1 Rol. Abr. 624.

The duty of parents to their baſtard children, by our law, is principally that of maintenance. The method in which the Engliſh law provides maintenance for illegitimate children is as follows. When a woman is delivered, or declares herſelf with child, of a baſtard, and will by oath before a juſtice of peace charge any perſon as having got her with child, the juſtice ſhall cauſe ſuch perſon to be apprehended, and commit him till he gives ſecurity, either to maintain the child, or appear at the next quarter ſeſſions to diſpute and try the fact. But if the woman dies or is married before delivery, or miſcarries, or proves not to have been with child, the perſon ſhall be diſcharged; otherwiſe, the ſeſſions, or two juſtices out of ſeſſions, upon original application to them, may make an order for the keeping of the baſtard, by charging the mother or the reputed father with the payment of money or other ſuſtentation for that purpoſe; and if the party diſobey ſuch order, he or ſhe may be committed to gaol, until they give ſecurity to perform it, or to appear at the ſeſſions. The juſtices may commit the mother of a baſtard, likely to become chargeable, to the houſe of correction for a year; or, for a ſecond offence, till ſhe give ſecurity for her good behaviour. And if ſuch putative father, or lewd mother, run away from the parish, the

overſeers, by direction of two juſtices, may [illegible] goods, and chattels, ſo ſeized to keep up the firſt baſtard child. Yet by the [illegible] of our laws, that no woman can be compelled upon her examination concerning the father of her child, to charge any man by name. Stat. 7 Edw. c. 3. [illegible] c. 9. 6 Geo. I. c. 9. 13 & 14 Car. II. c. 12. 6 Geo. II. c. 31.

As to the rights of a baſtard, they are very few; being only ſuch as he can acquire: for he can inherit nothing, being regarded as the ſon of nobody; and ſometimes called "filius nullius," ſometimes "filius populi." Fortesc. de L. L. c. 40. Yet he may gain a property by reputation, though he has none by inheritance. Co. Litt. 3. Where a remainder is limited to the eldeſt ſon of John S. who has no ſon lawful or illegitimate, and the baſtard iſſue, a baſtard ſhall take the remainder; becauſe he acquires the denomination of her iſſue by being born of her body. Noy. 35. All other children have their primary ſettlement in their father's parish; but a baſtard in the parish where born, for he has no father. Salk. 427. However, in caſe of fraud, as if a woman be ſent either by order of juſtices, or comes to beg as a vagrant, to a pariſh to which ſhe does not belong, and there lies in of a baſtard there, the baſtard ſhall, in the firſt caſe, be ſettled in the pariſh from which ſhe was illegally removed (Salk. 121); or, in the latter caſe, in the mother's own pariſh, if ſhe or the other be apprehended for her vagrancy. 17 Geo. II. c. 5. Baſtards alſo born in any licenſed hoſpital for pregnant women, are ſettled in the pariſhes to which the mothers belong. 13 Geo. III. c. 82. When a pariſh becomes charged with the maintenance of a baſtard, then, and not before, the authority of the church-wardens and overſeers commences (Say. 93); and they may act without an order from the juſtices. 3 Term Rep. C. P. 253. It ſeems, however, that until a baſtard attain the age of ſeven years, it cannot be ſeparated from its mother (Cald. 6.); but may be removed to the place of her ſettlement, while the age of nurture continues (Carth. 279.); and muſt under theſe circumſtances be maintained by the pariſh where it was born. Doug. 7.

The incapacity of a baſtard conſiſts principally in this, that he cannot be heir to any one: neither can he have heirs, but of his own body; for being "nullius filius," he is therefore akin to nobody, and has no anceſtor from whom any inheritable blood can be derived. As a baſtard has no legal anceſtors, he can have no collateral kindred; and therefore if a baſtard purchaſes land, and dies ſeiſed thereof without iſſue, and inteſtate, the land ſhall eſcheat to the lord of the fee. Co. Litt. 244. Finch. Law. 117.

By the Roman law, the mother inherited from her baſtard child, and vice verſâ: but there was a great difference between baſtards, "nothi," and thoſe they called "ſpurious." The law did not own the latter, nor allow them ſuſtenance, becauſe they were born in common and uncertain proſtitution. "Is non habet patrem, cui pater eſt populus." The former ſort, born in concubinage, which reſembles marriage, inherited from their mothers, and had a right to demand ſuſtenance of their natural fathers. They were looked upon as domeſtic creditors, that ought to be treated the more favourably, for being the innocent product of their parents' crimes. Solon would have it, that the parents ſhould be deprived of their paternal authority over their baſtards; becauſe, as they were only parents for pleaſure, that ought to be their only reward.

Anciently, in Rome, natural children were quite excluded from inheriting after their fathers ab inteſtato: but they might be appointed heirs in general. The emperors Arcadius and Honorius made a reſtriction: and when there were legitimate children, the baſtards ſhould only come in for a twelfth, to be ſhared with their mother. Juſtinian afterwards ordered, that they might come in for half; and ſucceed ab inteſtato for a fifth, when there were legitimates.

Baſtards might be legitimated by ſubſequent marriage, or by the emperor's letters. The emperor Anaſtaſius allowed fathers to legitimate their baſtards by adoption alone: but this was aboliſhed by Juſtin and Juſtinian, leſt by this indulgence they ſhould authoriſe concubinage. The pope has ſometimes legitimated baſtards. Nay, the holy ſee has on ſome occaſions diſpenſed not only with illegitimates, but with the offspring of adultery, as to ſpiritual conſiderations, in allowing of their promotion to epiſcopacy.

Accordingly the civil law differs from ours in this point, and allows a baſtard to ſucceed to an inheritance, if after its birth the mother was married to the father (Nov. 89, c. 8.); and alſo, if the father has no lawful wife or child, then, even if the concubine was never married to the father, yet ſhe and her baſtard ſon were admitted each to one twelfth of the inheritance (Ibid. c. 12): and a baſtard was likewiſe capable of ſucceeding to the whole of the mother's eſtate, although ſhe was never married; the mother being ſufficiently certain, though the father is not. But our law, in favour of marriage, is much leſs indulgent to baſtards.

An attempt was once made to introduce the civil law here in this reſpect, by declaring children legitimated by a ſubſequent marriage; but it was rejected: and it was upon this occaſion that the barons of England aſſembled in the parliament of Merton, A. D. 1272, made that famous anſwer, "Nolumus leges Angliæ mutare." 20 Hen. III. c. 9.

But though baſtards are not looked upon as children to any civil purpoſes, yet the ties of nature hold as to maintenance, and many other intentions; as, particularly, that a man ſhall not marry his baſtard ſiſter or daughter. L. Raym. 68. Comb. 356.

A baſtard was, in ſtrictneſs of law, incapable of holy orders; and though that were diſpenſed with, yet he was utterly diſqualified from holding any dignity in the church. Forteſc. c. 40. 5 Rep. 58. But this doctrine ſeems now obſolete; and there is a very ancient deciſion, that a felon ſhould have benefit of clergy, though he were a baſtard. Bro. Clergy 20. In all other reſpects, there is no diſtinction between a baſtard and another man: whereas the civil law, which has been extolled for its equitable deciſions, made baſtards in ſome caſes incapable even of a gift from their parents. Cod. 6. 57. 5. A baſtard may even be made legitimate, and capable of inheriting, by the tranſcendent power of an act of parliament, and not otherwiſe (4 Inſt. 36.); as was done in the caſe of John of Gaunt's baſtard children, by a ſtatute of Richard II.

Baſtardy with regard to the ſeveral modes of its trial, is diſtinguiſhed into general and ſpecial baſtardy. Till the ſtatute of Merton already recited, the queſtion whether born before or after marriage, was examined before the eccleſiaſtical judge, and his judgment was certified to the king or his juſtices, and the king's court either received or rejected it at pleaſure. But after the ſolemn proteſt of the barons at Merton againſt the introduction of the civil and canon law in this reſpect, ſpecial baſtardy has been always triable at common law; and general baſtardy has alone been left to the judgment of the eccleſiaſtical judge, who in this caſe agrees with the temporal. (2 Inſt. 29. Reeves's Hiſt. Eng. Law. 85. 201.) General baſtardy, tried by the biſhop, comprehends two things. 1. It ſhould not be a baſtardy made legitimate by a ſubſequent marriage. 2. That it ſhould be a point collateral to the original cauſe of action. If the ordinary certify or try baſtardy without a writ from the king's temporal courts, it is void; and the certificate muſt be under the ſeal of the ordinary. 1 Rol. Abr. 361, 362.

Special baſtardy is two-fold: 1ſt, Where the baſtardy is the gift of the action, and the material part of the iſſue; 2dly, Where

Where thoſe are baſtards by the common law that are "mulieres" by the ſpiritual law. (Co. Litt. 134. 1 New Abr. 314. 1 Rol. 367. Hob. 117.) If a man receives any temporal damages by being called a baſtard, and brings his action in the temporal courts, and declares in that manner that the plaintiff was baſtard, this muſt be tried at common law, and not by writ to the biſhop. 1 Brownl. 1. Hob. 179. Godol. 479. Co. Ent. 29.

In an ancient MS. of the time of Edw. III. it is ſaid that he who gets a baſtard in the hundred of Middleton in Kent ſhall forfeit all his goods and chattels to the king. If a baſtard be got under the umbrage of a certain oak in Knolwood in Staffordſhire, belonging to the manor of Terſley-caſtle, no puniſhment can be inflicted; and neither the lord nor the biſhop can take cognizance of it. Plott's Stafford. p. 279.

By the ſtat. 21 Jac. I. c. 27. a mother of a baſtard child, concealing its death, muſt prove by one witneſs that the child was born dead; otherwiſe, ſuch concealment ſhall be evidence of her having murdered it. But of late years it hath been uſual, on trials for theſe offences, to require ſome ſort of preſumptive evidence that the child was born alive, before the other preſumption be admitted, that becauſe the death was concealed it was killed by the parent. If a woman be with child, and any one give her a potion to deſtroy the child, and it kills the woman, this is murder. If a woman great or quick with child takes, or any perſon gives her, any potion to cauſe abortion, or if a man ſtrike her ſo as to kill the child, this is not murder nor manſlaughter by the law of England; but the offender may be indicted for a miſdemeanor at common law. But if the child be born alive, and afterwards die of the poiſon or bruiſes it received in the womb, it is murder on the part of ſuch as adminiſtered or gave them. Thus alſo, if a man procure a woman with child to deſtroy her infant when born, and the child is born, and the woman in purſuance of that procurement kill the infant, that is murder in the mother, and the procurer is acceſſary. 1 Hal. P. C. 429, 430. 433. Blackſt. Com. vol. i. p. 454, &c. vol. ii. p. 248. vol. iv. p. 65. Burn's Juſtice, vol. i. p. 217—271.

Baſtard, in reſpect of *Artillery*, is applied to thoſe pieces which are of an unuſual or illegitimate make or proportion. Theſe are of two kinds, long and ſhort, according as the defect is on the redundant or defective ſide.

The long baſtards, again, are either common or uncommon. To the common kind belong the double culverin extraordinary, half culverin extraordinary, quarter culverin extraordinary, falcon extraordinary, &c.

The ordinary baſtard culverin carries a ball of eight pounds. See Cannon.

Baſtard, in *Botany*, is applied to ſeveral ſpecies of plants: as baſtard alkanet, for which ſee Lithospermum; —balm, ſee Melittis; —cabbage-tree, ſee Geoffroya; —cedar, ſee Theobroma *Guazuma*:—creſs, ſee Thlaspi;—feverfew, ſee Parthenium;—flower-fence, ſee Adamantina;—gentian, ſee Sarothra;—hare's ear, ſee Phyllis;—hatchet-vetch, ſee Biserrula;—hemp, ſee Datisca;—hibiſcus, ſee Achania;—Jeſuit's bark-tree, ſee Iva;—indigo, ſee Amorpha;—knot-graſs, ſee Corrigiola;—lupine, ſee Trifolium *Lupinaſter*;—orpine, ſee Andrachne;—pimpernel, ſee Centunculus;—plantain, ſee Heliconia *Bihai*, and Centunculus;—quince, ſee Mespilus *Chamæmeſpilus*;—rocket, ſee Nasada;—ſaffron, ſee Carthamus;—ſtar of Bethlehem, ſee Albuca;—wood-flax, ſee Thesium;—vetch, ſee Phaca.

Baſtard, in *Sea Language*, is uſed for a large ſail of a galley, which will make way with a ſlack wind.

Baſtard is alſo uſed adjectively, or in compoſition with divers other words, to denote things of inferior or diminutive value. In this ſenſe we meet with baſtard corah, baſtard alkanet, baſtard amianthus, &c.

Baſtard *Scarlet* is a name given to red dyed with the pale madder, as coming neareſt to the bow-dye, or new ſcarlet.

Baſtards are alſo an appellation given to a kind of faction or troop of banditti, who roſe in Guienne about the beginning of the fourteenth century, and joining with ſome Engliſh parties, ravaged the country, and ſet fire to the city of Xaintes.

Murray ſuppoſes them to have conſiſted of the natural ſons of the nobility of Guienne, who being excluded the right of inheriting from their fathers, put themſelves at the head of robbers and plunderers, to maintain themſelves.

BASTARDY is a defect of birth objected to one born out of wedlock.

Euſtathius maintains, againſt the courſe of antiquity, that baſtards among the Greeks were in equal favour with legitimate children as low as the Trojan war: others, however, have ſhewn that there never was a time when baſtardy was not in diſgrace. (See Homer. Il. θ, v. 281. Sophocl. Ajax, v. 1250. Euripid. Ion. v. 589.) In the time of William the conqueror, baſtardy ſeems not to have implied any diſgrace; for that monarch does not ſcruple to aſſume the appellation of baſtard. His epiſtle to Alan, count of Bretagne, begins, "Ego Willielmus, cognomento baſtardus." Du Cange Gloſſ. Lat. t. i. p. 502.

Baſtardy, *Arms of*, in *Heraldry*, ſhould be croſſed with a bar, fillet, or traverſe, from the left to the right. Baſtards were not formerly allowed to carry the arms of their father, and therefore they invented arms for themſelves; and this is ſtill done by the natural ſons of a king.

Baſtardy, *Right of*, *Droit de Baſtardiſe*, in the French *Law*, is a right, in virtue of which the effects of baſtards dying inteſtate devolve to the king or the lord.

Baſtardy, *Trial of*. See Baſtard.

BASTARNÆ, in *Ancient Geography*, a people who at firſt inhabited that part of European Sarmatia that correſponded to a part of Poland and Pruſſia, towards the Viſtula, and who afterwards approached the more ſouthern parts, and eſtabliſhed themſelves to the left and right of the Tyas or Danaſter. The æra of their war with the Goths, and of their conqueſt of theſe territories, is not preciſely aſcertained. M. Freret refers it to the interval between the years 282 and 280 B. C. Tacitus ſays, they had houſes; and hence it has been inferred that they were not Sarmatians, becauſe they dwelt in huts. Livy conſiders them as Gauls, and Strabo preſumes that they were a nation of Germans. They ſeem, however, to have inhabited the region that lay north of the Carpathian mountains, and to have gradually extended themſelves towards Poland and the Boryſthenes. Many learned perſons have repreſented them as a colony left by the Gauls on the other ſide of the Carpathian mountains, when they made their progreſs, under the conduct of Brennus, from the eaſt towards the weſt. M. de Peyſſonel ſays, that they may be regarded as the founders of the Ruſſians and Sclavonians.

BASTATAL, in *Geography*, a ſmall iſland on the eaſtern coaſt of the iſland of Sumatra. S. lat. 1°. E. long. 103° 30'.

BASTAVOE, a bay on the eaſt ſide of Yell, one of the Shetland iſlands.

BASTELLICA, a town of the iſland of Corſica, 5 leagues E.N.E. of Ajaccio.

BASTERIA, in *Botany*, See Calycanthus.

BASTERNA, in *Antiquity*, a kind of vehicle or chariot uſed by ancient Roman ladies.

Papias thinks, that baſterna was firſt written for *oſſerna*.

Roſweild ſays, it ſhould be *via ſterna*, which he concludes from Iſidore, who ſays, *baſterna, via ſterna*. But the word ſeems better derived from the Greek *βαστάζω, porto, to carry*.

Salmaſius obſerves, that the baſterna ſucceeded the *lectica*, or litter; from which it differed very little, except that the litter was borne on the ſhoulders of ſlaves, and the baſterna borne or drawn by beaſts. Caſaubon ſays it was borne by mules. F. Daniel, Mabillon, &c. aſſert it was drawn by oxen, to go the more gently; and Gregory de Tours gives an inſtance of its being drawn by wild bulls. The inſide they called the *cavea*, or cage: it had ſoft cuſhions or beds, beſides glaſſes on each ſide like our chariots. The mode of baſternas paſſed from Italy into Gaul, and thence into other countries; and to this we owe our chariots, which, though we call them *currus*, yet have they no conformity to the ancient *currus*, but are in effect baſternas improved. The baſterna appears alſo to have been uſed in war, for the carrying of baggage.

BASTI, now Baza, in *Ancient Geography*, a town of Spain, in Bætica, north-eaſt of Acci, and near the mountains which ſeparate Bætica from Tarragonenſis.

BASTIA, in *Geography*, a ſea-port town of Albania, in Turkey in Europe, over againſt the iſland of Corfu, at the mouth of the river Calamu. N. lat. 39° 40′. E. long. 20° 35′.

Bastia, a city and ſea-port of Corſica, the capital of the iſland, is ſituated on its north-eaſt ſide, and commanded by a lofty mountain, in the centre of which the ſea forms a ſmall bay, defended by a mole. It is divided into two parts, called "Terra Nuova" and "Terra Vecchia;" in the former of which is a citadel, ſurrounded with fortifications. Its harbour, though good, is not large; and affords convenient anchorage for veſſels of a ſmall ſize, but is unfit for the reception of ſhips of war: and its commerce is inconſiderable. In 1730, Corſica revolted from Genoa; and in 1794, it was attacked by lord Hood, and captured by the Britiſh fleet and army. The number of inhabitants is ſuppoſed to be about 6000. N. lat. 42° 35′. E. long. 9° 30′.

Bastia *Marina* (*Rumphius*), in *Natural Hiſtory*, a kind of ſponge, ſuppoſed to be the *Spongia ventilabra* of Gmelin.

BASTIDE, in *Topography*, an appellation given in the ſouthern departments of France, to ſmall country-houſes, built by individuals of eaſy circumſtances, in the vicinity of the towns.

Bastide *de Montfort, La*, in *Geography*, a town of France, in the department of the Tarn, and chief place of a canton in the diſtrict of Gaillac, 5 miles N. E. of Gaillac.

Bastide *de Seron, La*, a town of France, in the department of the Arriege, and chief place of a canton in the diſtrict of Taraſcon; 4½ leagues N. W. of Taraſcon.

Bastide, *La*, a town of France, in the department of the Lot and Garonne, and chief place of a canton in the diſtrict of Caſtel-Jaloux, 2¾ leagues W. S. W. of Tonneins, and ¾ N. of Caſtel-Jaloux.

Bastide *de Jourdans, La*, a town of France, in the department of the mouths of the Rhone, and chief place of a canton in the diſtrict of Apt, 4 leagues S. E. of Apt.

Bastide *d'Armagnac, La*, a town of France, in the department of the Gers, and chief place of a canton in the diſtrict of Nogaro, 4¾ leagues N. N. W. of Nogaro.

Bastide *de Bearn*, a town of France, in the department of the Lower Pyrenées, 4 leagues W. of Orthez.

BASTILE denotes a ſmall antique caſtle, fortified with turrets. Such was the baſtile of Paris, which ſeems to have been the only caſtle that retained the name: it was begun to be built in 1369, by order of Charles V. and finiſhed in 1383, under the reign of his ſucceſſor. Its chief uſe was for the cuſtody of ſtate priſoners.

Of the plan and ſtructure of this edifice, which was for ſeveral ages appropriated to the clandeſtine purpoſes of unfeeling deſpotiſm, and which might be juſtly conſidered as the abode of human miſery, and of the regulations by which it was governed, it is now needleſs to record any particulars: as it was aſſaulted and totally deſtroyed at an early period of the revolution in France, viz. on the 14th of July, in the year 1789. Thoſe who are deſirous of acquainting themſelves with its hiſtory, will find their curioſity gratified in a volume entitled "The Hiſtory of the Baſtile, &c." publiſhed in 1790, 8vo. The moſt ſatisfactory information relating to the priſoner in the iron maſk, who was confined in this wretched dungeon for many years, and concerning whom many conjectures have been made, is communicated to the public in a work entitled "Memoires du Marechal Due de Richelieu," publiſhed at Paris in 1790, in 4 vols. 8vo. The ſecret is ſaid to have been extorted from the regent by his daughter, who diſcloſed it to the duke de Richelieu. From the account given in this work it appears, that this unfortunate perſon was the twin-brother of Louis XIV. born eight hours after this monarch, and who was the unhappy victim of ſuperſtition and cruelty. His father, Louis XIII., being weak enough to give credit to a prediction of ſome impoſtors, that if the queen ſhould be delivered of twins, the kingdom would be involved in civil war, ordered the birth of this prince to be kept a profound ſecret; and had him privately educated in the country as the illegitimate ſon of a nobleman: but on the acceſſion of Louis XIV. the young man gave indications of having diſcovered his parentage, of which his brother being informed, ordered him to be unpriſoned for life, and to wear a maſk, in order to prevent his being recognized.

BASTIMENTOS, in *Geography*, ſmall iſlands near the iſthmus of Darien, at the mouth of the bay of Nombre de Dios. They form a good harbour; and one of them has an excellent ſpring. N. lat. 9° 30′. W. long. 79° 45′.

BASTINADO. See Bastonado.

BASTION, in the *Modern Fortifications*, a huge maſs of earth uſually faced with ſods, ſometimes with brick, rarely with ſtone, ſtanding out from a rampart, whereof it is a principal part; and anſwering to what in the ancient forfication was called *propugnaculum*, or a bulwark.

Baſtions, ſome ſay, were firſt introduced by Ziſca the Bohemian; others attribute the invention of them to Achmet Baſhaw, in the year 1480, mentioning the fortification of Otranto as the firſt inſtance in which they were uſed. However, they were well known ſoon after the year 1500; for Tartalea gives a plan of Turin, which had been completely fortified for ſome time with four baſtions, in his Queſiti & Inventioni diverſe, publiſhed in 1546. The firſt baſtions, ſuch as thoſe of Turin, and of Antwerp, which was fortified about the year 1540, were ſmall, and removed at a great diſtance from each other: but they were made much larger, and brought nearer to each other in the citadel of Antwerp, erected under the direction of the duke d'Alva, about the year 1566.

A baſtion conſiſts of two faces and two flanks, and an opening towards the centre of the place called the gorge. —The faces are the lines BC and CS (*Plate* I. *Fortificat. fig.* 1.) including the angle of the baſtion. See Face.—The flanks are the lines BA, SD. The union of the two faces makes the outmoſt or ſaliant angle, called alſo the angle of the baſtion, BCS.

The union of the two faces to the two flanks makes the ſide-angles called the ſhoulders, or epaules of the baſtion.

And

And the union of the two other ends of the flanks to the two curtins, the angles of the flanks of the baſtion.

The foundation of the baſtion, i. e. of a work conſiſting of flanks and faces, is that great rule in fortification, viz. that every part of a work muſt be ſeen and defended from ſome other part: mere angles therefore are not ſufficient, but flanks and faces are indiſpenſibly requiſite.—Thus, if the baſtion conſiſts of flanks and faces, as ABCDD, *fig.* 1. all the points may be defended from the flanks; there being none, v. gr. in the face BC, but what may be defended from the oppoſite flank EL, nor any in the curtin AE, but may be defended from the adjacent flanks BA and EL; nor in any one flank BA, but may be defended from the other EL.

For the proportions of the faces, they are not to be leſs than 40 toiſes, nor more than 60; or differing little from 100 yards.

The flanks of baſtions are better as they are longer, provided they ſtand at the ſame angle under the line of defence: hence the flank muſt ſtand at right angles to the line of defence. Indeed, in the ancient fortification, the flank is made perpendicular to the curtin, ſo as to have the angle out of the enemy's eye; but this is now provided for, by withdrawing the lower part of the flank two or three perches towards the capital line; which part, thus withdrawn, is better, if made concave, than rectilinear; and if double, with a ditch between, than if ſingle.

The buſineſs of diſpoſing the flanks of baſtions makes the principal part of the art of fortification; it is that on which the defence principally depends, and which has introduced the various forms and modes of fortifying.

If the angle of the baſtion be leſs than ſixty degrees, it will be too ſmall to give room for guns; and beſides, ſo acute as to be eaſily beaten down by the enemies' guns: to which may be added, that it will either render the line of defence too long, or the flanks too ſhort: it muſt therefore be more than ſixty degrees; but whether or not it ſhould be a right angle, ſome intermediate angle between ſixty and ninety, or even whether or not it ſhould exceed a right angle, is ſtill diſputed; though thoſe are generally preferred, which are not much leſs than 90°, and not exceeding 120° or 130°. Hence it follows, that a triangle can never be fortified, becauſe either ſome or all of the angles will be either ſixty degrees, or leſs than ſixty.

Baſtions are of divers kinds, *ſolid*, *void*, *flat*, *cut*, &c.

Bastions, *ſolid*, are thoſe that are filled up entirely, and have the earth equal to the height of the rampart, without any void ſpace towards the centre.

Bastions, *void*, or *hollow*, are thoſe ſurrounded with a rampart and parapet, only ranging round their flanks and faces, ſo as to leave a void ſpace towards the centre; where the ground is ſo low, that if the rampart be taken, no retrenchment can be made in the centre, but what will lie under the fire of the beſieged.

Bastion, *flat*, is a baſtion built on a right line in the middle of the curtin, when it is too long to be defended by the baſtion at its extremes.

Bastion, *cut*, is that whoſe point is cut off, and in lieu thereof has a re-entering angle, or an angle inwards with two points outward: this is ſometimes alſo called *baſtion with a tenaille*; and is uſed either when, without ſuch a contrivance, the angle would be too acute, or when water, or ſome other impediment, hinders the carrying on of the baſtion to its full extent.

Bastion, *compoſed*, is when the two ſides of the interior polygon are very unequal, which makes the gorges alſo unequal.

Bastion, *regular*, is that which has its due proportion of faces, flanks, and gorges; the faces being of an equal length, the flanks the ſame, and the two angles of the ſhoulder equal.

Bastion, *irregular*, is where this proportion and equality are not obſerved.

Bastion, *diſjoined*, is where the irregularity of the lines and angles makes the baſtion out of ſhape: as when it wants one of its demi-gorges; one ſide of the interior polygon being too ſhort.

Bastion, *demi*, is that which hath but one face, and one flank: called alſo an *epaulement*.

To fortify the angle of a place that is too acute, they cut off the point, and make two *demi-baſtions*, which form a *tenaille*, or a re-entering angle. Their chief uſe is before a horn-work or crownwork.

Bastion, *double*, is that which, on the plane of the great baſtion, has another baſtion built higher, ſomewhat after the manner of a cavalier; leaving twelve or eighteen feet between the parapet of the lower, and the foot of the higher.

Bastion, *Capital of a*. See Capital.

Bastion, *Gorge of a*. See Gorge.

Bastion, *Diſtance of the*. See Distance.

Bastion *Company in France*. See Company.

BASTITANI, in *Ancient Geography*, a people of Bætica, in Spain. See Bætica, and Basti.

BASTOGNE, in *Geography*, a city of the Netherlands, in the duchy of Luxemburgh, near the foreſt of Ardennes. It is ſo populous, ſo well built, and has ſo much trade, that it is not unfrequently called "Paris in Ardennes." N. lat. 50° 6′. E. long. 6° 0′.

BASTON, Robert, in *Biography*, a poet of ſome note in the fourteenth century, and author of ſeveral works, was deſcended of a noble family, and born in Yorkſhire, not far from Nottingham. In his youth he became a Carmelite monk, and afterwards prior of that order at Scarborough. He was likewiſe poet laureat and public orator at Oxford. In 1304, he accompanied king Edward I. in his expedition into Scotland, for the purpoſe of celebrating the king's victories over the Scots; but being taken priſoner, he was compelled to ſing the ſucceſſes of Robert Bruce, who then claimed the crown of Scotland. He died about the year 1310, and was buried at Nottingham. His poetry, though barbarous, was not contemptible for the age in which he lived. Biog. Brit. Gen. Dict.

Baston, or Batoon, in *Architecture*, denotes a mould in the baſe of a column; otherwiſe called a *tore*.

Baston, or Batoon, in *Heraldry*, a kind of bend which has only one fourth of the uſual breadth. The baſton does not go from ſide to ſide of the eſcutcheon, as the bend or ſcarf does, but is broken off ſhort, in form of a truncheon. Its uſe in Engliſh coats of arms is a mark of baſtardy: but French heralds introduce it in arms as a difference, a mark of conſanguinity.

Baston alſo ſignifies the earl-marſhal's ſtaff.

Baston, French, literally ſignifying a *ſtaff*, and technically a *verge*, or *mace*, in *Law*, is uſed for one of the warden's of the Fleet's men, who attends the king's court with a red ſtaff, for taking ſuch to ward as are committed by the court, and likewiſe attends on ſuch priſoners as are ſuffered to go at large by licence. Stats. 1 R. II. c. 12. 5 Eliz. c. 23. See Tipstaff.

BASTONADO, Bastonade, or Bastinado, the puniſhment of beating or drubbing a criminal with a ſtick.

The word is formed of the French *baſton*, a *ſtick*, or *ſtaff*.

The bafonade is a punifhment ufed among the ancient Greeks, Romans, and Jews, and ftill obtains among the Turks.

The Romans called it *fuffigatio*, *fuftium admonitio*, or *fuftibus cædi*, which differed from the *flagellatio*, as the former was done with a ftick, the latter with a rod or fcourge. The fuftigation was a lighter punifhment, and inflicted on freemen; the flagellation a fevérer, and referved for flaves. It was alfo called *typtomum*, becaufe the patient here was beat with ftocks, like a drum.

The penalty is much in ufe in the Eaft to this day. The method there practifed is thus: the criminal being laid on his belly, his feet are raifed, and tied to a ftake, held faft by officers for the purpofe; in which poflure he is beaten by a cudgel on the foles of his feet, back, chin, &c. to the number of one or more hundred blows. Calmet. Dict. Bib. tom. i. p. 260.

For the method of inflicting this punifhment at Algiers, fee ALGIERS. Dr. Shaw (Trav. p. 253.) fuggefts that it was probably in this manner, that St. Paul was "thrice beaten with rods." 2 Cor. xi. 25. The Chaufes, whofe office it is to inflict this punifhment at Algiers, appear to be no other than fo many Roman lictors armed with their fafces. The lighteft of all the Chinefe punifhments is the bambo, which is only ufed for chaftifing thofe who have been guilty of very trivial faults. The criminality of the offender determines the number of blows which he muft receive; but the loweft number is twenty. The punifhment in this cafe is confidered merely as a fimple paternal correction, without any infamy attached to it; and it is ordered by the emperor to be inflicted on his courtiers, who are afterwards received into favour and treated with refpect. The baton, or "pan-tfee," ufed for this punifhment, is a piece of bamboo, a little flatted, broad at the bottom, and polifhed at the upper extremity for the convenience of being more eafily handled. Every mandarin may ufe it at pleafure in certain cafes, either when any one forgets to falute him, or when he adminifters public juftice. On fuch occafions he fits gravely behind a table, upon which is placed a bag filled with fmall ftcks, while a number of petty officers ftand around him, each furnifhed with fome of thefe "pan-tfees," and waiting only for his fignal to make ufe of them. The mandarin takes from the bag one of the little ftcks which it contains, and throws it into the hall of audience. The culprit is then feized, and ftretched out with his belly towards the ground; his breeches are pulled down to his heels, and an athletic domeftic applies five fmart blows of his "pan-tfee;" another fucceeds, and beftows five more, if the mandarin draws another fmall baton from the bag, and fo, by gradation, until the judge is pleafed to make no more fignals. The criminal, who has received the chaftifement, muft then throw himfelf upon his knees before the judge, touch his body three times to the earth, and thank him for the care which he takes of his education. Grofier's China, vol. ii. p. 52, &c.

BASTONIER, or PORTE-VERGE, in the French *Law*, an inferior advocate, elected yearly according to feniority, to be the head or maifter of the community of advocates and attorneys. He is prefident of the board held for maintenance of the order, and difcipline of the *palais*. To him alfo belongs the convocation of the inferior judges, when put under interdict. He bears a ftaff in the cathedral.

BASTONIER is alfo ufed for him who keeps the ftaff of a community, and carries or follows it in proceffions.

BASTOVA, in *Geography*, a town of European Turkey, in Servia, on the road to Belgrade.

BASTWICK, John, in *Biography*, M.D. born at Writtle in Eflex, in 1593, after paffing through the ufual fchool education, was fent to Emanuel college in Cambridge, where, however, he did not continue a fufficient time to take his degree; but with the view of qualifying himfelf for the practice of phyfic, he quitted England to vifit the principal feminaries on the continent, where, at that time, the different branches of medicine were better taught than in his own country. At Padua he was admitted to the degree of doctor in medicine; but engaging early in theological difputes, and thence exciting the refentment of the clergy, he foon found himfelf involved in troubles, from which, at a late period, he fcarce efcaped with his life. In 1624, and before he returned to England, he publifhed at Leyden, "Elenchus Religionis Papiftarum, in quo probatur, neque Apoftolicam, neque Catholicam, imo neque Romanam eft," 24to.; and foon after his return, "Flagellum Pontificis et Epifcoporum Latialium." Though he declared, in the preface to this work, that nothing in it was intended to affect fuch bifhops as acknowledged their authority from kings and emperors, yet our Englifh prelates, either fubjects that fome things in his book were levelled at them, or perhaps not enduring that the conduct of weak fathers fhould be expofed with fuch freedom by a lay writer, and fearing if he was fuffered to go on the fame weapon might be turned againft them, he was cited by them before the high-commiffion court, fined 1000l. and fentenced to be excommunicated, to be debarred the practice of phyfic, to have his books burnt, and to remain in prifon until he made a recantation. After being confined two years in the Gatehoufe, he publifhed "Apologeticus ad Præfules Anglicos;" but that procuring no remiffion of his fentence, it was foon followed by "The New Litany," in which he taxed the bifhops with having an inclination to popery, and exclaimed againft the feverity and injuftice of the high-commiffion's proceedings againft him. For publifhing this work, he was fentenced, by the fame court, to pay a fine of 5000l., to ftand in the pillory in Palace-yard Weftminfter, and there lofe his ears, and to fuffer perpetual imprifonment in a remote part of the kingdom. The fame fentence was, about the fame time, in 1637, paffed and executed upon Prynne and Burton. Baftwick was conveyed to Launceflon caftle in Cornwall, and thence removed to St. Mary's caftle in the ifle of Scilly, where no one was permitted to vifit him. The houfe of commons, however, in 1640, ordered him, as well as the others, to be brought to London, whither they were attended by vaft multitudes of people, with loud acclamations of joy. The proceedings againft them were voted illegal, and they were ordered to be remunerated out of the revenue and eftates of the archbifhop of Canterbury, and the other lords of the commiffion who had condemned them. Baftwick was alive in 1648. The time of his death is not known. Gen. Biogr. Dict.

BASVILLE, in *Geography*, a fea-port town in the ifland of Martinico.

BASZEU, a river of European Turkey, which runs into the Pruth, near Stephanowze, in Moldavia.

BAT, in *Zoology*. See VESPERTILIO.

BAT, *Sea*. See SEA BAT.

BAT, in *Commerce*, a fmall bafe filver coin, current in divers parts of Germany and Switzerland, at different prices.

The bat or ftuber at Nuremburg, is equal to four creutzers; at Zurich, to $\frac{1}{4}$ of the French crown; at Bafil, Soleurhard, &c. to $\frac{1}{5}$; and at Bern and Fribourg to $\frac{1}{36}$ of the fame crown. Thefe laft are called fhort bats.

BATA, in *Botany*. See MUSA.

BATA, in *Geography*. See BATTA.

BATABANO, a town on the fouth fide of the ifland of Cuba in the weft Indies, feated near a large bay, oppofite

Pinos isles, and about 50 miles south-west from the Havannah.

BATABLE Land. See Battable.

BATACALO, or Batacolo *Bay*, in *Geography*, lies on the east coast of the island of Ceylon, in N. lat. 7° 55'. E. long. 81° 3'. It extends to the south between the main island and a narrow track of land on the east side of it, and is well sheltered from most winds. The Port town, so called, is on the west side of this bay or gulf, 53 leagues N. E. of Columbo. The bay is about 20 leagues to the S. S. E. of Trincomale. Batacolo is a place of comparatively small importance; but the surrounding country, and the bold grotesque rocks which skirt its shores, have deservedly attracted particular attention.

BATACARANG Point, lies on the east coast of the island of Sumatra.

BATALHA, a monastery in Portuguese Estremadura, about 60 miles to the north of Lisbon, founded by John I. at the close of the fourteenth century, in consequence of the great victory over the king of Castile, and reckoned one of the most noble monuments of what is called the Gothic style of architecture. It has been particularly described by Mr. James Murphy.

BATAN, a town of Asiatic Turkey, in the province of Natolia, 20 miles south of Kutaia.

BATARDIERE, a place in a garden, prepared for the planting of fruit-trees, which being transplanted thither from the nursery, are to be placed in espaliers, or elsewhere, to supply the place of dead trees.

BATATAS, in *Botany*. See Convolvulus.

Batatas. See Potato.

Batatas, in *Entomology*, a species of Acarus, found on the potatoe in Surinam and some other parts of South America. It is rather rough and sanguineous; anterior legs as long as the body. Fabricius.

BATAVI, in *Ancient Geography*, are supposed to have been originally the same people with the Catti or Cattans, who dwelt beyond the Rhine; and being driven from their country by a domestic insurrection, they settled at the extreme borders of Gaul, in an island called "Insula Batavorum," formed by the mouths of the Rhine and the ocean. According to this description, the Batavians possessed South Holland, part of the country of Utrecht, and the island of Betaw in the dukedom of Guelderland. The early history of the Batavi is involved in considerable obscurity. It is certain, however, that about 54 years before the Christian æra they were distinguished by their valour, and attracted the attention of Cæsar, who formed an alliance with them. He encouraged them to serve in the Roman armies; and they appear to have fought with him against Pompey at Pharsalia, and to have assisted Augustus in the battle of Actium. They assisted Cæsar in his attacks upon the Gauls, and they every where routed and dispersed that ferocious and warlike people. The Batavian cavalry bore the highest reputation, and the infantry fought with the same order, discipline, and intrepidity in the marshes and waters as upon the firm land; and even the Romans dreaded their resentment. They became the body-guard of the emperors, who reposed equal confidence in their fidelity and courage; and they retained this honourable trust till they were dismissed by Galba, though with tokens of favour and esteem. In all important expeditions, in every dangerous enterprise, and where obstinate boldness was required, the Batavians were selected. They generally composed the forlorn hope of the Roman army, sustained the first shock of the enemy, and made the first attack with an impetuosity peculiar to themselves. They were not only honoured by the title of allies to the empire, but distinguished by the appellation of the friends and brethren of the Romans; which denomination was particularly applicable to the inhabitants of Betaw, an island formed by the Rhine and Vahal or Waal. Their government seems to have been monarchical, and it is conjectured that Claudius Civilis was descended from their kings. But though the Romans indulged them in an exemption from tributes and taxes, it was not consistent with the views they had adopted of universal dominion to allow them the enjoyment of their liberty. They built towns, and made establishments in their territories; and this rude people, flattered by the luxury and the amusements which they introduced among them, did not immediately perceive the dangerous policy which directed them. They were soon, however, informed of the treachery of their allies, by the oppression and injustice which they began to exercise. When Vitellius and Otho disputed the empire, and the German nations attempted to recover their liberty, the Batavians followed their example. Alarmed for the interest and the rights of their nation, Julius Paulus and Claudius Civilis set themselves to oppose the practices of the Romans, and to emancipate themselves from their dominion. But Fonteius Capito, the Roman commander, considering them as rebels, made himself master of their persons; and having beheaded the former, he loaded the latter with chains, and sent him to Rome. The death of Nero, however, which happened about this time, delivered Civilis from the danger which threatened him; and the weak and impolitic Galba suffered him to return to his country, without inquiring into his crime, or into his merit. This illustrious chief then prepared to gratify his resentment, and to recover and vindicate the liberty and honour of his nation. He called an assembly of his community, and representing the evils of tyranny, inculcated a disdain of submission and servitude. His countrymen submitted themselves without reserve to his conduct; and uniting with the Frisii and the Coninefates, he declared war against the Romans. Gaining an accession of strength from the Tungrians, who deserted the Romans, and from some natives of Batavia, who served as rowers in the Roman fleet, he was enabled to defeat the Romans and put them to flight. He was afterwards joined by eight Batavian cohorts, who abandoned Vitellius, by whose orders they were marching to Rome, and also by some other German tribes; and thus aided and encouraged, he obtained some further successes. But upon the arrival of Cerealis, the Roman general, he received a total overthrow, and was at length obliged to abandon his own island, whither he had retreated, to retire beyond the Rhine, and to submit to the Romans. A conference taking place between Cerealis and Civilis, the issue of it was an entire submission on one side, and an unreserved pardon on the other. The Batavians remained in the same condition in which they were before the war broke out; that is, exempt from all tributes, and only obliged to supply the Romans with troops when required. We know little more of the ancient history of the Batavians than that the fierce and warlike spirit of the people obliged the Romans to maintain strong garrisons on the banks of the Rhine; that they revolted against Constantine; that they performed signal services to Theodosius in Britain; and that, with the rest of the empire, they fell under the power of the Franks; and were governed by Charlemagne, and his descendants, until, upon the decline of that house, the great lords and officers of the crown, taking advantage of the weakness of the reigning princes, rendered their governments hereditary in their families. From the Batavi, the seven united provinces derived the name of Batavia, which since the French revolution has been recognized in the appellation of the

Batavian republic. Cæſ. Com. l. vii. Tacit. Hiſt. l. v. l. vii. Sueton. in Galb.

BATAVIA Castra, a citadel of Vindelicia, ſo called from the cohors Batavia, in garriſon under the commander in Rhætia; now Passau, ſituated in Bavaria, at the confluence of the Danube, Inn, and Ilz.

Batavia, in Geography, the celebrated capital of the Dutch poſſeſſions in the Eaſt Indies, and denominated the "Queen of the Eaſt," on account of the beauty of its building, and its immenſe trade, is a ſea-port town on the north coaſt of the iſland of Java, ſituated very near the ſea, on a fertile plain, bearing evident marks of having been left or thrown up by the ſea, in the kingdom of Jaccatra, upon the river of that name, which, running through the middle of the town, divides it into two parts. To the north of the city is the ſea-ſhore; behind it to the ſouth, the land riſes with a gentle, and ſcarcely perceptible, acclivity towards the mountains, which lie 15 or 16 Dutch miles, or leagues, inland; one of which, as being very high, bears the name of the Blue mountain. This city was founded in 1619 by the governor-general, John Peterſon Koen, who captured and deſtroyed the town of Jaccatra, near the ſpot where the former town was ſituated; and he gave it the name of Batavia, though it is ſaid he much wiſhed to have called it "New Horn," from the place of his nativity, "Horn" in North Holland. Although it was then an inconſiderable place, with regard both to ſtrength and beauty, he declared it the capital of the Dutch ſettlements in India; and his choice of the ſituation was ſo juſt, and his plan ſo well contrived, that it roſe with unparalleled rapidity to that degree of magnificence and importance which has rendered it both the admiration and terror of all the more eaſtern nations of India. It ſtill retains a very conſiderable rank and influence; although, for the laſt 50 years, it has much declined both as to opulence and population. The form of the city is an oblong ſquare, $\frac{3}{4}$ of a mile long, and $\frac{1}{2}$ a mile broad, interſected by the river already mentioned, which runs from north to ſouth, and is croſſed by three bridges. The breadth of the river, within the city, is about 160 or 180 feet; and paſſing the caſtle and admiralty wharf, it diſcharges itſelf into the ſea. On both ſides of its mouth are long piers of wood and brick-work, about 3,800 feet long, taken from the moat of the city: between which, on the weſt ſide, the veſſels belonging to the free merchants are laid up and repaired; but along the eaſt ſide, the paſſage lies open for the lighters, which go into and out of the city with the cargoes of the ſhips. Oppoſite to the outward point of the eaſtern pier is a horn-work, commonly called the "Water-fort," conſtructed of a kind of coral rock, and having, mounted or diſmounted, fourteen guns, and two howitzers. It conſiſts of a parapet, retained by a wall; but the parapet has been much neglected, and the wall is nearly deſtroyed by the conſtant working of the ſea. This fort is protected on the land ſide by a neat ſwamp, and towards the ſea, on the north-weſt, by extenſive flats, over which even boats cannot paſs. The only good approach is that by the channel, which it ſees and defends. On the weſt ſhore, about a quarter of a mile from the water-fort, is a battery, mounting ſeven guns, bearing down the river; and oppoſite to this is a battery of ſix guns, facing the river, and two to the eaſtward. Each diviſion of the city on either ſide of the river has two canals, running parallel with the longeſt ſides, and interſected at right angles by croſs-canals. Theſe canals join the great canal, or river, at the diſtance of half a mile from the entrance; and below their junction is laid a boom of wood, armed with iron ſpikes. The city is encompaſſed by a wall of coral rock, ſerving as a facing to the rampart behind it; and alſo by a moat, having ſeveral ſluices, into which water is conveyed from the river. Sir George Staunton ſays, that a part of the town-wall is built of lava, which is of a dark blue colour, and of a very hard denſe texture, emitting a metallic ſound, and very much reſembling ſome of the lava of Veſuvius. It is brought from the mountains in the centre of Java, where a crater is ſtill ſmoking. The rampart is defended by twenty or twenty-one baſtions, which, as well as the wall, are in a ruinous ſtate. Small projections, of various forms, are conſtructed at intervals of about 350 feet, each of which generally mounted three guns. At ſhort diſtances from the town, three or four ſmall ſtar-forts of earth are erected in particular paſſes, probably for defence againſt the inhabitants of the iſland. The caſtle or citadel of Batavia, which was formerly on the ſea-ſide, is now, by the continual increaſe of the mud-banks before it, diſtant from the ſea more than 100 roods, and is ſeated on the eaſt bank of the river. It covers about 200 roods of ground, and is a regular ſquare fortreſs, built of coral-rock brought from ſome of the adjacent iſlands, compoſed of that material. It has neither ravelins nor outworks. Two guns are mounted on each flank, and two, or ſometimes three, on each face: neither "en barbette" nor "en embraſure;" but in a ſituation between both, having the diſadvantages of both without the advantages of either. The wall is of maſonry, about 24 feet high. It has no ditch, but a canal encompaſſes it at ſome diſtance. It has no cordon; and the length of the exterior ſide of the work is about 700 feet. Between the moat and the buildings within the fort, on the ſouth ſide, is a large area or eſplanade. In the centre of the buildings that look towards the city, is a great gate, and then a broad paſſage, with warehouſes on each ſide, leading to another eſplanade, on the north ſide, encloſed between the ramparts and the buildings, which are appropriated to the uſe of the company. The government-houſe, which forms the left wing of the buildings looking to the ſouth, is provided with numerous and convenient apartments, but uninhabited. In it is a large hall, in which the council of India generally aſſemble twice a week. Near this is a little church or chapel, called the caſtle church; and at a ſmall diſtance is a corps-de-garde, where a party of dragoons always mount guard. Over the caſtle-bridge is a ſpacious plain or ſquare, planted with tamarind trees, which afford an agreeable ſhade; and the entrance into it from the city is over a bridge and through a large ſtately gate, mounted with a lofty cupola, from which ariſes an octagon turret with a large clock, the only public one at Batavia. On the left ſide of the gate is a large building, ſerving as a corps-de-garde, having in front a long gallery, reſting upon a row of pillars; where is uſually poſted a captain's guard of grenadiers. On the weſt ſide of the ſquare ſtand the company's artillery-houſe, and the diſpenſary or prevention-magazine, both of which extend to the ſide of the river, ſo that the goods are taken in and out of the lighters with the greateſt eaſe. On the oppoſite ſide is the iron-magazine, and the graſs-plat or place of execution, which is an artificial ſquare eminence, upon which are a gallows and ſome poſts; and behind it is a ſmall building, with windows, opening towards the place of execution, where the counſellors of juſtice may behold the completion of their ſentences. Upon the plain are arranged pieces of iron and braſs artillery, and other warlike implements.

Batavia has five gates; and near to that on the north ſide, to the weſt of the river, is the admiralty wharf; and near this, the warehouſes for naval ſtores, and the workſhops of the carpenters, coopers, ſail-makers, and ſmiths, with other offices and houſes that relate to the ſhipping. In the ſouth-eaſt corner of the city, cloſe to the ramparts, lies the workmen's

quarter, called "Ambagtſk wartier," in which all the workmen and labourers employed by the company reſide. Beſides a great number of Europeans, there are more than a thouſand ſlaves who belong to this quarter.

Beſides the public buildings already mentioned, Batavia has a town-hall, which is well ſituated; two large and convenient hoſpitals, and ſeveral churches; three of which, within the city, are appropriated to the reformed religion, in which ſervice is performed in the Dutch, Portuguese, and Malay languages; and one without the gates, called the outer Portugueſe church. There is alſo a Lutheran church not far from the caſtle, provided with a fine organ and a very handſome pulpit. Theſe churches are ſupplied every Sunday by twelve clergymen of the reformed religion, and three Lutheran miniſters. One of theſe clergymen is deputed, once every year, or ſometimes only once in two years, upon a viſitation to the company's poſſeſſions on the weſt coaſt of Sumatra; and to the individuals thus employed, the viſitation is rendered lucrative by the merchandiſe which they take with them for ſale. The Chineſe have alſo ſeveral temples, which are tolerated by government; but the exerciſe of the Roman Catholic religion is obſtinately prohibited.

In the diſtricts round Batavia, immediately ſubject to the Dutch, it is calculated, ſays Sir George Staunton, that near 50,000 Javaneſe families are ſettled, containing upon an average ſix perſons to a family, or 300,000 perſons in the whole. The city of Batavia, including the ſuburbs, contains near 8000 houſes. Valentyn (cited in the Mod. Un. Hiſt.) ſtates the number of houſes in the city and ſuburbs at 4,770. Huyſers, a more recent Dutch writer, who was long reſident at Batavia, and who publiſhed his account in 1778, eſtimates the number of houſes in Batavia at 3,500; but he does not ſay whether he included the ſuburbs. The number and deſcription of inhabitants in 1778, according to this writer, were as follow: viz. 468 European burghers, 5,582 native Chriſtians, 4,873 Mardykers or manumitted ſlaves of all nations, 23,309 Chineſe, 289 Amboyneſe, 278 Bandameſe, 966 Moors, 254 Gentoos, 1,852 Malays, 324 Bantanners, 1,983 Macaſſers, 3,707 Bougineſe, 104 Timoreſe, 189 Mandharеſe, 85 Sumbawers, 13,073 Baliers, 33,408 Javans, and 20,072 ſlaves; making in all 110,816, excluſively of women and children, and of the company's ſervants. The company's eſtabliſhment conſiſted, in 1776—1777, of 613 perſons in civil, and 35 in eccleſiaſtical employments, 99 ſurgeons and aſſiſtants, 125 belonging to the artillery, 875 ſeamen and marines, 1,571 ſoldiers, and 903 mechanics; in all, 4,221 Europeans, beſides 703 natives in their ſervice.

The houſes at Batavia, belonging to the Dutch, are well built, chiefly of brick, clean and ſpacious, and their conſtruction is, for the moſt part, well adapted to the climate. The doors and windows are wide and lofty; the ground-floors are covered with flags of marble, which being ſprinkled frequently with water, give a pleaſant coolneſs to the apartment; but when Sir George Staunton viſited the place, a conſiderable proportion of the houſes was untenanted; a circumſtance which indicated a declining ſettlement. The houſes of the Chineſe are low, and crammed with people. Moſt of them dwell in the ſouthern and weſtern ſuburbs, which are called the Chineſe "Campon." Before the revolt of the year 1740, they had the beſt quarter of the city allotted them, to the weſt of the great river; but when in that commotion all their houſes were burnt to the ground, the whole quarter was converted into a "paſſar," or market, where at preſent all kinds of proviſions are daily expoſed to ſale. Before the perpetration of this maſſacre, ſeveral thouſand Chineſe adventurers reſorted to Batavia, allured by the proſperity of their countrymen already ſettled there. The number of theſe coloniſts, together with the robberies and murders committed by them, excited a conſiderable degree of apprehenſion; which induced Van Imhof, who was at that time a member of the council, to propoſe, that thoſe who could not prove that they were gaining an honeſt livelihood, ſhould be ſeized and tranſported to Ceylon, and there employed in mining and other labour for the ſervice of the company. The execution of this order produced a tumult and an inſurrection; and thouſands of the Chineſe retired from the city, and collecting a ſtrong force, ravaged the country and aſſaulted the capital. The civil and military inhabitants united in repelling them. But a fire taking place ſoon after among the Chineſe buildings in the city, ſeveral of the owners were accuſed of oppoſing with arms the extinguiſhment of it, with a view, as it was ſaid, of allowing the conflagration to ſpread through the whole town, that in the moment of confuſion they might aſſaſſinate the Europeans, and become maſters of the place. The alarm was ſuch, that the Dutch government gave inſtant orders to put all the Chineſe heads of families to death; and the ſailors from the veſſels in the road were brought aſhore, and induced, for the ſake of plunder, to ſhare in executing the bloody edict. All the Chineſe, without diſtinction, men, women, and children, were put to the ſword; and the innocent and guilty were indiſcriminately exterminated. Whence this barbarous order iſſued has been a ſubject of unſatisfactory inveſtigation. The governor-general Valkenier, and his brother-in-law Helvetius, were accuſed by the public voice of directing the maſſacre; but their guilt was never proved. The deed itſelf was condemned by the directors of the company in Holland; and much apprehenſion being entertained that the fact would excite the indignation of the emperor of China, deputies were ſent to him in the following year, to apologiſe for the meaſure on account of the neceſſity of the caſe. Theſe deputies were agreeably ſurpriſed to find that the emperor calmly anſwered, that "he was little ſolicitous for the fate of unworthy ſubjects, who, in the purſuit of lucre, had quitted the country, and abandoned the tombs of their anceſtors." The Chineſe, however, are ſaid to be now as numerous as ever in and about Batavia; and it is acknowledged by the Dutch, that the ſettlement could ſcarcely ſubſiſt without their induſtry and ingenuity. The quarter of the ſuburbs which they occupy is crowded with ſhops containing all kinds of goods; thoſe of their own manufacture, and ſuch as they receive annually from China, or purchaſe from the European importations. The number of Chineſe, who live both within and without the walls of the city, cannot be preciſely determined; but it muſt be very conſiderable, as the company receives a poll-tax from them of more than 40,000 rix-dollars. Every Chineſe who has a profeſſion is obliged to pay a monthly poll-tax of half a ducatoon, or 3s. ſterling; but women, children, and thoſe who have no trade, are exempted from this tax. They are under a chief of their own nation, called the Chineſe captain, who lives within the walls, and has under him ſix lieutenants in different diſtricts. A flag is hoiſted at his door on the firſt or ſecond day in every month, and the Chineſe that are liable to the tax are then obliged to repair to him for the payment of it. Each houſe in Batavia pays annually an aſſeſſment of half a month's rent, which is expended in dragging and cleanſing the canals, and in repairing the town-hall and other buildings belonging to the city. The churches are repaired out of the duties levied upon funerals. At Batavia a bank of circulation has been eſtabliſhed for ſome

ſome years, which bank is united with the Lombard or bank for lending money on pledges. This bank is under the adminiſtration of a director (who is generally a counſellor of India), two commiſſaries, a caſhier, and a book-keeper. Its capital is computed to amount to between two and three millions of rix-dollars, or between 435,000 l. and 650,000 l. ſterling.

The ſuburbs of Batavia are remarkable on account of their conſiderable extent, uncommon pleaſantneſs, and great population. They are inhabited by Indians of various nations, and by ſome Europeans; but the quarter of the Chineſe is the moſt populous, and ſeems of itſelf a city. None of the ſtreets of Batavia are paved; but along the ſides of them near the houſes are ſtone foot-paths, about three or four feet broad. The ſtreets and canals are planted on each ſide with large trees, generally the "onophyllum catophyllon," and "calaba," the "canarium commune," and others of a ſcarcer ſort. The Dutch, who are ſo fond of gardens in Holland, have indulged that taſte to a great extent at their houſes in the environs of Batavia, which are every where interſperſed with rivulets, by which the circumjacent rice plantations are inundated, and fertilized in the proper ſeaſon. The country, though it be a fenny diſtrict, of which a gentleman upon the ſpot uſed the ſtrong expreſſion, "that the air was peſtilential, and the water poiſonous," is nevertheleſs every where ſo verdant, gay, and fertile, interſperſed with ſuch magnificent houſes, gardens, avenues, canals, and drawbridges, and ſo formed in every reſpect to pleaſe, if health could be preſerved in it, that a youth juſt coming from ſea, and enraptured with the beauty of every object he ſaw around him, but mindful of the danger to which life was expoſed, could not help exclaiming, "What an excellent habitation would it be for immortals!" There are five principal roads which lead from the city towards the country, and they are all planted with high and ſhady trees, and adorned with handſome houſes and pleaſant gardens.

As to the habits and mode of living of the inhabitants of Batavia, they very much depend on the views and diſpoſitions with which they reſort hither, on the ſituation which they occupy, and on the qualities of the climate. The native Javaneſe are in general too remote from civilization to have any wants that are not eaſily ſatisfied, in a warm and fertile climate. No attempt is made to enſlave their perſons; and they find the government of the Dutch leſs vexatious than that of others who divide ſome ſhare of the ſovereignty of the iſland with them. As for the Chineſe, who are conſtantly reſorting hither from China in the veſſels called "junks," their views are ſimilar to thoſe which influence the natives of Holland, and they are alike actuated by the deſire of accumulating wealth in a foreign land: both the one and the other were trained in their own country to habits of induſtry; but upon their arrival in Batavia, they are placed in different circumſtances, and acquire different manners. The Chineſe, having no proſpect of advancement by favour and intereſt, apply with diligence to the occupation that is aſſigned them, and by exertion and economy meliorate their condition, without being able to gratify their ambition by the attainment of any public offices. In the city, they become retailers, clerks, and agents; and in the country, they are farmers, and the principal cultivators of the ſugar-cane. Thus they at length acquire fortunes, which they value by the time and labour required to earn them; and this gradual acquiſition makes no change in their diſpoſition or mode of life; their induſtry is not diminiſhed, nor is their health impaired. The Dutch, on the contrary, who are ſent out by the company to adminiſter their affairs in Aſia, become ſoon ſenſible that they have the power, wealth, and poſſeſſions of the country at their diſpoſal. Thoſe who ſurvive the depredations of the climate, mount by a quick gradation to offices, lucrative but not laborious. Their influence likewiſe enables them to ſpeculate in trade with great advantage. The drudgery of buſineſs is readily undertaken by the Chineſe, who, like the native Banians and Debaſhes in Calcutta and Madras, are employed as ſubordinate inſtruments; while their principals find it difficult, under ſuch new circumſtances, to retain their former habits, or to reſiſt a propenſity to indolence and voluptuouſneſs, though often attended with the ſacrifice of health, if not of life. Convivial pleaſures, among others, are frequently purſued to exceſs. "The Chineſe," ſays Stavorinus, "are like the Jews in Europe, very cunning in trade, both in the largeſt dealings, and in the moſt trifling pedlary. They are ſo deſirous of money, that a Chineſe will run three times from one end of the city to the other, if he has the proſpect of gaining a ſingle penny." He adds; "in doing buſineſs with them, the greateſt care muſt be taken to avoid being cheated." In ſtature they are rather ſhort than tall, and in colour not ſo brown as the Javaneſe. Their heads are ſhaved all round, except a bunch of hair on the middle of the crown, which is twiſted with a ribbon that hangs down the back. Their dreſs conſiſts of a long robe of nankeen or thin ſilk, with wide ſleeves, and under it they wear drawers of the ſame, which cover the legs. In their houſes they hang up in certain niches, images of their "jooſtjes" or idols, painted on Chineſe paper, before which they burn lamps and incenſe. This jooſtje they conſider as an evil ſpirit, and therefore they continually ſupplicate him not to do them any harm. In their adorations, they proſtrate themſelves before him, and expreſs their reverence by ſtriking their heads continually againſt the ground. They likewiſe conſult their idol by a peculiar mode of divination, when they engage in any important undertaking. Notwithſtanding this ſuperſtition, the Chineſe are accuſed of gratifying their luſts by the moſt deteſtable violations of the law of nature. Their tombs are magnificent and coſtly; and great numbers of them are to be ſeen about half an hour's walk from Batavia, on the road to Jaccatra. When a Chineſe of any note dies, his death is formally announced to all the branches of the family. The body is waſhed, perfumed, and dreſſed in the beſt apparel of the deceaſed. The corpſe is then ſeated in a chair; and his wives, children, and relations, fall down before it and weep. On the third day it is put into a coffin, and placed in one of the beſt apartments, hung with white linen, the colour appropriated by them to mourning. In the middle of the apartment is erected an altar, on which is placed the portrait of the deceaſed, with incenſe burning near it. On one ſide of the coffin ſtand the ſons, dreſſed in white coarſe linen, exhibiting every ſign of ſorrow; while the mother and female relations are heard lamenting behind a curtain. On the day of burial, the whole family aſſembles, and the corpſe is carried to the grave with much ſolemn pomp. Images of men and women, relations of the family (in the manner of the ancient Romans), and even of animals, together with wax tapers and incenſories, are carried firſt in the proceſſion. Then follow the prieſts with muſical inſtruments; and after them the corpſe upon a bier, attended by the ſons of the deceaſed, clothed in white, and leaning upon crutches, as if diſabled by grief from ſupporting themſelves. The female relations are carried in chairs, hung with curtains of white ſilk, that conceal them from view; but their lamentations are diſtinctly heard; and other women are hired, who are trained to utter ſhrieks ſtill louder and more piercing. Previouſly to the funeral, a table with fruits and other eatables

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is laid before the corpſe, and wax figures of ſervants placed on each ſide as attendants upon it. The Chineſe viſit the graves of their anceſtors from time to time, ſtrewing them with odoriferous flowers; and when they depart, they leave a few ſmall pieces of ſilk or linen before the entrance, and ſometimes boiled rice or other victuals, which are ſpeedily made away with at night.

The mode of living practiſed by the Europeans, either from Holland or any other nation, that reſide at Batavia, is very nearly the ſame. In the morning at five o'clock, or when the day breaks, they riſe; and the table is ſpread at an early hour. Beſides tea, coffee, and chocolate, fiſh and fleſh are ſerved for breakfaſt; and when this is finiſhed, Madeira, claret, gin, Dutch ſmall-beer, and Engliſh porter, are laid out in the portico before the door of the great hall, and pipes and tobacco are preſented to every gueſt, with a bright braſs jar for a ſpitting-diſh. Thoſe who have buſineſs appear at their proper ſtations at eight o'clock, and remain employed till between the hours of eleven and twelve. Their dinner hour is one o'clock; but immediately before dinner, two men ſlaves go round with Madeira wine, of which each takes a large glaſs. Then follow three female ſlaves, one with a ſilver jar, containing plain or roſe water for waſhing; a ſecond with a ſilver baſon and low cover of the ſame metal, pierced with holes, to receive the water after it has been uſed; and the third with towels for wiping the hands. During dinner, a band of muſic plays at a little diſtance. The muſicians are all ſlaves who have been inſtructed for this purpoſe. A conſiderable number of female ſlaves attend at table, which is covered with many diſhes. Dinner is immediately followed by coffee. After drinking coffee, each perſon retires to a bed, conſiſting of a mattraſs, bolſter, pillows, and chintz counterpane, but no ſheets; and puts on his night-dreſs, a muſlin cap, and looſe long cotton gown. A bachelor is attended by a female ſlave, who fans him while he ſleeps. About ſix they riſe, dreſs, drink tea, take an airing in their carriages, and form parties for the evening. The morning meetings are compoſed generally of men, as the ladies ſeldom chooſe to appear till evening. "Married men," ſays Stavorinus, "ſeldom give themſelves much concern about their wives, nor ſhew them much regard. They ſeldom converſe with them, at leaſt on uſeful ſubjects, and ſuch as concern ſociety, with which of courſe they are little acquainted. Few of theſe ladies are natives of Europe, but many are deſcended from Dutch ſettlers here; and they are educated with ſome care. The features and outlines of their faces are European; but the complexion, character, and mode of life, approach more to thoſe of the native inhabitants of Java. A pale languor overſpreads the countenance. In their own houſes, they dreſs like their ſlaves, with a long red checquered cotton gown deſcending to the ankles, with large wide ſleeves. They wear no head-dreſs, but plait their hair, and faſten it with a ſilver bodkin on the top of the head. The colour of their hair is almoſt univerſally black; they anoint it with the oil of the cocoa-nut, and adorn it with chaplets of flowers. When they go abroad, and particularly to their evening parties, they dreſs magnificently in gold and ſilver ſpangled muſlin robes, with a profuſion of jewels in their hair, which is worn without powder. They never attempt to mould or regulate their ſhape by any foreign idea of elegance, or any ſtandard of faſhion; and, therefore, exhibit a ſtriking contraſt to the Dutch ladies. Every native lady is conſtantly attended by a female ſlave, who ſits at the feet of her miſtreſs on the floor, holding her gold or ſilver box, the compartments of which contain areca-nut, cardamom ſeeds, pepper, tobacco, and ſlaked lime; all which, mixed together in due proportions, and rolled within a leaf of betel, conſtitute a maſticatory of a pungent taſte, that is in general uſe. In public aſſemblies, when the ladies are incommoded with heat, they retire to change their dreſs, and return, without ceremony, in a more light and looſe attire. Their example is followed by the gentlemen, who appear in white jackets, ſometimes adorned with diamond buttons. The elderly gentlemen lay aſide their wigs, and put on night-caps. The members of the government, except on theſe occaſions, appear abroad in crimſon velvet; their carriages are diſtinguiſhed by peculiar ornaments; and they receive homage from others not of their rank. One of the gates of the city is opened only to let them paſs. The Indian women marry young, generally at twelve or thirteen years of age; they have ſeldom many children, and they are old women at thirty. They are remarkably fond of bathing and ablutions; and uſe for this purpoſe a large tub containing three hogſheads of water, in which they immerſe the whole body at leaſt twice a week; and ſome do this in the morning, in ſome of the running ſtreams out of the city. They manifeſt a moſt exceſſive jealouſy both of their huſbands and of their female ſlaves: and when they diſcover the ſlighteſt familiarity, puniſh the latter with a variety of tortures; and of the former they avenge themſelves in kind. The coaches uſed at Batavia are ſmall and light, and for keeping theſe a yearly tax is paid to the company. Services of a domeſtic or menial kind are chiefly performed at Batavia by ſlaves. Three thouſand of both ſexes are annually brought hither from the coaſt of Malabar, Bengal, Sumatra, and other parts; but in the greateſt number from Celebes. Their treatment is in general mild and gentle, though ſome inſtances of barbarity and inhumanity occur. They are not forced to exceſſive labour, and they are allowed ſufficient ſuſtenance. However, many of the males, who had formerly, perhaps, led an independent life before they were made captives in war, have taken offence againſt their maſters upon ſlight occaſions, and wreaked their vengeance by aſſaſſination. To the apprehenſion of ſuch an event is aſcribed the preference given at Batavia to female ſlaves, for every uſe to which they can be applied; and therefore the number of thoſe that is purchaſed far exceeds that of the other ſex. The ſlaves that are determined on revenge, often ſwallow, for the purpoſe of acquiring artificial courage, an extraordinary doſe of opium, and ſoon becoming frantic as well as deſperate, they not only ſtab the objects of their hatred, but ſally forth to attack in like manner every perſon they meet, till ſelf-preſervation renders it neceſſary to deſtroy them. They are ſaid in that ſtate to be "running a muck;" ſo called becauſe, during their frenzy, they continually cry out, "amok! amok!" which ſignifies "kill! kill!" and their fury has been erroneouſly aſcribed to opium, whereas in reality it is the effect of unruly paſſion. Inſtances of it are not more common among ſlaves than among free natives of the country, who in the anguiſh for loſing their money, effects, and ſometimes their families, at gaming, to which they are violently addicted, or under the urgency of ſome other paſſion or misfortune, have recourſe to the ſame remedy, with the ſame fatal effects. A fondneſs for play, and alſo for opium, is not uncommon among the Chineſe alſo at Batavia; but by habits of reſtraint and moderation, they are prevented from falling into the ſame frantic exceſſes. The Chineſe at Batavia are accuſtomed to keep gaming-houſes, which are the means of ſeduction and ruin to the greateſt part of the ſlaves in the city; and theſe peſts of ſociety are under the protection of the municipal government, the officers of which pay to the company, as a conſideration for the profits accruing from them, a monthly contribution

commiſſion of 3,100 rix-dollars, or upwards of 8,000l. ſterling per annum.

The chief government of Batavia, and of all the poſſeſſions of the Dutch East India company in Aſia, is veſted in the council of India, at the head of which is the governor-general, who reſides in a ſtately manſion near Batavia, poſſeſſing unbounded power, keeping a ſtate, and exacting tokens of reſpect, much greater than any European monarch claims. The next in rank is the director-general, who is the eldeſt counſellor of India; and to him are entruſted the direction and controul of the trade of the company throughout all India, and to Europe. Next in order follow the five ordinary and nine extraordinary counſellors of India. To the ſervants of the company juſtice is adminiſtered by an aſſembly called the court of juſtice, the preſident of the council of India, ſitting as a preſident, eight ordinary members, and two aſſeſſors, taken from the company's ſervants. The citizens and free merchants of India, who are not in the company's ſervice, are amenable to a ſeparate municipal court of juſtice, called the board of ſcheepens or aldermen, eight in number, with a preſident who is a member of the council of India. The puniſhments inflicted at Batavia are exceedingly ſevere, eſpecially ſuch as are inflicted upon the Indians; of theſe the chief, and the moſt terrible, is breaking alive. For taking alive thoſe ſlaves who are guilty of the acts of murder called "amocks," the officers of juſtice are provided with a pole ten or twelve feet in length, at the end of which is a kind of fork, made of two pieces of wood three feet long, which are furniſhed within with ſharp iron ſpikes: this is held before the object whom they wiſh to apprehend, and in his frenzy he runs into it, and is thus taken. If he happen to be mortally wounded, he is immediately broken alive upon the wheel, without any form of trial, in the preſence of two or three of the counſellors of juſtice.

The orphan-chamber at Batavia ſerves for the whole of the Dutch poſſeſſions in India; and the board conſiſts of a preſident, who is a counſellor of India, and ſix regents, who are appointed by the council of India, with ſubordinate clerks. There are ſeveral other courts or boards; as the commiſſioners of dykes and ſluices, thoſe of bankruptcies, a court of common pleas, a board of controul over marriages, and ſeveral others.

The eſtabliſhment of regular troops at Batavia, according to the report of captain Pariſh, cited by ſir George Staunton, conſiſts of 1,200 Europeans, of whom 300 are artillery, and the reſt infantry. But as this number cannot be maintained complete in this unhealthy climate, 500 natives were employed, and thus the eſtabliſhment of European regulars was reduced to 700. Three hundred volunteers of the town are alſo formed into two companies, but not diſciplined. The irregulars are very numerous, conſiſting of enrolled natives of Java, who have never been embodied, and of Chineſe, whom the jealouſy of the Dutch allows to be armed only with lances. This eſtabliſhment appears too ſmall for any effectual reſiſtance. Although every man who ſettles at Batavia muſt take up arms in its defence, it is acknowledged by one of the counſellors of the Indies, that their chief dependence was on the havock which the climate was likely to make amongſt the enemy's forces. The chief protection to their ill-manned veſſels lying in this port, is afforded by the fortified iſland of Onrust, which is well ſituated to command the channel that forms the principal paſſage into the road.

The climate of Batavia is ſingularly unhealthy, and has proved the occaſion of diſeaſe and of death to many of the Dutch ſettlers, and other Europeans who have tranſiently viſited this place. The city is ſituated in the midſt of ſwamps and ſtagnated pools, whence proceeds every morning a collection of peſtilential vapours, whenever the ſea-breeze ſets in and blows over this moraſs. The meridian ſun raiſes from the ſhallow and muddy canals which interſect the town, deleterious miaſmata into the air; and the trees, with which the quays and ſtreets are crowded, impede the courſe of the air, by which the putrid effluvia would in ſome degree be diſſipated. Beſides the noxious circumſtances of a local kind peculiar to this place, the ſudden tranſition from a cold northern region to the middle of the torrid zone, without the adoption of thoſe habits that are requiſite in the latter, muſt render the human frame more liable to be affected by any cauſes of diſeaſe. Hence it happens that preventive medicines are taken almoſt as regularly as food, and everybody expects the returns of ſickneſs, as we do the ſeaſons of the year. There are few examples of ſtrangers who remain long in Batavia without being attacked by fever, which is the general denomination in that place for every kind of illneſs. The diſeaſe at firſt is commonly a tertian ague, which after two or three paroxyſms becomes a double tertian, and then a continued remittent that frequently carries off the patient in a ſhort time. The Peruvian bark is ſeldom preſcribed in any ſtage of the diſeaſe, or it is given in ſuch ſmall quantities as to be productive of little benefit. The chief, or rather the ſole medicine adminiſtered, is a ſolution of camphor in ſpirit of wine. It is ſuppoſed, that of the Europeans of all claſſes who come to ſettle in Batavia, not always half the number ſurvive the year. The place reſembles in that reſpect a field of battle, or a town beſieged. The frequency of deaths render familiar the mention of them; and little ſigns of emotion or ſurpriſe are manifeſted, on hearing that the companion of yeſterday is to-day no more. When an acquaintance is ſaid to be dead, the common reflection is, "Well, he owed me nothing;" or, "I muſt get my money of his executors." It appears by a calculation, that the company loſe, in general, every year, full one-fifth of their ſervants. It is obſerved, however, that this climate is not ſo fatal to the female Europeans as to the other ſex. They ſeldom expoſe themſelves to the heat of the ſun, make frequent uſe of the cold bath, and live more temperately than the men; and, for theſe reaſons, they may ſuffer leſs from the inſalubrity of the climate. In the lower town, on the north ſide, the mortality is greater, where uninhabited houſes contract a foul and infectious air, than in the other parts of the city that are more fully inhabited. On this account, people not only leave the lower town, but abandon the city altogether, and reſide in gardens without the walls, and at as remote a diſtance as their employments will allow. This kind of migration increaſes from year to year, and will probably, in the lapſe of time, produce the total abandonment and ruin of Batavia. The moſt tolerable ſeaſon here is from March or April to November, when the rains begin, which laſt the reſt of the year. The ſea-breeze ſets in about ten o'clock in the morning, and continues till four or five in the afternoon; it becomes then calm till ſeven or eight, when the land-breeze commences, and continues at intervals till day-break, followed by a calm for the remaining hours of the twenty-four. The heat of the weather at Batavia is not ſo exceſſive as in ſome other parts of the eaſt. From July to November, Stavorinus obſerved, that his thermometer, which hung in the ſhade in the open air, ſtood generally between 84 and 90 degrees of Fahrenheit's ſcale, in the hotteſt part of the day; once indeed the mercury roſe to 92°: in the morning, it ſeldom fell lower than 76°. The barometer ſcarcely ever varies from the mean height. Sir George Staunton,

who

who arrived at Batavia in March, informs us, that in the road, Fahrenheit's thermometer, during his continuance, was from 86 to 89 degrees; and in the town, from 86 to 92 degrees: but that its variations by no means corresponded to the ſenſations produced by the heat on the human frame; the latter being tempered by any motion of the air, which circumſtance has little effect upon the thermometer. In the night, the thermometer, inſtead of ſinking as it does in colder countries, ſometimes 20, keeps generally here within 4 or 5 of what it attains in the ſhade when the ſun is at its higheſt elevation. The unhealthineſs of the place, as Stavorinus juſtly obſerves, is owing not ſo much to the heat, as to the moraſſes by which the city is ſurrounded, and particularly to the mud which the ſea throws up, and which it leaves, at low water, expoſed to the ſun. With care and attention on the part of the government, it is reaſonable to imagine, that this evil might be greatly diminiſhed, if not wholly removed. The general apprehenſion of the unhealthineſs of Batavia for Europeans, deters moſt of thoſe who can reſide at home with any comfort, from ſeeking a ſettlement there, notwithſtanding the temptation of fortunes to be quickly amaſſed in this place. From this circumſtance it happens, that offices and profeſſions are often neceſſarily entruſted with perſons little qualified for occupying them. One of the clergymen, and the principal phyſician of the place, are ſaid to have originally been barbers. The United Provinces furniſh very few military recruits; the reſt are chiefly Germans, many of whom are ſaid to have been kidnapped into the ſervice.

All goods which are carried into or out of Batavia, are ſubject to duties which are levied at the bar at the entrance of the city. Theſe, as well as the other taxes and impoſts, are annually farmed out, generally to Chineſe. The whole of them amount together, upon an average, to 32,000 rix-dollars per month, or about 83,800l. ſterling per annum. The important revenues ariſing from theſe import and export duties, &c. and the valuable productions which the country round it affords, the principal of which are pepper, rice, ſugar, cotton, and indigo, might lead us to ſuppoſe, that Batavia, or rather the colony of Jaccatra, for that is the account in the books of the company, to which all that relates to Batavia is carried, would be adequate to its own ſupport; yet this is far from being the caſe. Batavia is the metropolis of the Dutch Eaſt India poſſeſſions; it is the ſeat of their government; a large garriſon is conſtantly maintained in it; moſt of the company's ſhips touch here, both outward and homeward bound; their cargoes are landed and ſhipped; all recruits are received, maintained, and paid here: in ſhort, almoſt all the charges of the marine and military eſtabliſhment of the company are carried to the account of Batavia, and of courſe a conſiderable balance appears every year againſt it. Formerly there uſed to be a conſiderable ſurplus after defraying all theſe charges; but in the year 1779, the charges exceeded the receipts by about 51,327l.

The coins current at Batavia are the following: viz. the milled Dutch gold ducat, the Japan gold coupangs, the Spaniſh dollar or piaſtre, the milled ſilver duccatoon (which is the current coin of the company throughout their poſſeſſions, except on the continent of India), the unmilled duccatoon, the milled Batavia rupee, other rupees, half and quarter rupees. The ſmaller coins are ſkillings, twopenny pieces, and doits. Of the ſkillings there are two ſorts: the old, worth 6 ſtivers; and the new, worth 7½. The old twopenny pieces paſs for 2 ſtivers; the new, for 2½: the doits are ſtamped with the mark of the Eaſt India company, and are equal to a farthing in value.

The following table ſhews the value, in Britiſh money, of the above coins, at the Britiſh value of 11 guilders per pound.

		f.	s.	d.
The old Japan gold coupangs	f. 24 0 —	2	3	7½
The new ditto	14 8 —	1	6	2¼
The milled Dutch ducat	6 12 —	0	12	0
The ſilver milled duccatoon	4 0 —	0	7	3¼
The unmilled ditto	3 18 —	0	7	1
The Spaniſh dollar, from	3 3 —	0	5	8½
to	3 6 —	0	6	0
The rix-dollar	2 8 —	0	4	4½
The Batavia rupee	1 10 —	0	2	8¼
Other rupees, about	1 7 —	0	2	5¼

Moſt merchants' goods are eſtimated at Batavia by "picols," of 125 pounds; or according to Renard, 118½ pounds Amſterdam weight: and theſe goods are ſubdivided into 100 "cattis," each weighing 1¼ pound. Rice and other grain are meaſured by "coyangs," which differ in weight; but when received by the company at Java, they muſt weigh 3,500 pounds. They are ſhipped to Batavia for 3,400 pounds, and landed there for 3,300 pounds; for the out-factories, they are diſpatched for 3,200 pounds, unloaded for 3,100 pounds, and delivered for conſumption at the out-factories for 3,000 pounds: ſo that every coyang loſes 500 pounds in weight. This deficiency is an allowance made to the company's ſervants who have the management of the rice. Sugar is taken by "canaſſers" of 3 picols, or 375 pounds neat; the groſs weight being about 400 or 405 pounds. The "ganting" is a ſmall rice meaſure of 13½ pounds. Every bag of coffee ſhipped from Batavia to Holland weighs 252, and a bale of cinnamon 80 pounds.

The bay and harbour of Batavia are excellently adapted to the commercial navigation that is carried on at this place. A circular range of fifteen iſlands protects the road from any heavy ſwell, and renders it a ſafe place of anchorage for ſhips; and it is large enough to contain all thoſe that double the cape of Good Hope, as well as the Chineſe junks and other trading veſſels of the country. The names of the iſlands are, Onruſt, de Kuiper, which are the innermoſt, and within ſight of the city; Purmerend, Engels Onruſt, Rotterdam, Schiedam, Middleburg, Amſterdam, Horn, Harlem, Edam, Enſhuizen, Alkmaar, Leyden, and Vader Smit. The company make uſe only of four of theſe iſlands, viz. Onruſt, de Kuiper or Cooper's iſle, Purmerend, and Edam; which ſee. At the boom, which croſſes the bay below the town, all veſſels pay toll. The ſea-breeze, which riſes every morning at ten, ſerves to bring veſſels within the bar, and a land-breeze at night carries them out. The obſervatory formerly erected at Batavia is now neglected; but the Society of Arts and Sciences, founded under the adminiſtration of the governor-general De Klerk, ſtill ſubſiſts. The 1ſt volume of its Memoirs was printed at Batavia in 1779. S. lat. 6° 10'. E. long. 106° 51' 15". Stavorinus's Voyages, vol. i. & vol. iii. Staunton's Account of Lord Macartney's Embaſſy to China, vol. i. p. 235, &c. Mod. Un. Hiſt. vols. viii & ix. See Java.

Batavia, a Settlement of America, in New York, at the head of Schoharie creek, about 39 miles from its mouth, and 38 ſouth-weſt from Albany, and as far north-weſt of Eſopus.

Batavia, a river of Aſia, ſo called by the Dutch, ſituate in Carpentaria, on the coaſt of New Holland.

BATAVIAN Republic, an appellation given to the United Provinces, after the conqueſt of them by the French, the exclusion of the ſtadtholder, and the change of their form

of government. Towards the close of the year 1794, and the commencement of the following year, the French forces, favoured by the frost of winter, by the discontents that prevailed in the provinces, and the ineffectual support afforded to the Dutch by the British troops, took possession of their principal towns; and on the 27th of January 1795, the provisional representatives of the people of Holland assembled, and chose Pieter Paulus for their president. On this occasion, several decrees were immediately passed for the future regulation of the government, and for the deposition of the stadtholder from all his offices. Among these decrees were the following: viz. the sovereignty of the Dutch people, and the declaration of the rights of man:—the abolition of the stadtholdership; as also of the offices of admiral and captain-general of the United Provinces, with all their appendages:—the release of the citizens and inhabitants of Holland from their oaths to the old constitution:—the suppression of the college of the deputy council, and that of the chamber of accounts; and the establishment in their room of a committee of public safety, a committee of military affairs, and a committee of finance:—and the recall of the commission of the deputies to the assembly calling itself the states-general. It was also decreed, that the commissioners of the assembly of the provisional representation of Holland should immediately begin their sittings in the hall of the ci-devant states-general, in order to advance the general interests of the people. A treaty of peace and alliance was concluded between the French and Batavian republics, at the Hague, May 16, 1795; in which the French stipulated to restore immediately all the conquered places and countries that belonged to the seven United Provinces; the frontier towns of the generality, such as Maestricht, Venlo, Breda, Bergen-op-Zoom, with their territories, excepted. It was also stipulated that the French, as well as the Batavians, should enjoy, without paying any tolls, the free navigation of the Scheldt, the Rhine, and the Meuse, and all their branches as far as the sea; that the Batavians should pay to the French the expences of the war which the latter had been compelled to make against the former; that the French republic acknowledged the independence and sovereignty of the Batavian; that an alliance offensive and defensive should be established between both republics; and that neither the French nor Batavians should conclude peace, or make any other treaty, in which both parties did not participate.

In 1796, the national convention of the Batavian republic made some considerable alterations in matters relating to religion. It was determined, that all the inhabitants of the republic were free to exercise without molestation any mode of public worship whatever to which their opinions might lead them; that there should be no established religion in the republic; that the use of bells in convoking persons to public worship, should be prohibited; and that Jews should be allowed to become citizens of the republic, and empowered to purchase lands in the same manner as other citizens. On the 11th of January 1797, the new plan of the constitution was discussed; and it was decreed, that the Batavian people are one and indivisible; that the sovereignty appertains to the whole Batavian people; and that the Batavian people shall elect representatives to exercise its sovereignty. It was also resolved, that all citizens born and resident in the republic, and twenty-one years of age, should be invested with the right of voting; and also strangers, after having resided within the republic six years successively. It was also resolved, that the republic should be divided into eleven departments. Towards the close of the year 1797, the French directory issued their mandate for a revolution. The execution of this mandate was intrusted with Charles Le Croix, and the plan of operations for accomplishing it was concerted with the Dutch general Daendels, who was an original mover, and principal agent in the revolution. Accordingly it was effected on the 22d of January 1798. This revolution gave birth to a new form of government in the Batavian republic, which was introduced and established by acts of violence. An assembly, formed by revolutionary despotism and military force, and assuming the name of the constituent assembly of the Batavian people, abolished those provincial divisions, and other administrations, that had been established under the convention; which was a constitution grounded on principles deemed more popular than those which formed the basis of that which was about to be presented when this revolution took place, and against which a formal protest had been previously made by forty members of the convention, when it was offered to the primary assemblies for their consideration. The people, wearied with continual agitations, and indeed incapable of effectual resistance, accepted this project formed on the model of the French constitution, as the best remedy against further convulsions; and thus Holland sunk for a while into the state of a dependent province, under the protection of Le Croix, the revolutionary delegate of the French directory. The principal articles that constituted the basis of this new government are the following: viz. —The abolition of the division into provinces:—Separation of church and state:—No corporation or society to have rules contrary to the laws of the state:—Exclusion from the right of voting of all the adherents of the Orange family:—The formation of a democratic representative government by means of a legislative body composed of two councils, and a provisionary executive directory consisting of five members, having under it the agents of the executive power:—The formation of a new plan of finance, founded upon the relative means of the citizens:—The commissioners of the treasury are to be appointed by the executive power:—Those of the chamber of accounts by the legislative assembly:—The territory of the republic to be divided into a suitable number of departments; and accordingly, the nine provinces were divided into eight departments, the extent of which was measured by the population and the limits formed by the great rivers; their departments were again divided, each into ten circles; and each department was presumed to contain 235,000 inhabitants; and the general population of the republic was estimated at a million eight hundred and ninety-two thousand individuals:—A distinct division of three powers, the legislative, the executive, and the judiciary:—The right of individual petition to the citizens:—Revision of the constitution after the expiration of the fifth year:—The oath of hatred to the government of the stadtholder, federalism, aristocracy, and anarchy, to be taken by all the persons employed by the republic:—No power to have the right of interfering with the banks of circulation in the different towns of the republic:—Institutions for public instruction in arts and sciences:—And alliance with the French republic.

In the year 1801, a new constitution for the government of the Batavian republic, consisting of 108 articles, was introduced. This constitution abolishes the executive directory, and substitutes a state directory, consisting of twelve persons, one of whom goes out annually. The legislative body is to consist of 35 members. The territory of the republic is to be divided into eight departments, whose boundaries are to be the same with those of the old provinces. The allowance of the members of the legislative body is to be 4000 florins. They are to meet twice in the year, and

to ſit from the 15th of April to the 1ſt of June, and from the 15th of October to the 15th of December. The government has the power of convoking them at pleaſure. For further particulars, ſee HOLLAND, and UNITED PROVINCES. By the treaty of peace concluded at Amiens, March 27, 1802, the Batavian republic cedes and guarantees to his Britannic majeſty, in full property and ſovereignty, all the poſſeſſions and eſtabliſhments in the iſland of Ceylon, which before the war belonged to the republic of the United Provinces, or to the Dutch Eaſt India company.

BATAVIENSIS, in *Entomology*, a ſpecies of CRYPTOCEPHALUS; the head, thorax, wing-caſes, and legs of which are livid. Hornſt. Sch. Berl. Naturf. Inhabits Java.

BATAVODURUM, in *Ancient Geography*, a town of the Batavi, in the iſland called after their name. According to Tacitus, the Romans had a bridge in this place, and the poſt was defended by a Roman legion, when the Germans, who reſorted to the ſuccour of Cerealis, were deſirous of penetrating into the iſland; and here they were repulſed after great ſlaughter, and at length obliged to throw themſelves precipitately into the river. Some have ſuppoſed that this town was the ſame with the modern *Duerſtede*; but others conjecture that it was not on the ſame ſide of the river.

BATAVORUM INSULA, the iſland of the Batavi, was formed by the Vahalis or Waal to the ſouth, and a branch of the Rhine to the north. This laſt branch, and alſo the Vahalis, rejoin afterwards, and form the Moſa or Meuſe. According to Tacitus, the Rhine was divided at its entrance into Batavia into two rivers: one of which retained its name, and purſued its courſe through Germany, till it diſcharged itſelf into the ocean; the other, waſhing the coaſt of Gaul, with a broader and more gentle ſtream, was called Vahalis, which on its joining the Moſa, aſſumed its name. From this account it ſeems that the iſland of the Batavians was bounded by the Ocean, the Rhine, and the Vahalis. Cæſar extends it to the Moſa; but Pliny's account coincides with that of Tacitus. It appears, however, that this iſland was of greater extent in the time of Tacitus than in that of Cæſar; as Druſus, the father of Germanicus, had by a new canal conveyed the waters of the Rhine into the ocean at a conſiderable diſtance to the north of the former mouth of that river. It is not certainly known who were the firſt inhabitants of this iſland. Some hiſtorians ſay, that they had been removed by the Cimbri and Teutones, when they invaded the Roman territories; and it is not improbable that the proſpect of a more commodious eſtabliſhment might induce them to abandon a country which was conſtantly expoſed to the inundations of the water that encompaſſed it. The Batavi, when driven from their own country by the Catti, took poſſeſſion of it, and became a very powerful people. A part of this country ſtill bears the name of *Betaw*, formed from Batavi; and is probably the ſame with the ancient "Inſula Batavorum." This name, however, is given only to the eaſtern part of the iſland, and is the ſame with that which has the river Leck to the north, and Vahal to the ſouth, to the north of Nimeguen.

BATAVORUM *Oppidum*, *Batenbourg*, a town which ſeems to have been the *Batavodurum* of Ptolemy, but different from that of Tacitus. Ptolemy places it upon the Moſa, or Meuſe; and the Batavodurum of Tacitus was more to the north upon the Rhine.

BATBERGEN, in *Geography*, a town of Germany, in the circle of Weſtphalia, and biſhopric of Oſnaburg.

BATCHAJOVE, a town of Aſia, in Armenia, 90 miles ſouth of Erivan.

BATCHELOR. See BACHELOR.

BATCHELOR's *Buttons*, in *Botany*. See LYCHNIS.

BATCHELOR's *Pear*. See SOLANUM.

BATCHELOR's *River*, in *Geography*. See BACHELORS.

BATCHURISCHKOI, a town of Ruſſia, in the government of Archangel, on the eaſt coaſt of the White Sea; 8 miles north of Archangel.

BATCOLE, or BATKUL, a ſea-port on the coaſt of Malabar, in the peninſula of India, ſituate between Onore and Barcelore. The Engliſh had a factory here till 1670, when they were maſſacred by the natives. It was ceded to the Britiſh by the treaty of 1799. N. lat. 13° 58′. E. long. 74° 37′.

BATE, GEORGE, in *Biography*, born at Maid's Morton, in Buckinghamſhire, in 1608, was ſent to Oxford at the age of 14 years, where he ſoon diſtinguiſhed himſelf by his diligence and application to ſtudy; and having made choice of medicine for his profeſſion, he was admitted to practice as ſoon as he had taken his degree of bachelor in that line. In 1637 he was made doctor in medicine; and when Charles the Firſt kept his court at Oxford, he was appointed his phyſician. Removing ſoon after to London, he was elected fellow of the college of phyſicians, and phyſician to the Charter-houſe; and conforming to the circumſtances of the times, he ſoon obtained ſuch favour with the ruling party in the ſtate, that he was ſent to Scotland, in 1651, in conjunction with Dr. Wright, to attend Oliver Cromwell, then confined there with an intermitting fever, and was appointed his firſt phyſician. This, however, did not prevent his being made phyſician to king Charles II. on his acceſſion to the throne, and being elected fellow of the newly conſtituted Royal Society. Theſe honours were procured him, Anthony Wood ſays, by a report induſtriouſly circulated by his friends, that he had haſtened the death of the protector, by adminiſtering a deleterious medicine; a ſtory, which, if believed, whatever reward it might otherwiſe have procured him, would never have placed him in a confidential poſt about the perſon of the ſovereign. He died in 1668, and was buried in the chancel of All Saints church, at Kingſton upon Thames, where a monument is erected to the memory of him and his wife, who died the year before. The only medical work in which he engaged, was in contributing a part towards a treatiſe "De Rachitide," publiſhed by Dr. Gliſſon in 1650. His preſcriptions, collected by Shipton, an apothecary in London, were publiſhed ſome years after his death, under the title of "Pharmacopæia Bateana," and have paſſed through many editions. He publiſhed, in 1649, "Elenchus motuum nuperorum in Anglia, ſimul ac juris regii et parliamentarii, brevis narratio," 12mo. Paris. A ſecond part of this work was printed at London, in 1661. In compoſing this, he was aſſiſted by papers furniſhed by the chancellor Hyde. A third part appeared in 1676, written by Dr. Skinner. He is alſo ſaid to be the author of the "Royal Apology, &c." 1647. Biog. Brit.

BATE, in *Ancient Geography*, a village or canton of Greece, in Attica, belonging to the tribe of Ægeides, where reſided Abro, the commentator of Callias, who wrote concerning feaſts and ſacrifices, and Amynomachus, to whom Epicurus bequeathed his property. Steph. Byz.

BATE, or *Bait*, in *Geography*, one of the principal ports in a diſtrict of India, inhabited by a piratical tribe called Sangarians, on the ſouth coaſt of the gulf of CUTCH. The other port is ARAMROY.

BATEAH, a town of North America, in the province of Yucatan, 190 miles S.S.W. of Merida.

BATEAU, in *Navigation*, a particular kind of boat, very generally uſed upon the large rivers and lakes in Canada. Its bottom is perfectly flat, and each end very ſharp

and exactly ſimilar. The ſides are about four feet high; and for the convenience of the rowers, four or five benches are laid acroſs, and ſometimes more, according to the length of the bateau. It is a heavy and awkward veſſel both for rowing and ſailing: but it is preferred to a boat with a keel for two very obvious reaſons: firſt, becauſe it draws leſs water while it carries a larger burthen; and ſecondly, becauſe it is much ſafer in lakes or wide rivers, where ſtorms are frequent. An oil-cloth awning may be thrown over the wideſt part of it, and ſupported by hoops ſimilar to thoſe of a waggon; and thus may be formed a very excellent cabin, which ſcreens from the inclemency of the weather, and at the ſame time allows a view of the beauties of the ſcenery on each ſhore.

BATECUMBE, or Badecombe, William, in *Biography*, an eminent mathematician, ſuppoſed by Pits (De Illuſt. Angl. Scriptor. An. 1420. n. 784.) to have flouriſhed about the year 1420, in the reign of Henry V. He ſtudied at Oxford, and made great proficiency in mathematics; which appears from his writings. It is not known where he died. He wrote "De Sphæræ concavæ fabrica et uſu," "De Sphæra ſolida," "De Operatione Aſtrolabii," and "Concluſiones Sophiæ." Biog. Brit.

BATELEUR, in *Ornithology*, a name given by Sonnini and others to Falco Ecaudatus of Latham, &c.

BATELLO, St. in *Geography*, a town of Italy, in the kingdom of Naples, and province of Calabria Ultra, three miles north of Reggio.

BATEMAN Bay, lies on the ſouth ſide of point Upright, on the eaſt coaſt of New Holland, in which are three or four ſmall iſlands. The north point is in S. lat. 35° 35'.

Bateman's *Drops*, in *Pharmacy*, are the anodyne balſam made with a weaker ſpirit, ſo that a larger doſe can be taken; they are tinctured with aniſeed.

BATENBOURG, or Battenburg, in *Geography*, a town of the duchy of Gueldres, ſeated on the north ſide of the Meuſe, nearly oppoſite to Raveſtein. N. lat. 50° 55'. E. long. 5° 35'.

BATENI, in *Ancient Geography*, a people of Aſia, placed by Pliny and Solinus towards the Oxus and Bactriana.

BATENITES, a ſect of apoſtates from Mahometaniſm, diſperſed over ſeveral parts of the Eaſt, who profeſſed the ſame abominable principles with the Iſmaelians and Karmatians. The word ſignifies Eſoterics, or people of inward or hidden light or knowledge. Sale's Koran, p. 186.

BATENKETOS, in *Aſtronomy*, a ſtar about the third magnitude, in the conſtellation of Cetus.

BATES, William, in *Biography*, an eminent non-conformiſt divine, was born in 1625, and educated at Cambridge, where he took his degree of B. A. in 1647. He afterwards became a celebrated preacher among the presbyterians in London. Upon the reſtoration, he was appointed chaplain to Charles II. and received the degree of doctor in Divinity by royal mandate from Cambridge. He was one of the commiſſioners at the Savoy conference for reviewing the liturgy, and one of the diſputants on the ſide of the preſbyterians againſt Dr. Pearſon and other epiſcopalians. He took the oath required of non-conformiſts by the five-mile act, and was concerned in ſeveral unavailing efforts for effecting a comprehenſion of the diſſenters by certain alterations and conceſſions. Moderate in his temper, and accompliſhed as a ſcholar, he was a fit perſon to be employed for ſuch purpoſes; and he was always treated with reſpect by the members of the eſtabliſhment. He was alſo much regarded by king William, and queen Mary frequently peruſed his writings. Dr. Bates, towards the cloſe of his life, reſided at Hackney, where he died in 1699. His works, conſiſting chiefly of ſermons and diſcourſes, were collected after his death, and publiſhed in one volume folio. Beſides theſe, a poſthumous volume appeared in 8vo, conſiſting of "Sermons on the everlaſting Reſt of the Saints." He likewiſe edited a volume of the lives of eminent perſons, written in Latin, and entitled, "Vitæ ſelectorum aliquot Virorum, qui doctrinâ, dignitate, aut pietate inclaruere," Lond. 1681, 4to. The ſtyle of Dr. Bates has been commended for its elegance; and he appears to have read many books in polite literature, as well as in theology. Biog. Brit.

Bates, *Joah*, Eſq. late commiſſioner of cuſtoms, was born at Halifax, in Yorkſhire, where he began his ſchool education under the celebrated Dr. Ogden, with whom he remained till the doctor returned to reſide at Cambridge. During this time he received the rudiments of muſic from Mr. Hartley, the organiſt of Rochdale. When Dr. Ogden quitted Halifax, Bates was removed to the ſchool of Manchester, under Mr. Parnell; and it was there, as he has frequently told his friends, that the grand ſtyle of organ-playing, in which he ſo eminently excelled, was ſuggeſted to him by the performance of old Wainwright on the organ in the collegiate church. While he remained at Manchester, he had made ſuch a proficiency in muſic as to be able frequently to officiate for his old maſter Hartley, when his avocations called him away from Rochdale.

Bates, on quitting that ſeminary, was removed to the foundation at Eton; but there his progreſs in muſic received a conſiderable check, and was in danger of being totally ſtopped; for it was contrary to the rules of that ſociety for any of the boys on the foundation to be permitted the uſe of muſical inſtruments. In this ſtate of muſical privation Bates remained ſome months, and had no other means of practiſing than by playing on imaginary keys on the table, which for a conſiderable time was his cuſtom every day. At length, having by chance had an opportunity of touching the college organ, his talents for muſic were reported to Mr. George Graham, one of the aſſiſtant maſters, who having a harpſichord, invited him to his rooms; and finding what an extraordinary performer he was, obtained permiſſion for him to purſue his muſical ſtudies, accommodated him with the uſe of his harpſichord, and procured him liberty to play on the college organ at his leiſure hours.

When he went to Cambridge, the vacancies for King's college were ſo few, that he was in danger of being ſuperannuated, and was actually entered at Chriſt's college, where, while he was a member, two of the univerſity ſcholarſhips became vacant, and he declared himſelf a candidate. It proved on this occaſion a fortunate circumſtance, that he had not gone off to King's; for as Dr. Heath and Mr. Keate, both of King's college, and his ſeniors, were candidates, the cuſtom of that college would not have permitted a junior to become a candidate. But though he was now a member of Chriſt's, that circumſtance did not prevent his being a candidate for a univerſity ſcholarſhip; the examination for which is conſidered as the moſt ſevere of any claſſical examination in the univerſity of Cambridge. Some of the moſt diſtinguiſhed under-graduates were at this time candidates; and after an examination of ſeveral days, Zouch of Trinity, and Bates, were elected.

This ſucceſs eſtabliſhed his literary character in the univerſity as high as his muſical had been before: and ſoon after, as the term of ſuperannuation was expired, a vacancy happening at King's, he was admitted a ſcholar, and

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in three years, fellow. The regularity of his conduct during his ſcholarſhip, recommended him ſo much to provoſt Sumner, that he was appointed tutor to the college ſoon after his admiſſion as fellow. While he was in this ſituation, among his private pupils he had not only ſtudents of his own college, but the preſent lord Bolton, and Mr. Coxe the traveller, both then ſcholars of King's, were his private pupils; as was the Hon. William Auguſtus Montagu of Trinity college, ſecond ſon of the earl of Sandwich. This produced a connexion with that nobleman, which ended in his lordſhip's tempting him to reſign his fellowſhip, and reſide with him at the admiralty in the capacity of private ſecretary.

Few dilettanti muſicians have ever acquired or deſerved more fame for their knowledge in muſic, judgment, and experience in its effects, and abilities in conducting a complete orcheſtra and numerous band of ſingers, than Mr. Bates, who, at the univerſity of Cambridge, diſtinguiſhed himſelf as a fine performer on the harpſichord, as well as a zealous votary of the works of Handel; and as long as he remained at college, he performed the part of a Coryphæus at all public and private concerts. It may perhaps not be thought unworthy of notice here, that at this time (about the middle of the laſt century), the univerſity of Cambridge was in poſſeſſion of four very extraordinary dilettanti muſicians: Dr. Smith, maſter of Trinity college, for the theory of ſound; the Rev. Thomas Twining, an admirable performer and leader on the violin, and an excellent judge of every ſpecies of muſic; the late worthy and ingenious Mr. Lobb of Peterhouſe, the moſt correct and certain *Sight's* man on the harpſichord or organ with whoſe performance we have been acquainted; and Mr. Bates for his maſterly performance on keyed inſtruments, and abilities in conducting a band. There being at this time no very able profeſſor in the univerſity, theſe gentlemen regulated and performed at all public and private concerts during their reſidence in college.

No one ſtood higher in character, or was more courted in ſociety, while at Cambridge, by perſons of all ages than Mr. Bates; in particular by the late Dr. Smith, the maſter of Trinity college, with whom he ſpent moſt of his evenings, and who, at his death, left him a legacy.

Before he quitted the univerſity, an organ was built for the church of his native place, Halifax; and determining that it ſhould be opened with eclat, he, for the firſt time that any oratorio had been performed north of Trent, attempted the *Meſſiah*. With the aſſiſtance of the Rev. Mr. Allott, of Kirkheaton, who had trained up the country people in his pariſh to ſing choruſes in a very ſuperior ſtyle, and with the addition of Bates's own exertions, with the ſingers of Halifax, the choruſes were performed with a preciſion that aſtoniſhed every one; and it was univerſally acknowledged by the beſt judges, that the Meſſiah had never been ſo well performed. The firſt violin, on this occaſion, was performed by the celebrated Dr. Herſchel, the aſtronomer; and his profeſſion being then muſic, he was immediately elected organiſt.

It was the ſucceſs of this undertaking that inſpired the late commiſſioner with the idea of reſcuing the compoſitions of old maſters from oblivion, by having them executed by a numerous and ſelect band of vocal and inſtrumental performers; and after being ſettled in London as private ſecretary to lord Sandwich, he had an opportunity of communicating his plan to perſons of the firſt diſtinction, and the eſtabliſhment of the *Concert of Ancient Muſic* in Tottenham ſtreet was the conſequence, being formed and executed entirely under Mr. Bates's direction: and as many of the works of Handel, which had not been performed for many years, and never ſo well as at this eſtabliſhment, were revived, the number of that truly great, and often ſublime, compoſer's admirers was much increaſed.

His majeſty, a conſtant and ſteady patron and protector of the works of Handel, ſoon after the eſtabliſhment of this concert, graciouſly condeſcended to become a ſubſcriber; and together with her majeſty and the princeſſes, conſtantly to attend the ſeveral performances. The nobility and gentry, who were enrolled among the original ſubſcribers to this reſpectable inſtitution, have been likewiſe ſteady in their patronage and attendance. And it is now (1802), from the ſplendor and celebrity of its admirable performances, in higher public favour, than at any former period of its eſtabliſhment.

After remaining ſome years with the earl of Sandwich at the admiralty, Mr. Bates was appointed commiſſioner of the victualling office; and ſoon after, he married his celebrated pupil, Miſs Harrop, who had been educated under his eye from his firſt arrival in London; and whoſe ſeraphic voice, and diſpoſition for muſic, he ſo highly cultivated, as to render her one of the moſt enchanting ſingers which this or perhaps any country ever produced.

The victualling office on Tower hill now became the reſort of perſons of the higheſt rank; and at his reſidence there, was planned that moſt ſtupendous muſical performance, the COMMEMORATION OF HANDEL in Weſtminſter abbey and the Pantheon, which was conducted by Mr. Bates in a manner never to be forgotten by thoſe who had the happineſs of being preſent. The great ſplendor and ſucceſs of this COMMEMORATION will unite the name of commiſſioner Bates with the renown of HANDEL, as long as ſuch a memorable event ſhall remain in the records of the muſical art. And the performance of Mrs. Bates, particularly in the pathetic ſongs of Handel, has rendered it ſo difficult for her ſucceſſor at the concert of ancient muſic, to ſatisfy the old ſubſcribers in ſuch ſongs as ſhe uſed to perform there, that ſomething will always ſeem wanting to complete their happineſs.

Soon after the commemoration, Mr. Bates was promoted to a ſeat at the board of cuſtoms; but previous to his quitting the victualling-office, having officially experienced the difficulties which the capital of the kingdom often labours under for want of flour, he projected the plan of the *Albion Mills*; on the ſucceſs of which he was ſo ſanguine, that he veſted his whole fortune, and even that of his wife, in the capital ſtock of that company, to the amount of 10,000l. By the conflagration which happened to this building, he was completely ruined. His whole fortune was not only veſted in the company, but his credit for a large part of the ſtock in hand, which was all conſumed by the fire; ſo that he was totally bereaved of the means of making any proviſion for his family, and of guarding againſt the viciſſitudes to which humanity is ſubject. He ſubmitted to this event with dignity and fortitude; but the circumſtance of having involved his wife in the ruin, and ſacrificed her profeſſional acquirements without her approbation, preyed ſo continually on his mind, as at length to produce a complaint in his cheſt, which finally proved fatal, and brought him to the grave, the 8th of June 1799, at the age of 59.

BATESON, THOMAS, an Engliſh Madrigaliſt of the beginning of the ſeventeenth century, not devoid of merit as a vocal compoſer. He was organiſt of the cathedral of Cheſter in 1600. Ant. Wood ſays, that he was a perſon eſteemed very eminent in his profeſſion, eſpecially after the publication of his Engliſh madrigals to three, four, five, and ſix voices. About 1618, he became organiſt and maſter of the children of the cathedral church of the Bleſſed Trinity in Dublin; and in the univerſity of that city, he obtained the degree of bachelor of muſic.

BAT.

BAT-FOWLING, a method of catching birds in the night, by lighting ſome ſtraw or torches near the place where they are at rooſt; for, upon beating them up, they fly to the flames, where being amazed they are eaſily caught in nets, or beat down with bukes fixed to the end of poles, &c.

BATGAN, or B'HATGAN, in *Geography*, a city of Hindoſtan, ſituate in the extenſive plain of the kingdom of Nepaul or Napaul, to the eaſt of Lelit Pattan; and 10 miles ſouth of Catmandu, the capital of Nepal. It contains about 12,000 families, extends towards the eaſt to the diſtance of five or ſix days' journey, and borders upon another nation, alſo independent, called Ciratas, who profeſs no religion. In 1769, the king of Gorka took poſſeſſion by force of the city of Batgan. See Father Giuſeppe's account of the kingdom of Nepal in Aſiatic Reſearches, vol. ii. p. 308. N. lat. 28°. E. long. 85° 12'.

BATH, a city of Somerſetſhire in England, is ſituated in N. lat. 51° 22' 30", W. long. 2° 21' 30", at the diſtance of 107 miles weſt from London, and 12 eaſt of Briſtol. This ancient and elegant city is ſingularly favoured by nature and art, whoſe joint co-operations have conſpired to give it importance and celebrity. The beauty and peculiarity of its ſituation are perhaps unequalled by any town in England. Planted originally in the bottom of a deep and narrow valley, where its hot waters boil up, it continued for ages to be confined to the dimenſions which the Romans had firſt marked out; and till within the laſt century, the ancient Roman walls (incloſing a ſpace of about fifty acres) formed the boundaries of Bath. But the faſhion and celebrity which it latterly obtained, induced many builders and ſpeculators to extend the ſtreets in all directions, by additional houſes, which were inſtantly occupied upon completion. Built of the fine *oolite*, or granulated egg-like freeſtone, which forms the baſis of the ſurrounding hills, the houſes are remarkable for their exterior neatneſs and ſplendour; and being raiſed over the ſides of the broad acclivity of Lanſdown (which riſes to the north), in irregular groups of ſtreets, ſquares, parades, circuſſes, and creſcents, they preſent to the eye an appearance equally ſingular, magnificent, and beautiful. Nothing, indeed, can be more picturesque than the views of this city from various ſtations on the ſurrounding eminences; where houſes riſe above houſes in progreſſive order, and the more elevated ſeem to look down with proud ſuperiority on the no leſs elegant and extenſive ſtructures below.

BATH, *Ancient Hiſtory of.* Various names have been given to this city at different periods. Its Britiſh appellation was Caer-Baddon. In Latin, it was called Aquæ Solis, Fontes Calidi, Achamannum, Thermæ, Badonia, &c.; and in Saxon, Accemannes-ceaſtre, Accemanes-bepi, Lerbocbun, &c. Moſt of theſe names refer to its ſituation, and its ſprings or baths. The origin of this place as a ſettlement or town, is loſt in the lapſe of ages; and its early hiſtory is enveloped in legendary tales and monkiſh fables. The ſtrange ſtory of Bladud and his leprous pigs is diſcredited by all rational thinkers, though it formed a part of the creed of the Bath citizens and writers the laſt fifty years. "But the preſent generation (obſerves Mr. Warner) are wiſer and more prudent than their forefathers, and rather attentive to the [illegible] ſprings to their original, have at length forſworn the inquiry of their diſcovery, in the agreeable conſideration of the large rents which they throw into the corporation chests."

That Bath was one of the principal, if not the moſt conſiderable of the Roman ſtations in England, is ſatisfactorily proved by the many architectural and military antiquities which have been found within its precincts. It is probable that if Bath was not originally built by the Romans, it was at leaſt reduced under their power, and embelliſhed by their arts, as early as the middle of the firſt century; when, in the reign of the emperor Claudius, according to Tacitus, about the year 44, the weſtern and ſouth-weſtern parts of this iſland were completely ſubdued by Flavius Veſpaſian. Attracted by the medicinal and warm ſprings which they found here, and which afforded every means of indulging in that prime enjoyment of Roman luxury, the bath, the Roman ſoldiers fixed in this place one of their principal ſtations. "Aquæ Solis," the name by which they deſignated this delightful reſidence, was ſoon eſtabliſhed as a colony; and of courſe became entitled to the privilege, which all the Roman colonies enjoyed, of minting its own money. It is to be conjectured, alſo, that a military forge, or college of armourers, was erected here for the fabrication of legionary arms, under the authority of a Roman government. In the reign of Adrian, about A. D. 118, the firſt detachment of the ſecond legion, which had been ſtationed here, was joined by a diviſion of the ſixth; and in that of Severus, a part of the twentieth legion, removed from Devana, or Cheſter, had its ſtation in Aquæ Solis, which was then become the moſt capital city in Roman Britain, and the principal, if not the only, place in this part of the iſland, for preparing the legionary arms and enſigns. The form of the city then conſtructed, according to that uſually affected by the Romans, approached to a parallelogram, ſwelling out on one ſide, ſo as to deſcribe an outline ſomewhat pentagonal, and ſtretching in length, from eaſt to weſt, about 400 yards, and 380 yards in the broadeſt part from north to ſouth. The wall, which roſe upon the outline of the ſettlement, appears, from ſubſequent diſcoveries, to have been twenty feet above ground in height, and in thickneſs ſixteen feet at the baſe, and eight at the ſummit. It was ſtrengthened with five towers, riſing at the angles; and had four portæ, or entrances, facing the cardinal points, which were connected together by two grand ſtreets, dividing the city into four parts, and interſecting each other at the centre.

The place thus fortified and ſtrengthened for ſecurity, was next adorned with houſes for the officers, temples, and thoſe magnificent baths, the remains of which were diſcovered, in digging to a conſiderable depth, in the year 1755. Theſe baths were ſeated near the centre of the city, betwixt the north and ſouth gates, on the eaſtern ſide of the great foſſe-road. The ſudatories, tympanum, fluted-columns, cornices, pilaſters, and ſculptured ornaments, found here, prove that the buildings were conſtructed from elegant deſigns, and of ſimilar characters to ſome ſtructures deſcribed by Pliny and Vitruvius. Many altars have alſo been found here bearing the inſcriptions of Deæ Sulini Minervæ, Deæ Sulinis, &c. concerning which many conjectures have been adduced. Mr. Warner affirms the goddeſs Sulinis to be a local deity; Mr. Lyſons aſſerts that the name is of Gothic origin; whilſt Mr. Whitaker more appropriately and happily explains it to be the Britiſh characteriſtic appellation for Minerva as the tutelary goddeſs of medicine, deriving her influence immediately from the ſun. This great diſpenſer of heat was denominated Sul in the Celtic language. The ancient baths occupied a ſpace meaſuring 240 feet in length from eaſt to weſt, and 120 feet at the broadeſt part from north to ſouth. (Theſe baths, and remaining fragments, have been particularly deſcribed and illuſtrated by governor Pownal and Mr. Warner, in publications expreſsly on the ſubject; and the fragments are repreſented and deſcribed by Mr. S. Lyſons in a volume lately publiſhed.)

The Romans being eſtabliſhed here, conſtructed four of their great military roads to communicate between this place

(Aquæ

(Aquæ Solis) and the ſtations of Durocornium (Cirencester), Verlucio (Heddington), Ifcalis (Ilchester), and Abone (Aust-cliff). The conquering Romans held the poſſeſſion of Bath and England for nearly four centuries, at length left the whole island to the poſſeſſion of the Britons, who were afterwards ſubjugated by the hardy Saxons. It was not till the year 577 that Aquæ Solis fell into the hands of theſe deſtroying conquerors, who under the command of Ceaulin and Cuthwin, overcame Commail, Candidan, and Farinmail, the three Britiſh kings of Gloucester, Cirencester, and Bath, at a place called Dyrham, eight miles from the latter place, and took poſſeſſion of their reſpective dominions. Bath now received the privileges of a Saxon burg; had its Gereft or judiciary appointed to it, who preſided in the monthly meeting of its citizens, called the burgemote or folcmote; councils inſtituted for the regulation of the police, and adminiſtration of the laws within the burg. Bath was afterwards taken by Offa king of Mercia; and during the civil wars and Daniſh invaſions which prevailed in the ninth century, it was torn to pieces and nearly exterminated as a town. During the brilliant reign of Athelſtan, this place again roſe to conſequence; and a mint was eſtabliſhed here by that monarch, who alſo gave ſeveral large donations of eſtates to Offa's abbey. King Edgar was crowned and inaugurated here, and teſtified his regard for the place by granting it ſeveral privileges. The inhabitants ſeem to have been fully ſenſible of the favours conferred on them by this monarch; and according to the ſtatements of Leland they prayed for ſeveral centuries "in all their ceremonies, for the king's ſoule; and at Whitſuntide," he ſtates, "there is a king elected every year of the townes men, in the joyful remembrance of king Edgar, and the privileges gyven to the town by him." During the Daniſh dominion in England, the mints of Bath continued to be worked, and ſeveral coins of Canute the Great, ſtruck here, are ſtill remaining in ſome ſelect cabinets.

The Norman conqueſt had produced much general evil to the country; and Bath, with ſeveral other cities, experienced, in conſequence of it, great deterioration. But this was partial and light, compared to the miſeries which happened to it in Rufus's reign; when in the inſurrection raiſed by Odo biſhop of Bayeux, Geoffrey biſhop of Conſtance, and Robert de Mowbray; the two latter took the place by aſſault, and, in the ſpirit of the times, delivered it over to plunder and burning.

Bath was indebted for its reſtoration to John de Villula; who purchaſed it of Rufus, in 1090, for 500 marks, and obtained permiſſion to remove the pontifical ſeat from Wells hither. He rebuilt the city, erected a new monaſtery upon the ruins of the old one, and united the biſhopric to this inſtitution. Thus reinſtated, Bath gradually increaſed its monaſtic poſſeſſions, in conſequence of the munificence of monarchs and private perſons; but the ſweeping diſſolution of Henry VIII. drove the monks from its monaſtery, when the abbey-houſe, with its lands, &c. was granted to private individuals.

The citizens of Bath returned Members to the Engliſh parliament as early as the 26th of Edw. I. and writs were regularly ſent them for the ſame purpoſe every time parliament was ſummoned to meet. But as theſe privileges were attended with heavy charges on the burgeſſes, who generally paid the expences of their members, the city was not repreſented during the 1ſt and 2d years of Edward II. It now ſends two members, who are elected by the body corporate, conſiſting of thirty-one perſons. The government of Bath was originally veſted in a ſheriff: and the firſt that appears to have borne this office was Ælfred, who is ſaid to have been a great benefactor to the city, and died A. D. 907. It had afterwards a proveſt or bailiff. Its firſt charters were confirmed by king Edward III., Richard II., Henry V., and Henry VI. Queen Elizabeth, in the 32d year of her reign, granted the city a new charter, declaring it to be a ſole city of itſelf, and the citizens to be a body corporate and politic, by the name of mayor, aldermen, and citizens of the city of Bath. This charter was renewed in 1794, when two additional franchiſes were granted the citizens; and under that charter the corporation derive their authority, power, and rights.

The commerce of this city, abſtracted from the expenditures of faſhionable company, is inconſiderable, nor is there any manufactory deſerving particular notice. Bath was formerly diſtinguiſhed for its clothing trade; and at the time of the reſtoration, it is ſaid, there were no leſs than ſixty broad-cloth looms uſed in the pariſh of St. Michael.

The river Avon, which winds round the ſouthern part of this city, was made navigable by an act of parliament in the 10th of queen Anne; and the firſt barge, laden with deals, pig-lead, and meal, was brought here December 15th 1727.

In the earlier part of the civil wars, this city was garriſoned for Charles I. and the ſum of 7000l. is ſaid to have been expended on its fortifications; notwithſtanding which, it quickly ſurrendered to the enemy, and was made one of the principal poſts for the parliament's forces. Sir William Waller lay here for a conſiderable time with his whole army, making ſallies into the country, and inviting together all the diſaffected from the neighbouring clothing towns and villages. But after the battle of Roundway-down, July 13 1643, in which Waller was defeated, and the withdrawment of the garriſon for the reinforcement of Briſtol, the king's troops took poſſeſſion of the city.

Having ſtated a few particulars relating to the early hiſtory of Bath, we proceed to a brief deſcription of its principal public ſtructures, and other prominent objects which characteriſe this faſhionable place.

The Public Baths are four in number, beſides two private baths. Theſe are all conſtructed with particular attention to the convenience and accommodation of invalid bathers; and the laws and regulations are very equitable and fair. (For an analyſis of the hot waters of Bath, and an account of their medicinal powers, vide Dr. Gibbs's Treatiſe on the Bath Waters.)

The King's Bath is ſuppoſed to be ſo denominated from ſome of the Saxon kings having made this city their reſidence. It is ſituated to the weſt of the abbey church, and forms a parallelogram, 65 feet 10 inches in length, and 40 feet 10 inches in breadth; the bottom of which is 12 feet below the ſurface of the ground. The ſpring or main ſource is from the centre, which is covered with a large leaden reſervoir, to reſtrain its rapid motion, and to diſperſe the water more equally, both for bathing and drinking. There are alſo two commodious rooms with pipes, fire-places, and other conveniences for the bathers. This bath fills in nine hours.

The Queen's Bath, which receives its waters from the former, forms a ſquare of about 25 feet in diameter. The Croſs Bath forms a handſome termination to Bath-ſtreet, and is a very elegant building, conſtructed after a plan of Mr. Baldwin's; its figure is triangular. The Hot Bath is erected to the ſouth-weſt of the latter, and is ſo called from the ſuperior heat of its water; this alſo forms a parallelogram, and is perfectly convenient with reſpect to an open bath, private baths, dry-pump, and dreſſing rooms. Certain regulations are preſcribed reſpecting the baths and the perſons belonging to them; as well as particular fees for every proceſs of bathing, pumping, &c. At the king's Bath,

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in Stall-ſtreet, are ſome new private baths, which were erected by Mr. Baldwin in 1788. Theſe baths belong to the corporation. There are alſo the private baths, called the duke of Kingſton's, or the abbey baths, belonging to lord Newark, and in the occupation of Mr. Sloper. See BATH *Water*.

BATH, *Public Buildings*. The Guildhall is a very handſome ſtructure, built after a deſign of Mr. Baldwin, and contains a number of uſeful and convenient rooms for public buſineſs. In the common-council room, one of the moſt elegant of the kind in England, are portraits of the king and queen, the late prince and princeſs of Wales, and the late earls Chatham and Camden. The Pump-room was conſtructed, by the ſame architect, in the year 1706; its length is 85 feet, including the receſſes at the ends; in breadth 46 feet, and 34 feet in height. The inſide is ſet round with Corinthian three-quarter columns; and lighted by a range of large windows below, and of leſſer ones above. Here is a marble ſtatue of Richard Nash Eſq. the arbiter elegantiarum of Bath; a gentleman to whom this city is principally indebted for its faſhionable celebrity. The pump is held under a beneficial leaſe from the corporation for three years, the rent being 800 guineas, excluſive of taxes; which, however, is ſufficiently low to enable the leſſee to lay up 1200l. or 1500l. during the term. Moſt of the elegance of ſtreet-building in Bath is owing to the late Mr. Wood; who commenced his operations with ſpirit, and conducted them with taſte. To him the city is indebted for Queen-ſquare; the northern ſide of which preſents a chaſte and neat range of ſtructures, decorated with all the ornaments of the Corinthian order.

The Circus is of his deſigning; here the houſes partake of the three orders, Doric, Ionic, and Corinthian, highly ornamented. To the grandeur of his deſigns, the North and South Parades bear ample teſtimony; as do ſeveral ſtreets ſtretching to the northward of the old city, which ſtrongly mark his judgment and execution. Subſequent architects have followed Mr. Wood's example, and hence ariſes a profuſion of new ſquares, creſcents, parades, and ſtreets; thus increaſing Bath to ſix times its original ſize; and the beauty of the city is equal to its extent.

The new Aſſembly Rooms are the moſt elegant of the kind in Europe; theſe were built by Mr. John Wood in 1771, at an expence of 20,000l. The ball-room is 105 feet 8 inches long, 42 feet 8 inches wide, and 42 feet 6 inches high; the other parts of the building are compoſed of the octagon room, the tea-room, and the card-room, all of equal beauty. The regulations to preſerve order and decorum in theſe rooms are ſimple and ſatisfactory. The lower rooms, near the north parade, have a convenient ſuite of apartments appropriated to the elegance of the place; and here are to be ſeen the original regulations by Mr. Naſh, which he wrote for the purpoſe of reducing politeneſs and urbanity to a ſyſtem. A neat ſmall Theatre was erected in Orchard-ſtreet by the late John Palmer Eſq. who obtained a patent for dramatic entertainments in 1768; and here plays are performed on Tueſdays, Thurſdays, and Saturdays. Sydney gardens are laid out in a very pleaſant and elegant ſtyle, for the purpoſe of evening promenades: where galas and public muſic and ſinging are given ſimilar to the entertainments at Vauxhall gardens of London.

Hoſpitals, &c. Buildings and inſtitutions of this nature form a ſtriking feature of Bath; and no place in the realm, according to its ſize, exhibits ſo many foundations for the extermination of diſeaſe and wretchedneſs, for the ſupport of the poor, and the inſtruction of the ignorant. The general hoſpital, from the munificence of its plan, is an inſtitution open for all the ſick poor in the united kingdom, who labour under diſeaſes to which the hot waters of Bath particularly apply, with an exception to thoſe perſons inhabiting the city, who have the waters at their own houſes for a ſmall expence. Mr. Naſh had the honour of ſuggeſting the idea for its foundation, in 1715, and the firſt ſtone was laid in 1738. St. John's hoſpital, originally founded by Reginald Fitz-Joſelinn in 1180, and the chapel attached to it, ſtand near the croſs bath, and were built in 1728, upon the ſcite of an old ſtructure for the accommodation of ſix infirm men and women. St. Catharine's hoſpital, called alſo the Black alms and Bimberries, is another aſylum for ten poor perſons. Bellot's hoſpital entertains twelve poor men and women, who have each an apartment, the liberty of bathing, and a ſmall weekly allowance. The Bath city Diſpenſary and aſylum, is equally open to the inhabitants and ſtrangers in caſes of phyſical and ſurgical emergency; and is a moſt excellent inſtitution. The Caſualty hoſpital is appropriated to paupers who have been injured by accidents. The Puerperal, or child bed charity, is another benevolent inſtitution, whoſe objects are explained by its name.

Bath has, beſides theſe eſtabliſhments, a public grammar ſchool, charity and Sunday ſchools, with many humane and ſcientific ſocieties. The principal of theſe are, the ſtrangers friend ſociety, and the Bath and weſt of England ſociety. The firſt is eſtabliſhed and conducted on the moſt benevolent principles of univerſal philanthropy; and the only recommendation for relief, is a ſufficient proof of evident diſtreſs. The ſecond was eſtabliſhed by Mr. Edmund Rack, in 1777, for the encouragement of agriculture, arts, manufactures, and commerce; and from the judicious management of its founder, and late ſecretary Mr. W. Matthews, it has acquired ſome celebrity, and proved of extenſive utility. The philoſophical ſociety was eſtabliſhed in the year 1799, by ſome reſpectable literary characters at Bath, upon a plan ſomewhat ſimilar to that at Manchester, for the promotion of ſcience and the diffuſion of knowledge.

Pariſhes. Bath is divided into the pariſhes of St. Peter and St. Paul, St. James, St. Michael, and Walcot. Bathwick, though connected by Pulteney bridge, and conſiſting of a great number of handſome houſes, is out of the juriſdiction of the city. Each of theſe pariſhes has its church; and in that of Walcot are ſeveral chapels of eaſe. Of theſe, the principal is the Abbey Church, which preſents a noble ſpecimen of Engliſh architecture. It is built in the form of a croſs, from the centre of which riſes a tower 162 feet high, ornamented with beautiful light perforated battlements. The length of the body, from eaſt to weſt, is 210 feet, from north to ſouth, 126; and the breadth of the body and ſide aiſles, 72 feet. The grand entrance at the weſt is through a noble arched doorway; and the chaſte uniformity, proportion, and harmony in the ſtructure of the interior of this ſtately building, powerfully arreſts the attention of the beholder. The weſt window is of extreme richneſs, and the whole of this front diſplays a repreſentation of allegorical carving, not uſually met with. The roof, conſiſting of two parts, the nave and the choir, is equally remarkable; the ribs which compoſe its tracery being the only ſolid work, the intermediate ſpaces having been originally left open, and afterwards filled up with lath and plaſter. The windows are all large, of admirable and nearly uniform conſtruction; this has occaſioned the church to be called "The Lantern of England." A profuſion of marble monuments ornament, or rather crowd up, the inſide; among which may be noticed thoſe of biſhop Montague, Quin, beau Naſh, lady Miller, and ſir William

William Draper. The veſtry contains a ſmall library, founded by biſhop Lake. Oliver King, biſhop of Bath and Wells, in the time of Henry VII. undertook this building we have deſcribed; but by a neglect of his four ſucceſſors, cardinals Adrian and Wolſey, and biſhops Clark and Knight, the undertaking was ſo dilapidated, that at the diſſolution it was proffered to the citizens for 500 marks. They refuſing the purchaſe, under an idea of offending the king, the glaſs, iron, bells, and lead were ſtripped from it, and ſold at a foreign market. Thus it continued in a ruinous ſtate till the reign of queen Elizabeth, when ſubſcriptions were ſet on foot to reſtore it; and Thomas Bellot Eſq. ſteward of her houſehold, repaired the choir for divine ſervice; biſhop Montague, in the next reign, at the expence of 1000l., completely reſtored the whole to its former ſtate; and with the aſſiſtance of ſeveral munificent noblemen and gentlemen, the abbey of Bath became again a conſecrated temple to divine worſhip and a grand ornament to the city.

St. James's church was erected in 1768, and is a freeſtone ſtructure, with a ſquare tower riſing at the weſt end, containing eight muſical bells. St. Michael's church was begun in 1734, and is injudiciouſly ſituated in the middle of a ſtreet. Walcot church, dedicated to St. Swithin, is a neat modern ſtructure, rebuilt in 1780. In this pariſh are four chapels of eaſe, and a church for the uſe of the poor: of theſe, Chriſt's church was built by voluntary ſubſcription for the uſe above mentioned; and the whole area is therefore appropriated ſolely to accommodate the poorer claſs of inhabitants. There are alſo in Bath other chapels and meeting-houſes for divine ſervice: the Octagon and Laura chapels are of the eſtabliſhed religion. The Unitarians, Quakers, Baptiſts, Methodiſts, Moravians, and Roman Catholics have each a place for divine worſhip.

Bath is furniſhed with 438 lodging-houſes, and 19 boarding-houſes, where individuals and families are accommodated with every domeſtic convenience during the winter, which is the faſhionable ſeaſon. The ſhops of bath are particularly ſplendid, and its libraries are numerous and reſpectable.

Civil Government. The judicial buſineſs of the city is tranſacted in the guildhall, where quarter-ſeſſions, a court of record, and a court of requeſts are held. The corporation conſiſts of a mayor, ten aldermen, two ſheriffs, and eighteen common-council men, beſides town-clerk, conſtables, &c. The principal markets are kept on Mondays and Saturdays.

For further particulars concerning the hiſtory and deſcription of this city and its environs, ſee Warner's Hiſtory of Bath, 4to. and the Bath guides publiſhed at this place.

Bath *Water.* Bath has been long celebrated for its thermal waters. There are three principal ſources of the water; called the King's bath, the Croſs bath, and the Hot bath. The ſupply of water is abundant and invariable. The temperature of the hotteſt of theſe is uniformly 116°, when freſh drawn, and of the coldeſt 112°; and no variety of ſeaſon appears in any degree to influence this temperature. By ſome accurate obſervations that were made on the heat of Bath and Briſtol water, by Mr. Canton, it appears, that a Fahrenheit's thermometer held in the ſtream from the common pump of the king's bath after pumping about a quarter of an hour, was raiſed to 112°. The ſtream from the common pump of the hot bath raiſed it to 114½°. At the pump of the croſs bath it ſtood at 110°; the heat of the ſhaded air at noon being 66°, and of common water expoſed to it 61°. And the Briſtol water raiſed the thermometer to 76°, whilſt in common water expoſed to the ſhaded air it ſtood at 62°. Phil. Tranſ. vol. lvii. N° 22.

The analyſis of Bath water has been the cauſe of much controverſy among chemiſts, but it ſeems now to be well underſtood. To the taſte it is neither briſk, nor acid, nor alkaline, nor ſaline, nor ſulphureous, but ſimply hot and chalybeate; and it is truly remarkable that the chalybeate taſte is entirely loſt as ſoon as the water cools, before any ſenſible precipitation of the iron takes place. The actual quantity of the iron is ſo minute as never to have been eſtimated with any accuracy: probably a quarter of a grain in a gallon is an ample allowance, a quantity ſo ſmall as only to be perceptible to the taſte when freſh drawn and hot. Bath water contains no other ingredients of any importance. It is hard, and holds ſome calcareous earth in ſolution, and (as Dr. Gibbs has diſcovered) a portion of ſilex. It is perfectly free from ſulphur. A conſiderable quantity of azotic gas riſes from the earth along with the water, and a certain portion is held by it in ſolution or rather weak affinity. Of carbonic acid it only contains about $\frac{1}{60}$ of its bulk.

The diſeaſes for which the Bath water has been recommended are very numerous. It has long enjoyed a high celebrity in the cure or relief of gout, chiefly of the atonic kind; of rheumatiſm; paralyſis, eſpecially that partial palſy of the limbs induced by rheumatiſm; and diſeaſes of the urinary organs. When drank freſh from the ſpring (the only time when it poſſeſſes any peculiar virtues), it ſometimes raiſes the pulſe, cauſes the face to flush, and heats the body very conſiderably; and hence there are many invalids who cannot bear its operation, or who muſt be gradually accuſtomed to it. This heating effect, however, is by no means conſtant or univerſal. It often produces a coſtive ſtate of body, and generally keeps the ſkin pervious and eaſily perſpirable. Its uſe as a hot, warm, or tepid bath, is full as extenſive and probably important as when taken internally. It has been thought by many that the practice of drinking our Bath waters in Somerſetſhire is not very ancient, and that their ancient uſe was in bathing; but Dr. Freind endeavours to ſhew the internal uſe of thoſe waters to have been very early. Dr. Guidot, in whoſe time this uſage revived, and who has given us an hiſtorical narrative of theſe waters, goes no higher for their internal uſe than the latter end of the ſixteenth century. But they appear to have been in uſe in the thirteenth century. Gilbert, ſurnamed Anglicus, who, according to Bayle, lived in 1210, in the reign of king John, or more probably in that of Edward I. mentions a perſon cured of a leucophlegmacy attended with a ſwelling, &c. by the ſulphureous baths: which Dr. Freind underſtands of the Bath waters; and that the cure was wrought by drinking, not bathing, which had been improper in ſuch a caſe.

Dr. Muſgrave makes it probable, that they were reſorted to in the time of Geta; there being ſtill the remains of a ſtatue erected to that general, in gratitude for ſome benefactions which he had conferred on the place. Some pretend that theſe waters were in uſe 800 years before Chriſt. Phil. Tranſ. N° 49. 346.

The two ſtated ſeaſons for drinking the Bath waters are ſpring and fall; though they may be uſed whenever they are found neceſſary.

Bath, in *Geography*, a river of Africa, in the kingdom of Fez, which riſes in mount Atlas; and joining the Suba or Sebu, flows into the ocean north of Mahmore.

Bath, a county of Virginia, in North America, about 60 miles long and 50 broad, bounded on the eaſt by the county of Auguſta; and noted for its medicinal ſprings, which are hot and cold, near the foot of Jackſon's mountain.

Bath, a townſhip of Lincoln county, in the diſtrict of Maine, in America, containing 949 inhabitants. It lies on the

the weſt ſide of Kennebeck river, about 13 miles from Wiſcaſſet, 60 N.E. from Portland, 32 from Hallowell, and 165 N.E. from Boſton. N. lat. 43° 49′.

Bath, a thriving town, in Berkley county, in Virginia, ſeated at the foot of the warm-ſpring mountain. The ſprings in the vicinity of this town, though leſs efficacious than the warm ſprings in Bath county, draw upwards of 1000 people here, during ſummer, from various parts of the United States. The country in the environs is agreeably diverſified with hills and valleys; the ſoil rich and well cultivated; 269 miles S.W. from Philadelphia.

Bath, a townſhip of America, in Grafton county, New Hampſhire, containing 493 inhabitants; and lying on the eaſt bank of Connecticut river; 35 miles N.E. by N. from Dartmouth college, and 97 N. W. from Portſmouth.

Bath, or *Port Bath*, an ancient town in Hyde county, North Carolina, on the north ſide of Tar river, about 24 miles from Pamplico ſound, 61 S. by W. from Edenton, and in the port of entry on Tar river. It contains about 12 houſes, and is declining. N. lat. 35° 31′. W. long. 77° 15′.

Bath, a village in the county of Renſſalaer, New York, pleaſantly ſeated on the eaſt bank of Hudſon river, nearly oppoſite to the city of Albany, at the head of Sloop navigation. A mineral ſpring has been diſcovered in this place, and a commodious bathing houſe has been erected, at a conſiderable expence, containing hot, cold, and ſhower baths.

Bath, a thriving poſt-town in Steuben county, New York, containing about 50 houſes, ſituate on the north bank of Conhocton creek, a northern head-water of Tioga river, 42 miles ſouth-eaſt from Williamſburg, 120 from Niagara, and 221 weſt from Hudſon city. N. lat. 42° 15′. W. long. 77° 10′.

Bath, a village in the eaſtern pariſh of St. Thomas, in the iſland of Jamaica. It owes its riſe and name to a hot ſpring near it, which is ſaid to be very efficacious in the cure of the dry belly-ache. The ſulphureous water flows from a rocky mountain about a mile diſtant, and is ſo hot that the hand cannot be held in it.

Bath, Balneum, a convenient receptacle of water for perſons to waſh or plunge in, either for health or pleaſure. Baths are either natural or artificial. Natural, again, are either hot or cold.

Baths, *Natural*, hot and cold. See *Mineral* Waters.

Baths, *Artificial or Medicated*. The very accurate imitations of moſt of the mineral waters for the purpoſe of drinking which are now met with, have induced ſome ingenious artiſts to extend the imitation to larger quantities of water ſufficient for the purpoſe of bathing. The method of performing each will be explained under the article of Waters, *Mineral*.

Of artificial baths ſome are aqueous, others vaporous, others dry, &c.

Baths, *Aqueous*, are thoſe prepared from common plants and other ſubſtances of emollient, reſolvent, and nervous kinds. *Aqueous Baths* ſometimes conſiſt of milk and emollient herbs, with roſe-water, &c. when the deſign is to humectate; at other times of bran and water, when the deſign is only to cleanſe; ſometimes again they are made of a decoction of roots and plants, with an addition of ſpirit of wine, when a perſon bathes for a great pain or tumor, &c.

In *Vapour Baths*, the fume or ſteam of ſome decoction is received upon the body to promote a perſpiration. Theſe are alſo by ſome called *Balnea Laconica*.

Vapour Baths are, when the patient is not plunged into what is prepared for the bath, but only receives its ſteam upon thoſe parts of his body which require it: as in ſome diſtempers of the fundament and womb, where the patient ſits and receives the fumes of ſome proper fomentation, &c. Mr. James Playfair has publiſhed "A Method of conſtructing Vapour Baths," ſo as to render them of ſmall expence, and of commodious uſe in private families." The principles on which this method is founded are, that in the vapour bath the water being applied, not in the ſtate of ſteam, but of ſolution in air, a much leſs quantity of the heated fluid than that uſually applied will ſuffice, provided the heat of the incloſed air can be maintained in a ſufficient degree; and that denſe ſubſtances, eſpecially metallic ones, being the greateſt conductors of heat, are to be avoided in the conſtruction of the veſſel containing the vapours, and the lighteſt and moſt non-conducting materials uſed inſtead of them. The whole apparatus for the vapour-bath is, therefore, reduced to a tin boiler, tin pipes wrapped in flannel, and a deal box, with a cotton cover, for the reception of the body and circulation of the vapour.

To theſe may be added the bagnio, where people are made to ſweat by the heat of a room, and pouring on of hot water; after which they generally go into a hot bath, or bagnio. See Bathing.

Baths, *Dry*, are thoſe made of aſhes, ſalt, ſand, ſhreds of leather, and the like.

The ancients had divers ways of ſweating by a dry heat; as by the means of a hot ſand, ſtove rooms, or artificial bagnios, and certain natural hot ſteams of the earth, received under a proper arch, or hot-houſe, as we learn from Celſus. They had alſo another kind of bath by inſolation, where the body was expoſed to the ſun for ſome time, in order to draw forth the ſuperfluous moiſture from the inward parts; and to this day it is a practice in ſome nations to cover the body over with horſe-dung, eſpecially in chronical diſeaſes, to digeſt and breathe out the humour that cauſes the diſtemper. In New England, they make a kind of ſtoves of turf, wherein the ſick are ſhut up to bathe or ſweat. Phil. Tranſ. N° 384. p. 130. The ſame name is ſometimes alſo given to another kind of baths, made of kindled coals, or burning ſpirit of wine; the patient being placed in a convenient cloſe chair for the reception of the fume, which riſes and provokes ſweat in a plentiful manner: care is here taken to keep the head out, and to ſecure reſpiration.

This bath has been found very effectual in removing old obſtinate pains in the limbs, and venereal complaints; and, it is ſaid, will often complete a cure, left unperformed by ſalivation.

Baths, *Metalline*, thoſe made of water impregnated with the *ſcoriæ* of metals. The moſt common and uſeful of this kind are thoſe prepared with the *ſcoriæ* of iron, which abound with the earthy, ſaline, and ſulphureous ſubſtance of the metal; and theſe are of excellent ſervice for ſtrengthening and bracing up the part to which they are applied, and recovering weak and decayed limbs; ſtopping various kinds of bleeding; and reſtoring the menſtrual and hæmorrhoidal flux, where obſtructed; inſomuch that they may well be ſubſtituted for the natural iron baths.

Adjacent to the ſmelting huts where metals are run from their ore, are to be found large quantities of the ſlag of copper, antimony, and cobalt, which abounding with ſulphur, vitriolic ſalt, and an earthy principle, make ſerviceable baths for ſtrengthening the loſt tone of the fibres, and relaxing them when they are too ſtiff. Theſe baths have likewiſe a deterſive and cleanſing virtue; ſo that, with prudence and due regard to circumſtances, they may be uſed on many occaſions. The way of making theſe artificial baths is, either to take the ſlags as they come hot from the furnace,

nace, or elſe to heat them afreſh, and throw them into hot water: which is afterwards to be uſed, either in the way of bath or fomentation occaſionally. There are other artificial baths, prepared of alum and quicklime by boiling them together in fine rain-water. Such baths are highly ſerviceable in paralytic diſorders and weakneſs of the limbs.

The *pepper bath*, or *peſſer waſſer* on the Alps, is one of the moſt celebrated in Europe, and has been the ſubject of particular treatiſes, beſides what has been ſaid of it occaſionally by Scheuchzer and others. It was firſt diſcovered in the year 1240, and is of the periodical kind. The water breaks forth in a dreadful place, ſcarce acceſſible to the ſunbeams, or indeed to men, unleſs of the greateſt boldneſs, and ſuch as are not in the leaſt ſubject to dizzineſs. Theſe baths have this ſingularity above all others, that they commonly break forth in May, and that with a ſort of impetuoſity, bringing with them beech leaves, crabs, or other woodfruit; and that their courſe deſiſts in September or October.

Scheuchzer profeſſes himſelf of opinion, that theſe waters are not impregnated with any minerals; or, if they do contain any, that their virtues in curing diſtempers and preſerving health, do not proceed from them. They are exceedingly clear, deſtitute of colour, taſte, or ſmell. Phil. Tranſ. N° 316. p. 151.

Bath, Balneum, in *Chemiſtry*. In many chemical proceſſes it is of the utmoſt importance both for the ſecurity of the veſſels, and the ſucceſs of the operation, that the application of the neceſſary heat ſhould be gradual and regulated. This is particularly the caſe in moſt diſtillations, and in digeſtions at a moderate temperature, and wherever glaſs veſſels are employed. Hence the contrivance of baths or intermedes between the burning fuel and the veſſel containing the ſubject of the proceſs, in which the veſſels are immerſed, and whereby they receive the heat in a regular gradual manner. As fluids heat with more uniformity than ſolids, they are preferable where only a heat a little inferior to the boiling point of the fluid is required; and they poſſeſs this important advantage, that the heat is ſo kept down by evaporation, that it can never riſe beyond the known and given point of boiling. But where as much even as a low red heat is required, no fluid can be employed with any convenience, and recourſe muſt be had to ſome incombuſtible ſolid reduced to powder. A great variety of baths were invented by the elder chemiſts, eſpecially thoſe who were engaged in alchemical purſuits, which were ſuppoſed to require long digeſtions in a very accurately regulated heat; but moſt of theſe are now laid aſide, and only the following kinds of baths are retained.

The Water Bath, *Balneum Aquæ*, is of great uſe in the diſtillation of eſſential oils, of the aromatic part of vegetables, of the finer kinds of ardent ſpirits, in evaporating into dryneſs the ſolutions of vegetables employed in medicine whoſe virtue would be loſt by any exceſs of heat, and in many other proceſſes. The apparatus for this bath forms part of the improved Alembic (which ſee, in *Plate* III. *fig.* 13. A. of *Chemiſtry*); but any veſſel full of water, capable of being heated to boiling, and of containing a retort or other veſſel, may be uſed as a water bath. As the utmoſt heat which any ſubſtance immerſed in a boiling liquid can acquire thereby, falls ſhort by a few degrees of the temperature of the liquid itſelf, the heat of a water bath cannot amount to 212°. This is conſiderably increaſed, however, by uſing a ſtrong ſolution of ſea-ſalt, or any other ſalt, inſtead of water; as the boiling point of ſaturated brine is much higher than that of mere water. This forms the ancient *Balneum Mariæ*, *Bath of Mary* (*the Virgin*, as ſome have interpreted the term); but others with more plauſibility write *Balneum Maris*, *ſea-water*, *or brine-bath*.

Mercury, the fuſible alloy of biſmuth tin and lead, tin alone, and other metals, have been propoſed for the purpoſe of baths, and now and then uſed, when a higher heat than the ſalt-water bath was required; but the metals are cumberſome by their weight, expenſive, mercury dangerous to the bye-ſtander from its evaporation, and they all have the inconvenience of requiring more preſſure to be uſed than the mere weight of the ſubſtance which they are to heat, to enable it to be immerſed in the melted metal.

Balneum Siccum. This whimſical term has been applied to the *vapour bath*, in which the veſſel to be heated is encloſed in a kind of caſe filled only with the ſteam of boiling water. It is almoſt if not quite out of uſe for chemical purpoſes, but it forms a valuable implement for the kitchen.

Balneum Arenæ, *Sand-bath*, of all kinds of chemical baths that which is uſed the moſt extenſively. In experimental furnaces, or ſmaller chemical operations, the veſſel to contain the ſand is of caſt iron, very much in the form of an inverted round hat, of which the hollow part is ſupported by the projecting rim upon the ſides of the furnace, and hangs down over the burning fuel, the flame of which plays round it and gradually heats the ſand which it contains, together with every veſſel buried therein. The ſand ſhould be of middling fineneſs, the fineſt as well as the very coarſeſt being ſeparated by ſifting; for by this means the heat is more gradually diſtributed. Thoſe diſtillations, which at any part of the proceſs require as much as a low red heat, are uſually performed in ſand baths, even in manufactures in the great way, as of aqua fortis. Sand, when thoroughly heated, continues hot for a very conſiderable length of time.

Bath is alſo uſed in another ſenſe, to ſignify the fuſion of metallic matters in certain operations: thus, in refining or cupelling, the metals are ſaid to be *in bath* when they are melted.

Baths, the name proper to ſuch public or private edifices as are uſed for bathing.

The practice of bathing is found among all the nations of antiquity. The people of the Eaſt were ever accuſtomed to it, and have continued the habit to the preſent time; their methods being perfectly conformable to thoſe of the Greeks and Romans. If we may credit Homer, Moſchus, and Theocritus, the firſt ages of Greece knew no other baths than the rivers; and it was in them that the princeſſes Nauſicaa, Europe, and Helen bathed. Homer (ſay the French Encyclopediſts) indicates, that in his time private baths of a regular form were in uſe. Telemachus and Piſiſtratus, they obſerve, were conducted to baths of uncommon neatneſs: the moſt beautiful ſlaves in the palace bathed them, perfumed them, and adorned them with the handſomeſt garments. But all this is an aſſumption which the text of their author by no means warrants. The paſſage alluded to is in the Odyſſey, book xv. l. 135.

Χερνιβα δ' αμφιπολος προχοῳ ἐπεχευσε φερουσα
Καλῃ χρυσειῃ, υπερ αργυρεοιο λεβητος;
Νιψασθαι.

And the lines which follow plainly ſhow, it was nothing more than a common ablution previous to an entertainment. The Λεβης was a kind of vaſe occaſionally placed upon a tripod.

The Romans, who for a long time bathed in the Tyber, borrowed the idea of artificial baths from the Greeks; their various habits of life and dreſs rendered ſuch accommodations neceſſary; and, to make ſhort of our relation, all the moſt ſplendid and faſcinating luxuries of the emperors were

multiplied and brought together in the vaſt buildings of the *thermæ*.

The *thermæ*, thoſe prodigious monuments of Roman magnificence, were formed in imitation of the Greek gymnaſia. In both were aſſembled all the inſtitutions favourable to health, all the exerciſes of the body, all that could give relaxation to the mind, or afford amuſement to the people. Although the name of *thermæ*, given by the Romans to theſe edifices, ſignifies a place deſtined to the uſe of warm-baths, yet the diverſity of uſes to which they were applied will not ſuffer us to comprife the whole in a ſingle article. All that concerns the immediate uſe of the baths will be found here; but for other details, we ſhall refer to THERMÆ.

The moſt complete and beautiful baths were compoſed of ſix principal apartments.

The firſt was called the *apodyterium*, where the frequenters of the bath undreſſed; it was furniſhed with tables to receive the garments of the bathers, and guards named *capſarii* to take care of them. This room was alſo called by the Romans the *ſpoliatorium*. All the baths were not furniſhed with an apodyterium. Lucian ſays, that in thoſe which were without it, the *frigidarium* was uſed for the ſame purpoſe. The apodyterium is found neither in the gymnaſium of Vitruvius, nor in the palæſtra deſcribed by Lucian. It is very probable, there was no ſuch apartment in the Greek gymnaſia, and that the frigidarium ſupplied its place. Pliny is the only author who mentions it, when deſcribing the baths of his country-houſe.

The ſecond apartment was the cold-bath; named Ἀπόλουσις by the Greeks, and *frigidarium* by the Romans. This room was uſually expoſed to the north, and ſerved, as we have juſt related, the purpoſe of an apodyterium to ſuch baths as were without one; of courſe it was then the firſt apartment. The marquis Galiani imagined that the frigidarium and tepidarium were the ſame; but ancient paintings prove the contrary.

The third room was the *tepidarium*. Its principal uſe was, by the temperate air it contained, to prevent any bad effects that might be occaſioned by paſſing too ſuddenly from the warm to the cold apartment. In the paintings of the baths of Titus, this apartment is found between the frigidarium and the *concamerata ſudatio*. The tepidarium, according to hiſtorians, joined the frigidarium to the warm bath; and it is for that reaſon that Pliny calls it *cella media*, the middle room. Galen gives it the ſame name, and imagines it acquired this appellation not only on account of its ſituation in the centre, but from its temperature; for, ſays he, this chamber was as many degrees colder than the third or warm bath as it was warmer than the firſt or frigidarium. The frigidarium and tepidarium, however, were more frequented for the benefit of their air than of their water.

The fourth chamber was that which contained the ſtove; and was called *laconicum*, from the name of the oven which warmed it. According to Galen, it incloſed a dry heat; and he adviſes perſons of a warm temperature not to enter it, but rather to uſe the warm bath, where the water abſorbed by the pores would hinder the heat from being attended by any bad conſequences. The laconicum alſo had its name, as having been originally derived from Laconia. Martial ſays to one of his friends (lib. 6. ep. 42.):

Ritus ſi tibi placeant tibi laconum,
Contentus potes arido vapore
Cruda virgine Martiâque mergi.

Dion informs us, that they who perſpired in the laconicum anointed themſelves with oil, and then entered the cold bath; nevertheleſs in its origin the laconicum was only uſed by old men and valetudinarians. This room, agreeably to Vitruvius, as well as to the ancient paintings of the baths of Titus, joined the tepidarium, and communicated to it a more temperate heat. A ſort of furnace was uſually ſuſpended at one corner of the room, of a circular form, terminating in a ſmall cupola, open at the top; which, as Vitruvius ſays, ſerved to regulate the degree of heat which the bathers wiſhed to give the room. It ſeems beyond a doubt that the *laconicum* itſelf was nothing more than a kind of furnace; and the miſtakes it has occaſioned owe their riſe to the room in which it was placed having taken its name from it. In the paintings of Titus's baths, it is called the *concamerata ſudatio*; but Vitruvius furniſhes us with a proper diſtinction, when he ſays (l. 5. c. 10.), "laconicum ſudationeſque ſunt conjungendæ tepidario;" and explains himſelf more fully in the next chapter, where he reckons the ſtove as a chamber of the palæſtra. There ſhould in one of its corners, he ſays, be placed the laconicum, and in another the warm bath. "Concamerata ſudatio longitudine duplex quàm latitudine quæ habeat in verſuris ex unâ parte laconicum . . . . . ex adverſo laconici caldam lavationem." It ſhould perhaps have been before obſerved, that according to Vitruvius, the laconicum had niches which were called *ſudationes*, where thoſe who uſed the dry baths ſeated themſelves, as we ſee in ancient paintings.

The fifth apartment was the balneum, or warm bath, called *thermoluſia*, and was the moſt reſorted to. Its ſize was proportioned to the number of thoſe who bathed in it at once. Its breadth was a third leſs than its height, without including the gallery, called *ſchola*; which was carried round it, and terminated near the baſon with a little wall for the bathers to lean againſt. This gallery was ſufficiently large to contain thoſe who waited for their turns to bathe. The middle of the room was occupied by a baſon called *piſcina*, or by a bathing place which had the name of *alveum*, as we ſee in the balneum of ancient paintings. The bath was placed immediately below the only window by which the light was admitted, that it might not be darkened by the ſhadows of thoſe who were walking in the gallery.

The ſixth room was the *elæotheſium*, or *unctuarium*. Here were preſerved the oils and perfumes uſed both in entering and quitting the bath; and it was ſo conſtructed as to receive a conſiderable degree of warmth from the hypocauſt.

The hypocauſt was a ſort of ſubterranean furnace, which Vitruvius calls *ſuſpenſura*; the bottom forming an inclined plane, by a gradual deſcent from the opening where the wood for heating it was thrown in; by which means the heat was increaſed, and the apartments warmed more expeditiouſly. It extended under the greater part of the rooms we have mentioned.

Beſide theſe rooms particularly deſtined to the uſe of the bath, there were ſeveral others intended for the exerciſes previouſly taken. Such were the *ſpheriſterium*, the *coniſterium*, the *corycea*, the *ſtudium*, the *ephebeum*, and others: all forming part of the gymnaſia; but which were not always appendages of the baths, particularly thoſe of private perſons. Private baths, however, differed greatly in conſtruction from thoſe we have mentioned. Each poſſeſſor followed his own caprice, either in changing the rooms of which they were compoſed, or making the ſame chamber ſerve for different purpoſes. The deſcription the younger Pliny has left us of his bath at Laurentinum, is a proof of this. In this building there was neither apodyterium nor tepidarium; and the arrangement of its other parts was very different from that of the public baths. You firſt entered a ſpacious frigidarium; where contiguous to the walls, and oppoſite

to each other, were placed two baths sufficiently extensive to swim in. Nigh this chamber was the unctuarium: you then entered the hypocauſt, the propnigeum, and two other apartments, neat but not magnificent: you afterwards came to an hot bath, from which the ſea was diſcovered; and farther on was the *ſpheriſterium*, expoſed to the afternoon ſun. In his houſe in Tuſcany, on entering the bath, we firſt find a great apodyterium, a ſpacious and agreeable chamber for undreſſing. This conducted to the frigidarium; which was darkened, and contained a bath of an appropriate ſize. When it was not found ſufficiently ſpacious, there was in the open air a vaſt baſon, which might be uſed for the ſame purpoſe. Not far from the frigidarium was a chamber expoſed to the ſun ſufficiently warm, but leſs ſo than the ſtove; this was the tepidarium. This room had three partitions, each having a different degree of heat. The two firſt were entirely expoſed to the ſun; and though the laſt had not all the heat of the former, it was equally light. Above the apodyterium was the *ſpheriſterium*, or place of exerciſe for different games. Although Pliny does not inform us how the bathers employed themſelves after having undreſſed and anointed, it is highly probable they went up to the ſpheriſterium and exerciſed, deſcended by another ſtaircaſe into the ſtove, and afterwards returned to the apodyterium; not forgetting in their way to viſit the tepidarium and frigidarium.

The following deſcription, according to the Hippias of Lucian, gives another idea of the baths of the ancients, with the various apartments they contained.

"Having paſſed the great veſtibule, to which was an eaſy aſcent, you entered a ſpacious hall for the uſe of the domeſtics who attended their maſters. On the left were the chambers, where they who quitted the bath retired; which were the handſomeſt and moſt agreeable of all. Farther on was another hall deſtined for perſons of conſideration. After this apartment, on each ſide were galleries, where the bathers changed their dreſſes. The centre, which was both elevated and well-lighted, contained three baths of cold water, ornamented with Laconian marble; and had likewiſe two ſtatues of the ſame material, the one of Hygeia, and the other of Eſculapius. On leaving this part of the baths by a long vaulted paſſage, the building became inſenſibly warmer, although the heat was far from diſagreeable: this paſſage led to a light apartment where the oils and eſſences were preſerved, which on the right hand had a communication with the palæſtra; and the door-poſts of which were covered with Phrygian marble. The apartment contiguous to this, as Lucian informs us, was more beautiful in its decorations than any we have mentioned; its very floor was compoſed of the marble already ſpoken of. It was of a ſize ſufficiently large for the bathers to walk in, and was furniſhed with ſeats. After this apartment you entered a ſort of gallery, heated; of ſufficient length to admit the exerciſes of the courſe. It was incruſted with Numidian marble; and led to a handſome well-lighted apartment, painted with purple, where were three warm baths. To leave it, it was not neceſſary you ſhould go back by the way you entered, but acroſs a warm chamber where the heat gradually diminiſhed. All the chambers were lighted from the top; and Hippias ſhewed great judgment, in conſtructing the apartment which contained the cold bath ſo as to face the north. In regard to thoſe which required a greater degree of heat, he expoſed them to the ſouth, the ſouth-eaſt, and weſt."

It appears from this deſcription, that the bath of Hippias had no apodyterium; there were only at each end of the frigidarium, which contained the three baths of cold water, tables on which the dreſſes were placed. The bathers entered a warm paſſage which conducted to the unctuarium; whence having anointed themſelves they gained the ſpheriſterium, the largeſt and handſomeſt apartment of the whole. When the exerciſes were finiſhed, they paſſed into the hot bath by a gallery where there was ſufficient heat to preſerve the perſpiration firſt excited in the ſpheriſterium: ſo that when the bathers firſt entered the warm bath, the difference they found was ſcarcely perceptible; ſince the warmth of the water was pretty nearly the ſame with that of the body. After having uſed the bath, they returned by a ſhorter way, and croſſed an apartment where the heat diminiſhed in proportion as they approached the frigidarium where their dreſſes had been left.

The following is the deſcription which Vitruvius has left us of the *Grecian* baths. Having deſcribed the different apartments of the gymnaſium, he ſays: "On the right of the ephebeum is built the coryceum, or the room for ſhaving, dreſſing, &c.: near which ſhould be the coniſterium, where the ſand for the wreſtlers is preſerved; and at the corner of the peryſtyleum, the loutron, or cold bath. On the left of the ephebeum, the eleotheſium, or apartment for the eſſences and oils: near which is conſtructed the frigidarium; whence a paſſage ſhould conduct the bathers to the propnigeum near the ſtove in the corner of the portico. Adjoining, on one ſide the frigidarium, is built the vaulted chamber for perſpiration, which is always made twice as long as wide; and at one of its angles, uſually that oppoſite the warm bath, the laconicum."

The diſpoſition of each of the apartments we have mentioned varied ſtill more in the thermæ of the Romans, although their plans evince uniformity to a certain extent. As the Romans had two peryſtilia in their thermæ, it ſeems right to conclude they had a double order of baths. Varro proves inconteſtibly, that the women bathed in different apartments from the men; for, in ſpeaking of the public baths of Rome, he ſays: "Item primum balneum nomen et Græcum introiit in urbem: ubi bina eſſent conjuncta ædificia lavandi cauſâ; unum ubi viri, alterum ubi mulieres lavarentur." What Martial and St. Cyprian relate of the baths, where the men and women bathed indiſcriminately, does not confute this paſſage; ſince writers attribute thoſe indecencies to none but women of infamous character:

"Cum te lucernâ balneator extinctâ
Admittat inter buſtuarias mœchas."

This ſeparation is conſpicuous in the baths of Caracalla; a great part of which was ſurrounded by a veſtibule which encompaſſed the principal buildings of the thermæ. This part was divided into fifty vaulted halls ſeparated from, but perfectly reſembling each other. One of theſe yet remains entire, and ſufficiently indicates how the others were diſpoſed. It is approached by a ſmall veſtibule. The room in which the bath was placed, was thirty-one feet in length by fifteen feet three inches wide; the baſon was of maſonry, with a border of larger ſtones extending eighteen inches from the edge of the hollow. The cavity between the ſides was twelve feet wide by fifteen long. It was deſcended to in front by ſeven or eight ſteps extending the width of the bath; four above the brink, and three or four went to the bottom of the baſon: and the whole was lighted by a ſmall opening at the top. A thouſand perſons could bathe in this part of the thermæ at once.

When the water flowed into theſe baths, it ſeems to have been only lukewarm, as it was brought from the hot baths of the great thermæ; of which theſe, as we have already mentioned, formed only the outer circle. The water was conveyed from theſe baths, by pipes, into a great piſcina,

or

or pool, deſtined for the uſe of thoſe who wiſhed to exerciſe themſelves in ſwimming.

In front, on the right and left, were other baths for people of inferior conſequence. In the room of baſons they had large bathing veſſels, which were of copper, porphyry, granite, or baſaltes. They alſo contained ſeats of marble or porphyry; of which we yet ſee a great number at Rome. Olympiodorus aſſures us, that the baths of Caracalla had no leſs than fifteen hundred.

The grand hall was a rotunda, 111 feet diameter; which is believed to have been called *cella ſolearis*, or the hall of ſandals, of which Spartianus ſpeaks in theſe terms: "Cellam ſolearem architecti negant poſſe ulla imitatione quâ facta eſt fieri." It ſeems to have had its name from the bars of copper and bronze which, according to ſome, formed its pavement, and to others its cieling; bearing ſome reſemblance to the faſtening of the ſandals among the ancient Romans. It had alſo large plates of bronze or copper, which covered and ornamented the piers of the windows and other parts of the rotunda. It contained a number of veſſels in which the warm bath was taken.

Of all that relates to the baths, nothing has ſo embarraſſed the learned as the manner in which hot water was ſupplied to all the receptacles for bathing which have been found. For if we ſuppoſe, and it may be done without exaggeration, that each bath in the thermæ of Dioclefian was capable of containing ſix bathers, 1800 perſons might have bathed at once. But as no veſtige remains, ſufficient to favour our conjectures as to the manner in which the water paſſed into theſe veſſels, we muſt content ourſelves with what Vitruvius has ſaid upon it.—Baccius has treated this ſubject better than any of the moderns. He imagines the water was conveyed from reſervoirs outſide the thermæ, and that machines were uſed for raiſing it to that height, which, agreeably to his examination of Dioclefian's baths, ſeemed requiſite. He was alſo induced to conclude, that the water was heated outſide the thermæ, from the number of pipes which he ſaw underneath the area of the building; where there had never been any alteration, and which were all ſurrounded by other pipes from the hypocauſt. But this ſuppoſition appeared to Baccius himſelf ſo replete with difficulties, that he puſhed his reſearches on this matter no farther.

The two figures of the water towers or reſervoirs for the baths of Caracalla, engraved by Piraneſi, will ſuffice to explain how eaſily the Romans heated the largeſt body of water their thermæ could contain.

The water tower of Caracalla received its ſupply from the aqueduct of Antoninus, part of which paſſed by the Appian way.

It appears from the plan of this reſervoir, that it had, immediately above the hypocauſt, twenty-eight vaulted chambers; that theſe chambers formed two ranges of fourteen each; and that they had a communication one with the other. Above theſe were twenty-eight other chambers, which were connected with each other in like manner, though only one of them communicated with the chambers below. Above all theſe was a ſpacious reſervoir, not very deep, but which extended the whole length of the water tower; in this, the water received conſiderable warmth from the heat of the ſun, before it paſſed into the chambers. This reſervoir did not receive its water directly from the aqueduct, but from an intermediate ciſtern. Whenever it appeared neceſſary to draw off the water of the lower chambers to fill the bathing places, the water of the reſervoir became uſeleſs, and would have overflown but for an opening on one ſide of the ciſtern, by which it eſcaped without going into the baths. During all this time the water of the reſervoirs was tranquil. The ciſtern anſwered two purpoſes; it prevented any agitation in the water of the reſervoir, and carried off that which was of no uſe. When the twenty-eight vaulted chambers, immediately above the hypocauſt, began to heat, the warmth they acquired was quickly augmented; as there was only one of them which communicated with the exterior air.

The ſtrength of the walls and vault was quite ſufficient to reſiſt the rarefaction of air within the water, and of conſequence to hinder its evaporation from producing danger. It was neceſſary that it ſhould have pipes to give the water a ſufficient heat for the uſage of the bath. When the hour of baching came, the warm water was let into the bathing places from the lower chambers; where it ran with incredible ſwiftneſs, and roſe to a perpendicular height equal to the ſurface of the reſervoir of the water tower.

To hinder the water from cooling as it paſſed through the ſubterranean pipes, they were incloſed in others which came from the entrance of the hypocauſt, forming a ſort of double tunnel, and acquiring a conſiderable degree of heat before the water entered them.

Each chamber was within the walls 49 feet long, 27 wide, and about 30 high. The number of ſquare feet on the ſurface of the lower chamber amounted to 38,500. If we allow for the medium height 30 feet, the quantity of water contained in the lower chambers amounted to 1,143,450 cubic feet.

The ancients do not inform us how they diſcovered the method of heating ſuch large volumes of water. We are therefore in the dark whether it was an invention of the Romans, or whether they brought it with them from the Eaſt. It is reaſonable, however, to ſuppoſe, that ſuch methods could be of no uſe before the conſtruction of the thermæ at Rome, and of courſe could not be older than the time of Auguſtus; in whoſe reign, Dion Caſſius informs us, Mæcenas built a warm bath capable of admitting perſons to ſwim in.

This method, or one very ſimilar, was uſed in all the baths of Rome. That deſcribed by Vitruvius was inſufficient to furniſh water for theſe vaſt buildings, which Ammianus Marcellinus compares to provinces (lavacra in modum provinciarum extructa); though it was undoubtedly the caſe in private baths. They heated the water of the bath, ſays Vitruvius, by means of three veſſels of copper, ſo diſpoſed that the water flowed from one to the other. One was called caldarium, another tepidarium, and the third frigidarium. The marquis Galiani obſerves, that it is no eaſy matter to give a preciſe idea of the ſituation of theſe vaſes above the furnace. Cæſariano and Caporali have engraved one above the other, or rather one within the other, placing the frigidarium above the tepidarium, and that above the caldarium, which was placed immediately above the furnace. But the great difficulty is, that in this arrangement the heat, by the aſcenſion of the flame, ought to warm the upper vaſe, or frigidarium. Perrault, on the contrary, places the three vaſes on a level; and he imagines that ſyphons carried the water of one vaſe into another: but how, without a piſton, or ſome ſuch expedient, the water could be raiſed ſo as to redeſcend, he has not explained.

The ancient paintings of Titus's baths place theſe vaſes upon three ſteps, in ſuch a manner that the bottom of the water of one veſſel ſhall be upon a level with the aperture of the other; ſo that it is eaſy to comprehend how the water was conveyed. But the marquis Galiani believes, that this diſpoſition is not altogether agreeable to the truth; and that it was adopted by the painter, only to afford a more clear idea how the water was transferred.

I believe,

I believe, he says, that the three vases were upon a kind of level: the caldarium immediately above the furnace; the tepidarium a little backwarder, so as to receive a reverberation of the heat more than the fire itself; and the frigidarium upon a massy pedestal, so that the warmth could not reach it. From the caldarium to the baths was a pipe, which, by means of a cock, supplied any quantity of water that was requisite. Another pipe carried the water of the reservoir to the frigidarium, and kept it at the same level. All the figures which Vitruvius has given of this process, seem to require that an attendant should overlook this transfusion of the water: but that author himself tells us, that the operation was performed without assistance; ita collocanda uti ex tepidario in caldarium quantum aquæ caldæ exierit influat de frigidario in tepidarium ad eundem modum.

They had also other means of heating the water of the baths. We construct, says Seneca, a species of vases high and narrow, in the form of dragons and other fanciful shapes, in which we place pipes of native copper, of a spiral form, through which the water passes till it acquires a sufficient degree of heat. In the same degree as the cold water enters the pipes, the warm passes out; so that all the water which runs through, acquires the same temperature. Seneca explains the advantage of this process, and informs us the tube through which the water passes having no communication with the fire, the vapours are not mixed with smoke; nec trahit vaporem evaporatio, quia clausa pertrahitur.

The parallel which Seneca has given in his letters between the baths of Scipio Africanus and those of his own time, is highly interesting, and will probably elucidate much that has been already written on the subject.

"Scipio's bath," he says, "was small and somewhat dark, agreeable to the ancient custom; for our ancestors thought that a bath could not be warm enough unless it was close. It was therefore a great pleasure to me to compare the manners of Scipio with our own. In this little nook did Scipio (the dread of Carthage, and to whom Rome was indebted for having once taken it) use to bathe his body when fatigued with rustic labours. Under this low and sordid roof he stood, and disdained not to tread so vile and mean a floor. But who is there in our time who would condescend to bathe in this way? A man thinks himself poor and mean, unless the walls are decorated with large and precious embossments; unless Alexandrian marble is pointed and inlaid with Numidian rough cast; unless a rich and curiously variegated plaistering be spread upon them in picturesque; unless the roof is covered with glass-work; unless the Thasian stone, once reckoned a scarce and curious ornament, even in some temples, now compass about the pools in which we bathe our bodies when enfeebled with fatigue at some trifling sport: in short, unless the water is conveyed by a silver spout. I am speaking as yet of common stoves; but what shall I say when I come to speak of our freedmen? What noble statues! What vast pillars supporting nothing; but placed there for mere ornament, and the vain ostentation of expence! What large and far-sounding cascades! We are arrived to such a pitch of delicacy and extravagance, that we cannot tread but upon the most precious marbles.

"In Scipio's bath there are some chinks, rather than windows, cut out of the stone wall to let in the light without hindering the strength of the building. But now we call the baths moth-houses and dungeons, if they are not so contrived as to admit the whole day's sun through the most spacious windows, whereby men are tanned as well as washed; and from the bathing vessels have a prospect both of the meadows and the sea. So that these baths, which, at their first construction, called together a vast concourse of people, and filled them with admiration, are now rejected as poor antiquated things; while luxury is daily presenting some novelty that must at last prove its own ruin. Formerly there were but few baths, and those not ornamented with any costly decorations; for to what purpose is it to adorn a common room, open to any one that paid his farthing, and which was built not for pleasure but for use? It was not customary to have the water sprinkled or poured in upon the bathers; nor did it always run fresh, as from a warm spring; nor did they think it material, how clear the water was wherein they were to wash off their filth."

From this letter of Seneca, we perceive to what a pitch of magnificence luxury had carried the edifices destined for the baths. And nothing gives a stronger confirmation to the account, than the fragments of those buildings which have reached our own time. The greater part exhibits to us the most precious furniture. The hall of the bath, discovered a few years since at Otricoli, has preserved the reliques of the rarest marbles; its pavement was formed of the same wonderful kind of mosaic which at this day ornaments the rotunda of the Vatican museum. In the baths of Titus, the marble coating is carried to the height of about ten feet; where, to preserve the paintings from the dashing of the water, the walls were covered. It appears that in these baths one division of the rooms, especially those which were destined for the warm baths, had no openings to admit the light; at least none have been found. When it became fashionable to frequent the baths by night, it was necessary the place should be lighted by lamps and candelabræ; the introduction of which contributed very much to the decoration of the apartments. The most magnificent we have seen at Rome, have been found in the Thermæ: their light was reflected by masses of crystal, suspended from the roof or fixed against the walls, so as to produce the most effulgent light.

The use of glass in the decoration of the baths, commenced about the time of Pliny, who calls it a modern invention; novitium et hoc inventum. It did not exist, as far as has been discovered, in Agrippa's time; whose baths were covered with ornamented clay or stucco, called albarium opus.

Having thus brought the history of the Roman baths to a conclusion, it will not be irrelevant to add a brief notice of the principal ruins of them which remain, taken chronologically.

The better half of Paulus Æmilius's baths is nearly perfect.

Those of Livia, on the Palatine hill, and under the ruins of the imperial palace, still shew two small apartments entire, decorated with stucco, painting, and gilding.

The magnificent ruins of the baths of Titus, Caracalla, and Diocletian, still shew the entire plans: sufficient remains of the walls to determine the sections and elevations with tolerable certainty; and of the construction of the conduits and stoves, enough to give the most satisfactory information.

There are some remains, but very incomplete, of the baths of Constantine, in the gardens of prince Colonna.

All the rest of the ancient baths, in or about Rome, are nearly or entirely destroyed: and it is to be remarked, that the baths of Titus, Caracalla, and Diocletian, are entirely stripped of their magnificent columns and fine marbles, excepting the great hall of Diocletian's baths, which was converted into a church by Michael Angelo, and its granite columns of single stones, each forty feet in height, preserved.

That

That the Romans, who enjoyed dominion in our iſland near four hundred years, had their baths, is evident from the frequent ruins of them which are found; and ſome inſtances occur where the builders had undoubtedly the thermæ of their parent country in view. At Hovingham in the north riding of Yorkſhire, 1745, a Roman bath was diſcovered, which had its ſudaria and vaporarium (Camden, ed. 1789, iii. 85.); and ten years after, in taking down the abbey houſe at Bath, to build a new ſet of baths called the duke of Kingſton's, the workmen found remains of very noble Roman baths and ſudatories, whoſe ſprings and drains were made uſe of for the preſent baths. The plan and elevation of them were engraved by Mr. Gough. (Ibid. i. 79.)

Nor while mentioning the ancient baths in England, muſt we forget one inſtance where a magnificent building of the kind occurs among the monaſtic conveniences of the middle ages. Hugh, the ſacriſt of the monaſtery of Bury, we are told, early in the twelfth century finiſhed the aulam hoſpitum and balneatorium of his houſe; and Sampſon, who was elected abbot in 1182, appears to have completed the latter edifice upon a ſcale, for thoſe times, peculiarly grand. (Aquæductum et aquam per rivulos derivatam et lavatoria opere mirifico et magnitudine miranda conſummavit.) See Leland, Itin. vol. iv. App.

But it muſt be owned, that in ſpite of all the advantages derived from the habitual uſe of baths with reſpect to health and cleanlineſs, the moderns have till lately very much neglected to employ them; though from this cenſure we muſt except the Orientals and the Turks, among whom the practice of the bath has been more eaſily preſerved, on account of its connection with religious worſhip. Their manner of bathing is very ſimilar to that of the ancients; they have ſtill vaſt edifices for the purpoſe, which are heated by means of pipes, and receive light from the top: and though the uſe of the ſtrigyl (ſee ARCHITECTURE, *Plate* III.) may not have been preſerved, proper frictions for the excitement of perſpiration are ſtill uſed; and the inſtruments adopted by the ancients are replaced by rough cloths and flannels. The rich among them have private baths, in the conſtruction of which they are expenſive, and devote to them the moſt conſiderable part of their manſions.

Among the modern Europeans, the practice of bathing, generally ſpeaking, has returned to the ſame condition it was in when Homer deſcribed it in the earlier ages of Greece. It is in the river, during the heat of ſummer, that the multitude bathe; and that more for pleaſure than on any other account: without once reflecting on the accidents which are likely to reſult from the crudity of the water, the intemperature of the air, or the action of the ſun, to which they are frequently expoſed.

At Florence, on the bank of the Arno, public baths were conſtructed by the late duke, with ſuch accommodations as ſeemed moſt appropriate for general uſe: adjoining which there are other baths belonging to private perſons; and gardens of promenade.

What are called public baths at Paris, are far from uniting theſe advantages; they are no other than large boats, called *tone*, covered with a cloth, with ſmall ladders attached by cords, to facilitate the purpoſes of bathing. The French have alſo private baths for hire, ſimilar to thoſe in England; and many of their larger manſions are furniſhed either with domeſtic baths of the larger kind, or bathing veſſels formed of metal.

Thoſe which are called natural baths, are uſually buildings conſtructed nigh the ſources of mineral waters; ſuch as the baths of Puzzuoli, Baix, and St. Germano, near Naples: Piſa, in Tuſcany; Bourbon and Vichi, in France; Buxton, Bath, and Harrowgate, in England.

Of the engravings which accompany this article, *Plate* I. exhibits the plan of the baths of Caracalla; of the references in which we give the following explanation.

1. The great ſquare, ſurrounded by a portico, for the exerciſes of the ſtadium.
2. Thoſe parts of the porticos which ſerved for entrance to the veſtibules of the palæſtra.
3. The cella ſolearis of the palæſtra; the gates of which were furniſhed with lattice work of bronze.
4. Veſtibules of the great hall.
5. The great hall, furniſhed with the xyſtum.
6. Other veſtibules belonging to the lateral apartments of the palæſtra.
7. Others, narrower than thoſe already mentioned, leading to the ſame apartments.
8. Halls, open at the top, whoſe ſides were ornamented with baſſo-relievos in marble. A fragment of one of the laſt of theſe was lately in the poſſeſſion of cardinal Albani.
9. Anti-rooms belonging to the xyſta.
10. Common entrances to the ſame.
11. Openings to give the xyſta light.
12. A ſpacious xyſtum in the middle of the palæſtra, for the exerciſes of the athletæ.
13. Apartments in which the athletæ anointed themſelves and left their veſtments, with ſtaircaſes aſcending to the upper part of the cella ſolearis.
14. Receptacles for the rain-water from the roofs of the porticos (*fig.* 19.), which was conveyed by pipes to the lower baths.
15. Other uncovered receptacles, for the ſame purpoſe, formed in the ſide walls.
16. The portico, whence paſſing through the xyſtum you reached the great bath: it was expoſed to the S.W. and was ſometimes warmed by the ſun, and at other times by furnaces.
17. Chambers or baths belonging to the wreſtlers, and other combatants, of the theatre and xyſtum.
18. The ciſtern of water in the centre.
19. Porticos, ornamented by niches, with magnificent fountains; ſerving as a ſhelter for the populace from the rain and ſun.
20. Double portico before the theatre.
21. Seats for the ſpectators at the games; in front of which, upon occaſion, the ſtage, and ſcenes for theatrical repreſentation, were erected.
22. Open ſpaces between the porticos and the great hall or ſaloon.
23. Uncovered halls.
24. The athenæum.
25. Open ſpace in front of the philoſophic walks.
26. The philoſophic walks.
27. Quarters for the prætorian guard.
28. The great exedræ, for trials of ſtrength.
29. Apartments appertaining to the exedræ, ſubdivided into ſmaller ones for the accommodation of the officers and exerciſers in the different games.
30. Apartments for the ſcenes, and other theatrical apparatus.
31. Openings with iron gratings, for the admiſſion of light to the lower ſtory.
32. Staircaſes from the lower to the upper ſtory.
33. Veſtibules of the upper ſtory.
34. Other ſtaircaſes of aſcent to the porticos.

Lower Story.

35. Quarters of the prætorian bands; with porticos in front.

36. Piſcinæ,

36. Piſcinæ, or pools of cold water.

37. Porticos erected at a later period, by Alexander Severus.

38. Cold bath with fountains in the centre.

39. Walks for public accommodation.

40. Magnificent fountains.

41. Walls ſurrounding the ſummit of the hill on which the baths of Caracalla were erected.

42. Open ſpace around the reſervoirs of water.

43. The aqueduct of Antoninus, which ſupplied the baths.

44. Intermediate reſervoir, into which the water of the aqueduct was diſcharged.

45. The opening by which the water was conducted to the warm baths.

46. The reſervoir.

47. Walls of the city, anterior to thoſe of Aurelian, which were enlarged by Caracalla, for the extenſion of the thermæ.

48. The fountains mentioned in *fig.* 38.

49. Porta Capena in the city wall.

50. Porta Terentina.

51. The Appian way.

Plate II. exhibits a painting from the baths of Titus, on a brown ground, repreſenting three ſlight temples: in the centre one a ſtatue, ſuppoſed to be Apollo, with a prieſt on either ſide; and above each of the lateral temples a bas-relief, repreſenting the ſacrifices of Bacchus. The ſmaller figures in Arabeſque.

Here may be remarked, that in ſtrict contradiction to all that is aſſerted by the French writers, the paintings of the ancients, whether Greek or Roman, are in bad perſpective.

Plate III. contains a ſection of the baths of Caracalla, from Piraneſi; with Montfaucon's idea of explaining the relative ſituation of the different apartments in the Roman thermæ.

Bath, in *Jewiſh Antiquity*, is the name of a liquid meaſure, containing the tenth part of an omer.

Some diſtinguiſh five kinds of baths: viz. the greater bath, containing 80 pounds of water, or, according to Joſephus, 1440 Roman ounces; the ſecond bath, containing 100 ounces; the third, 66⅔ ounces; the fourth, containing 25 ounces; and the fifth, 6⅔ ounces of water. Beverin. Sync. de Menſ. p. ii. p. 127.

Some have eſtimated the ſacred bath at half as much again as the common bath; but there is no ſufficient reaſon for this diſtinction. Calmet.

Bath, *Knights of the*. This order was inſtituted in England at the coronation of Henry IV. in 1339, and revived by George I. by his letters patent, bearing date at Weſtminſter, the 18th of May in the 11th year of his reign, 1725, in the following words:

"George, by the grace of God, of Great Britain, France, and Ireland, king, defender of the faith, &c., to all to whom theſe preſents ſhall come greeting. Whereas our royal predeceſſors, upon divers wiſe and honourable conſiderations, have, on occaſion of certain auguſt ſolemnities, conferred with great ſtate, upon their royal iſſue male, the princes of the blood royal, ſeveral of their nobility, principal officers, and other perſons diſtinguiſhed by their birth, quality, and perſonal merit, that degree of knighthood which hath been denominated the knighthood of the bath; we, being moved by the ſame conſiderations, do hereby declare our royal intention not only to re-eſtabliſh and ſupport the ſaid honour of knighthood in its former luſtre and dignity, but to erect the ſame into a regular military order: and, accordingly, of our eſpecial grace, certain knowledge, and mere motion, and by virtue of our royal prerogative, being the fountain of honour, we have inſtituted, erected, conſtituted, and created, and by theſe our letters patent, do inſtitute, erect, conſtitute, and create a military order of knighthood, to be and be called for ever hereafter by the name and title of "The Order of the Bath," whereof we, our heirs and ſucceſſors, kings of this realm, for ever ſhall be ſovereigns; which ſaid order ſhall conſiſt of a great maſter, to continue during the pleaſure of us, our heirs or ſucceſſors, and thirty-ſix companions, to be from time to time nominated and appointed by us, our heirs and ſucceſſors, wherein a ſucceſſion ſhall be always regularly continued; which ſaid order ſhall be governed by ſtatutes and ordinances, to be from time to time made, ordained, altered, and abrogated, by us, our heirs and ſucceſſors, at our and their pleaſure. And to the end that ſuch ſtatutes may be legally eſtabliſhed, we, following the example of our royal predeceſſor king Edward the Third, of glorious memory, founder of the moſt noble order of the garter, who gave ſanction to the ſtatutes of that order, by affixing to them the ſeal which had been by his command made and appointed for the ſame order, do hereby direct and appoint, that a ſeal ſhall be immediately engraven, having upon one ſide the repreſentation of our royal perſon on horſeback in armour, the ſhield azure, three imperial crowns or, the arms uſually aſcribed to the renowned king Arthur, with this circumſcription, "Sigillum Honoratiſſimi Ordinis Militaris de Balneo;" and on the reverſe, the ſame arms empaling our royal arms: and our royal will and pleaſure is, that the ſaid ſeal ſhall for ever hereafter be the ſeal of the ſaid order of the bath; and that the ſtatutes to be perpetually and inviolably obſerved within the ſaid order, ſhall be eſtabliſhed and ſealed by and with the ſame ſeal: and we do hereby for us, our heirs and ſucceſſors, declare and ordain, that the ſaid ſtatutes ſo to be given by us, our heirs or ſucceſſors, to which the ſaid ſeal ſhall be affixed, ſhall be of the ſame force and validity as if the ſame ſtatutes, and every article of them, had been verbatim recited in theſe our letters patents, and had been paſſed under the great ſeal of this our realm. And further, we do hereby ordain, conſtitute, nominate, and appoint our right truſty and right entirely beloved couſin John duke of Montagu to be the firſt great maſter of the ſaid order, to hold the ſaid office during our pleaſure, with ſuch powers, privileges, and emoluments, and ſubject to ſuch regulations as ſhall be for that purpoſe appointed in the ſtatutes to be eſtabliſhed by us, our heirs or ſucceſſors, as aforeſaid. And whereas it is abſolutely neceſſary, for the dignity and ſervice of this order, that there ſhould be officers peculiarly appropriated thereto, we do by theſe preſents, for us, our heirs and ſucceſſors, will and ordain, that there ſhall be for ever hereafter a dean, genealogiſt, king of arms, regiſter, ſecretary, uſher, and meſſenger, of and belonging to the ſaid order, whoſe reſpective duties, privileges, emoluments, and perquiſites ſhall be particularly expreſſed and declared in the ſaid ſtatutes; and we do hereby for us, our heirs and ſucceſſors, conſtitute, create, and appoint the dean of the collegiate church of St. Peter's Weſtminſter, for the time being, to be for ever hereafter dean of the ſaid order, and do for us, our heirs and ſucceſſors, give and grant full power and authority to the great maſter of the ſaid order, for the time being, to conſtitute, nominate, and appoint, under the ſeal hereby appointed for the ſaid order, a genealogiſt, king of arms, regiſter, ſecretary, uſher, and meſſenger of the ſaid order; and from time to time to fill up the places of ſuch officers upon vacancies, according to ſuch rules and directions, as ſhall for that purpoſe be laid down and expreſſed in the ſaid ſtatutes to be given as aforeſaid. And to the end that the

reſpective fees to be paid to the ſeveral officers of the ſaid order of the bath by ſuch perſons as ſhall be nominated unto and accept the honour of a companion of the ſaid order, may be certain and fixed, we do by theſe preſents, for us, our heirs and ſucceſſors, will and declare that all ſuch fees ſhall be eſpecially and particularly aſcertained and eſtabliſhed in and by the ſtatutes to be given and ordained to and for the ſaid order, by us, our heirs or ſucceſſors, under the ſeal hereby appointed for the ſaid order, and ſhall be of the like force and effect as if the ſame had been particularly expreſſed and ſet forth in theſe our letters patents: and, laſtly, we do hereby, for us, our heirs and ſucceſſors, grant that theſe our letters patents, or the inrolment or exemplification thereof, ſhall be in and by all things good, firm, valid, ſufficient, and effectual in the law, according to the true intent and meaning thereof; any omiſſion, imperfection, defect, matter, cauſe, or thing whatſoever to the contrary thereof in anywiſe notwithſtanding. In witneſs whereof we have cauſed theſe our letters to be made patents.

Witneſs ourſelf at Weſtminſter, the eighteenth day of May, in the eleventh year of our reign."

The badge, cognizance, or enſign of this order, is a roſe, thiſtle, and ſhamrock, iſſuant from a ſceptre between three imperial crowns, ſurrounded with the motto of the order; viz. "Tria juncta in uno;" the whole of pure gold, chaſed and pierced, and is worn by the knight elect, pendant from a red ribbon acroſs the right ſhoulder. The collar is of gold, weighing thirty ounces troy weight, and is compoſed of nine imperial crowns, and eight roſes, thiſtles, and ſhamrocks, iſſuing from a ſceptre, enamelled in their proper colours, tied or linked together with ſeventeen gold knots, enamelled white, having the badge of the order pendant thereto. The ſtar conſiſts of three imperial crowns of gold, ſurrounded by the motto upon a circle of red, with rays iſſuant from the centre ſilver, forming a ſtar, and is embroidered on the left ſide of the upper garment. The inſtallation dreſs of a knight of the bath is a ſurcoat of white ſattin, with a mantle of crimſon ſattin lined with white, tied at the neck with a cordon of ſilk crimſon and gold with gold taſſels, and on the left ſhoulder is embroidered the ſtar of the order; a white ſilk hat, adorned with a ſtanding plume of white oſtrich feathers, white leather boots, edged and heeled, crimſon and gold ſpurs, a ſword in a white leather ſcabbard, with croſs hilts gold. The knights receive the order by inveſtiture in the king's cloſet, or, if abroad, by warrant. The ceremony of inveſtiture is as follows. The dean, the knights, and the officers of the order attend in the privy-chamber in their mantles and collars, and proceed from thence, after the levee, into the ſovereign's preſence, making the uſual reverence, in the following order; gentleman uſher of the order in his mantle, chain, and badge, bearing the ſcarlet rod; regiſter and ſecretary of the order in their mantles, chains, and badges; bath king of arms in his mantle, chain, and badge, bearing the ſceptre of bath, carrying the ribbon and badge of the order on a crimſon velvet cuſhion; the genealogiſt in his mantle, chain, and badge; the knights of the order with their mantles, collars, and badges; the dean of the order in his mantle, chain, and badge; the firſt knight and principal companion, acting as great maſter. Then by his majeſty's command the intended knight is introduced between the two junior knights of the order, preceded by the gentleman uſher of the order, with reverences as before. The ſword of ſtate is then delivered to the ſovereign by the ſecond knight of the order in ſeniority, and the intended knight is knighted therewith. Then the principal knight companion preſents the ribbon and badge to the ſovereign, and his majeſty puts it over the new knight's right ſhoulder, who, being thus inveſted, has the honour to kiſs the king's hand. The proceſſion then returns to the privy-chamber in the order above mentioned. After the inveſtiture, the knight wears only the ribbon and badge; as he cannot wear either the collar or ſtar before his being inſtalled, without a letter of diſpenſation, which is only granted to thoſe on foreign ſervice. On the revival of the order, king George the Firſt allowed the chapel of king Henry the Seventh in Weſtminſter abbey to be the chapel of the order, and ordained that each knight's banner, which ſhall be placed over his ſtall, ſhall be two yards in length, and one yard three quarters in breadth, fringed about with red and white ſilk; and that, in the loweſt margin, the name and title of the knight ſhall be inſcribed with letters of gold upon a black ground; and that the creſt, helmet, and ſword ſhall likewiſe be affixed to the ſtall, together with an eſcutcheon of his arms and ſupporters, enamelled within a circle gules, having thereon the motto of the order in letters of gold, and his name and title in like manner as the knights of the garter are in St. George's chapel, Windſor; the arms alſo of his three eſquires are enamelled on one plate, with their names and title affixed thereto, and placed under the knight. At an inſtallation of the order, each knight is allowed three eſquires, who muſt be by the ſtatutes "gentlemen of blood, bearing coat armour;" they precede their knight in the proceſſion, having for their dreſs a crimſon ſilk waiſtcoat with ſleeves, breeches, ſtockings, and ſhoes with roſes, the whole of which are ſilk, of the ſame colour, with a ſurcoat of white ſilk, lined and edged with crimſon, having a hood of the ſame affixed thereto, and on the right ſhoulder of the ſurcoat the plain eſcutcheon of the order, "azure, three imperial crowns or," a black ſilk hat or coif: for which ſervice each eſquire "ſhall, during the term of his life, enjoy all rights, liberties, privileges, exemptions, and advantages which the eſquires of the ſovereign's body, or the gentlemen of the privy-chamber, do lawfully enjoy, or are entitled unto by virtue of any grant, preſcription, or cuſtom whatſoever; and the eldeſt ſon of every of theſe eſquires ſhall have and uſe the addition and title of eſquire in all acts, proceedings, and pleadings: provided that all theſe eſquires to be entitled to theſe privileges, ſhall have certificates of their qualifications before their reſpective admiſſion, and likewiſe an exemplificate of their actual performing their duties upon the creation of any knight or knights of the bath, atteſted by the great maſter under the ſeal of the order." An eſquire of the order is allowed to hunt and fiſh in the king's royalty, and is exempt not only from ſerving the office of high ſheriff, but any parochial office. To prevent any abuſes in the claiming theſe privileges and exemptions, the following notificate was inſerted in the gazette, previous to the inſtallation of the order in 1803, when twenty-two knights were inſtalled, attended by their eſquires, ſixty-ſix in number.

"It is hereby notified, that no exemplificate will be iſſued to any eſquire, from his royal highneſs the duke of York, after the enſuing inſtallation, until it ſhall be certified to his royal highneſs by the genealogiſt, that the pedigree and coat armour of the ſeveral knights and their reſpective eſquires have been entered in the genealogical books of the order, in obedience to the ſaid ſtatutes.

Given at the Horſe-guards, this 13th day of May 1803; Frederick, acting as great maſter of the ſaid moſt honourable military order of the bath."

The dreſs of the officers of the order is as follows: viz. the mantle and cordon of the dean are the ſame as the knights; he wears a gold chain, with the badge of the order, but no collar. The genealogiſt, king of arms, regiſtrar, ſecretary, and uſher's is a white ſattin mantle or robe lined with crimſon,

having on the right ſhoulder the badge of the order tied about the neck with a cordon, the livery of the knight's; under it is a ſurcoat like the esquire's, with a gold chain about their necks, to which is pendant an escutcheon of gold, thereon enamelled the badge of the order; except that on collar days, the badge is worn pendant to a red ribbon. The office of genealogiſt is a diſtinct office of record for the pedigrees and coat armour of the knights of the order and their eſquires, which are entered in a regular ſeries from the year 1399 to the preſent time. The office of genealogiſt has, from the revival, been ſucceſſively filled by John Anſtis Eſq., John Suffield Brown Eſq., and George Naylor Eſq., York herald, its preſent poſſeſſor.

The order of the bath doth not appear to have been of greater antiquity, in this kingdom, than the reign of Henry IV. who, on the day of his coronation, conferred that dignity upon forty-ſix eſquires, who had watched all night before, and had *bathed* themſelves; yet this degree of knighthood may juſtly boaſt of a much earlier antiquity. The learned William Camden, and Jean Du Tillet ſuppoſe it to have been practiſed by the old Franks, or inhabitants of lower Germany: with whom Mr. Anſtis (who was genealogiſt of the order on its revival) is of opinion, the Saxons, who invaded England, had the ſame common deſcent; and who, upon their ſettlement in England, introduced the ſame method of knighthood. Du Tillet further remarks, that thoſe ancient Franks, when they conferred knighthood, obſerved many ſolemn rites. Before they performed vigils, they bathed, to ſignify that ſuch as were admitted to this degree ſhould be of a pure mind and honeſt intentions; be willing to conflict with any dangers or difficulties in the cauſe of virtue; take care, both in their words and actions, to follow the maxims of prudence; and, on all occaſions, religiouſly obſerve the motto of the order, "Tria juncta in uno;" which implied a true belief of the Trinity: which rites and conditions, according to his teſtimony, ſtill continued to be practiſed in England; and from the practice of theſe, gentlemen were denominated knights of the bath. Mr. Anſtis, with his uſual preciſion and clearneſs, hath fully proved that William the Conqueror, and the ſucceeding kings of England, conferred this degree of knighthood as well in Normandy as in England. We have a very particular detail of the ceremonies that were uſed in creating knights of the bath, at the coronation of king Henry V.: and our hiſtorians and records amply vouch that from that time, till the reign of king Charles II. incluſive, it was the uſual practice to create knights of the bath at, or previous to, the coronation of our kings, the creation of princes of Wales, and at the celebration of their nuptials, and thoſe of others of the royal family. King Charles II., previous to his coronation, created no leſs than ſixty-eight knights of the bath; from which time no knights of that degree were created, until the revival by George I. in 1725.

Bath *Metal* is a preparation of copper with zinc, which gives a more beautiful colour than the calamine uſed in the preparation of the common braſs.

Bath *Kol*, in *Jewiſh Antiquity*, a ſpecies of revelation by a voice or echo from heaven.

The word ſignifies, in the Hebrew original, *daughter voice*, or *daughter of a voice*; for it may be interpreted both ways. It ſeems to have been thus called with reſpect to the oracular voice delivered from the mercy-ſeat, when God was conſulted by urim and thummim: this latter was the grand and primary voice of revelation; the former, of ſecondary dignity, and inferior to it as the daughter to the mother.

The Jewiſh writers ſpeak of three kinds of revelation among them: the firſt by urim and thummim, which obtained from the erecting of the tabernacle to the building of the temple; the ſecond by the ſpirit of prophecy, which prevailed from the beginning of the world to the death of Malachi; the third, the *bath kol*, or *filia vocis*, which took place when the ſpirit of prophecy wholly ceaſed in Iſrael; and was, ſays Grotius, the ſole oracle which remained during the time of the ſecond temple.

This bath kol, ſays Dr. Prideaux, was no ſuch voice from heaven, as the Jewiſh, and particularly the Talmudical, writers pretend; but only a fantaſtical mode of divination of their own invention, reſembling the "Sortes Virgilianæ" among the heathens. (See Sortes.) Prid. Conn. pt. 2. b. 5. vol. 3. p. 463. Godw. Moſes and Aaron, lib. 4. c. 8. Lightfoot's Works, tom. i. p. 485. Grot. in John, xii. 28.

Danzius has a diſſertation on the iniquity and impoſture of the bath kol: "De filia vocis nefanda, divinæ æmula."

BATHA, in *Ancient Geography*, the ruins of an ancient city of Africa, in the kingdom of Algiers, about 2 leagues ſouth of Oran, which was deſtroyed in the wars that raged between the African powers, about the beginning of the ſeventh century. It has been remarkable, in more modern times, for a little chapel, erected in memory of a marabout, who lived among theſe ruins, and by the preſents he received for his hoſpitality to travellers, became rich enough to maintain 500 diſciples, whoſe employment it was to go through a long litany of all the divine attributes, by the help of their beads, at certain hours of the day: but the ſect has of late declined and is almoſt extinct.

Batha, a town of Ethiopia, near Egypt. Pliny.

Batha, *Bach*, or *Bachia*, in *Geography*, a town of Hungary, ſituate near the Danube, and capital of a county of the ſame name. It was formerly the ſee of a biſhop, now united to Colocza; 20 leagues ſouth of Buda. N. lat. 46° 40'. E. long. 20° 40'.

Batha, a town of Ethiopia, on the confines of the country called by the Arabs Berbera, and more commonly Zanguebar.

Batha, a name ſometimes given to the iſle of Bas; which ſee.

BATHASECH, a town of Lower Hungary, in the county of Tolna, on the Sarwitz.

BATHENAS, in *Ancient Geography*, a town of Syria, between Cyrrhus and Edeſſa. Anton. Itin.

BATHGATE, or Bathget, in *Geography*, a market town in the county of Linlithgow, in Scotland. There are three fairs held annually in Bathget; ſecond Wedneſday in April, firſt Wedneſday after Whitſunday, O. S. fourth Wedneſday in June, third Wedneſday in July, third Wedneſday in Auguſt N. S. and firſt Wedneſday after Martinmas. The circumjacent country is rather hilly, yet by no means deſtitute of agricultural improvement: the ſoil of late is made to yield abundant crops; and rural economy advances daily. In a moraſs, about a quarter of a mile from Bathget, ſome ſlight traces of the principal reſidence of Waller, high ſteward of Scotland (the founder of the royal houſe of Stuart), are ſtill diſcernible. The manſion, and lands thereto belonging, were the dowry beſtowed on the high ſteward's wife, lady Margery, by her father king Robert the Bruce, in A. D. 1316.

BATHING, the act of uſing or applying a bath; that is, of immerging the body, or part of it in water, or other fluid. See Bath.

Bathing, on a religious account, is more properly called ablution, or baptism.

Bathing is a practice of antiquity. The Greeks, as early as the heroic age, are ſaid to have bathed themſelves in the

ſea, in rivers, &c. We even find mention in Homer of hot baths in the Trojan times; but theſe ſeem to have been very rare, and only uſed on extraordinary occaſions. Athenæus ſpeaks of hot baths as unuſual even in his age. In reality, public baths appear to have been diſcouraged, and even prohibited, by the ancient Greeks, who were contented to waſh themſelves at home in a ſort of bathing tubs. Pott. Archæol. tom. i. lib. iv. c. 10. The method of bathing among the ancient Greeks, was by heating water in a large veſſel with three feet, and thence pouring it on the head and ſhoulders of the perſon ſeated in a tub for that purpoſe, who, at coming out, was anointed with oil. Burett, in Hiſt. Acad. Inſcr. tom. i. p. 117.

The Romans were alſo long before they came into the uſe of baths: the very name of which, *thermæ*, ſhews they borrowed it from the Greeks. As the ancient Romans were chiefly employed in agriculture, their cuſtom was, every evening, after work, to waſh their arms and legs, that they might ſit down to ſupper with more decency: for it is to be obſerved, the uſe of linen was then unknown, and the people of that age went with their arms and legs bare, and conſequently expoſed to duſt and filth. But this was not all; for every ninth day, when they repaired to the city, either to the *nundinæ*, or to attend at the aſſemblies of the people, they bathed all over in the Tyber, or ſome other river which happened to be neareſt to them. This ſeems to have been all the bathing known till the time of Pompey, when the cuſtom began of bathing every day. Mercurial. de Art. Gymn. lib. i. c. 10. Mem. Acad. Inſcr. tom. ii. p. 414.

The Celtic nations were not without the uſe of bathing: the ancient Germans bathed every day; in winter in warm water, and in ſummer in cold. This is what Tacitus ſeems to ſuggeſt, "ſtatim e ſomno—lavantur, ſæpius calida, aut apud quos plurimum hiems occupat." De Mor. Ger. cap. 22.

Bathing, among the ancients, made a part of diet, and was uſed as familiarly as eating, or ſleep; and cold bathing was in high eſteem among their phyſicians for the cure of diſeaſes; as appears from Strabo, Pliny, Hippocrates, and Oribaſius: whence occur frequent exhortations to waſhing in the ſea, and plunging into cold water. The firſt inſtance of cold bathing, as a medicine, is Melampus's bathing the daughter of the king of Argos; and the firſt inſtance of warm bathing, is the uſe of it by Medea, who was ſaid to boil people alive, becauſe Pelias king of Theſſaly died in a warm bath under her hands. The cold bath was ſucceſsfully uſed by Antonius Muſa, for the recovery of Auguſtus; but after the death of Marcellus, who was thought to have fallen a ſacrifice to the improper uſe of it, the practice ſunk into neglect. It was again revived towards the cloſe of the reign of Nero, by a phyſician of Marſeilles named Charmis; but it was afterward diſuſed during the ignorance of the ſucceeding ages. Among the Turks, bathing forms a part of diet and luxury; and in every town, and even village, there is a public bath, for thoſe who have not the convenience of private baths attached to their own houſes. Baron de Tott (Memoirs) gives us the following account of the conſtruction of the private baths. Two ſmall chambers, built with brick and faced with marble or plaſter, communicate with each other, and each of them is enlightened by a ſmall cupola cut in chequers. This little edifice is commonly joined to the houſe by a ſmall room, in which thoſe who bathe undreſs: double doors, folding over and lifted with felt, ſhut in the firſt and ſecond part of the ſtove. A wood fire is kept in a ſubterranean vault, the entrance into which is from without. This fire-place is under the farthermoſt chamber, and heats a caldron immediately beneath the marble floor, which ſerves as a ceiling to the vault. Pipes, placed within the walls, proceed from the inſide of the caldron, and go out at the cupola, for the purpoſe of evaporating the water, which is kept continually boiling. Other tubes, communicating with a reſervoir, are likewiſe contained within the brick work, and furniſh the inſide with cold water, by means of cocks placed at the ſide of thoſe which yield the warm water. Small ſeats of ſmooth wood are made to fit on, and drains cut in the marble to carry off the water which is thrown down. Theſe private baths, always heated twenty-four hours before they are uſed, by being thus conſtructed, poſſeſs ſuch a degree of heat, that perſons, who undreſs in the exterior chamber, and put on high ſandals of wood to preſerve the feet from being burnt by the marble floor, cannot enter the firſt room with ſafety till they have ſtopped a moment between the two doors, to let the lungs dilate; after which they cannot enter the ſecond ſtove, under which the heat is moſt active, without ſimilar precaution. A ſudden perſpiration ruſhing through all the pores, is felt immediately as they are entered; but the violence of this heat does not prevent the women from ſtaying in theſe baths five or ſix hours, and returning to them very frequently. The following deſcription of the public bath, and the method of uſing it, is abſtracted from the account given of the baths at Cairo by Savary, Travels, vol. i. p. 146, &c. The firſt apartment, or undreſſing chamber, is a lofty and ſpacious hall, which riſes in the form of a rotunda, and is open at the top for admitting a free circulation of the air. A ſpacious eſtrade, or raiſed floor, covered with a carpet, and divided into compartments, goes round it, on which the perſon who bathes lays his clothes. In the middle of the building, a jet-d'-eau ſpouts up from a baſon, and agreeably entertains the eye. When you are undreſſed, you tie a napkin round your loins, put on a pair of ſandals, and then enter a narrow paſſage, where you begin to feel the heat. The door being ſhut, at the diſtance of twenty paces you open a ſecond door, and proceed along a paſſage, which forms a right angle with the former: here the heat increaſes. Thoſe who are afraid of ſuddenly expoſing themſelves to a ſtronger degree of it, ſtop in a marble hall, in the way to the bath, properly ſo called. The bath itſelf is a ſpacious and vaulted apartment, paved and lined with marble, around which are four cloſets. The vapour, inceſſantly riſing from a fountain and ciſtern of hot water, mixes itſelf with the burning perfumes, when perfumes are deſired by the perſons who bathe. The bathers, extended on a cloth that is ſpread out, and with the head ſupported by a ſmall cuſhion, ſtretch themſelves freely in every poſture, whilſt they are enveloped by a cloud of odoriferous vapours, which penetrate into all their pores. After repoſing there for ſome time, till a gentle moiſture is perceived over the whole body, a ſervant preſſes you gently, turns you over, and when the limbs are become ſupple and flexible, he makes all the joints crack without any difficulty. He maſſes, i. e. delicately touches, and ſeems to knead the fleſh, without making you feel the ſmalleſt pain. When this operation is finiſhed, he puts on a glove covered with a piece of coarſe ſtuff, and rubs you for a long time: and during this operation, he detaches from the body, running with ſweat, a ſcurf or ſort of ſmall ſcales, and removes even the imperceptible filth that ſtops the pores. The ſkin becomes ſoft and ſmooth like ſatin. He then conducts you into a cloſet, pours a lather of perfumed ſoap upon your head, and then withdraws. The cloſet is furniſhed with a ciſtern and two cocks, one for cold and the other for hot water. After having waſhed in this apartment, the ſervant brings a depilatory pomatum, compoſed of a mineral called "ruſma," which is of a deep brown, and which the Egyptians burn lightly, knead with water, and mix with half the quantity

quantity of ſlaked lime. This greyiſh paſte, applied to the hair, makes it fall off in a little time; and it is generally uſed both by men and women in Egypt. After being well waſhed and purified, you are wrapped up in hot linen, and conducted through the windings that lead to the outer apartment: and by this gradual tranſition from heat to cold, or by ſtopping for ſome time in the hall next the ſtove, no inconvenience ariſes from the uſe of the bath. On arriving at the eſtrade, you find a bed prepared for you, and as ſoon as you are laid down, a child preſſes every part of the body with its delicate fingers, in order to dry you thoroughly. Here you change linen a ſecond time, and the child gently grates the callofity of your feet with pumice ſtone. He then brings you a pipe and Mocha coffee.

By theſe baths, ſays Savary, the uſe of which the ancients ſtrongly recommended, and which are ſtill the delight of the Egyptians, they prevent or diſpel rheumatiſms, catarrhs, and ſuch cutaneous diſorders as are produced by want of perſpiration. Thus the blood is made to circulate with freedom, the whole body acquires a ſuppleneſs and lightneſs, and the ſpirits gain a vivacity and flow, which are not experienced in an equal degree by thoſe who do not pay ſo much attention to external cleanlineſs. The women are particularly fond of theſe baths, and frequent them at leaſt once a week. After undergoing the uſual preparations, they waſh their bodies, and more eſpecially their heads, with roſe-water. Here the female head-dreſſers form their long black hair into treſſes, to which they apply coſtly eſſences, inſtead of powder and pomatum. Here they blacken the edges of their eye-lids, and lengthen their eye-brows with "cohel," or a preparation of tin burnt with gall-nuts. Here alſo they ſtain their finger and toe nails with "henne," (See ALCANNA), which gives them a golden colour. The linen and clothing which they uſe are paſſed through the ſweet ſteam of the wood of aloes. The days, appropriated to the uſe of the bath, are feſtivals for the Egyptian women; and on this occaſion they pay great attention to the ornaments of their dreſs, as well as to the cleanlineſs of their perſons.

Baths ſimilar to that above deſcribed, though differing in ſize, are conſtructed in all the principal towns of Egypt. The neceſſity of cleanlineſs in the eaſtern climates, where perſpiration is ſo copious, has rendered baths indiſpenſible: the comfort they produce preſerves the uſe of them; and Mahomet, who knew their utility, has re-enforced the practice of ablution and bathing by expreſs precept.

Mr. Tooke (View of the Ruſſian Empire, vol. ii. p. 7, &c.) informs us, that the common Ruſſians, in general, uſe but few medicines; ſupplying their place in all caſes by the ſweating bath, a practice univerſal among them, and which has a decided influence on the whole phyſical ſtate of the people. The uſe of the bath, that venerable relict of the manners of the ancient world, as this ingenious writer denominates it, is now almoſt entirely confined to the Oriental nations, where it miniſters both to health and to luxury, and is perpetuated by religion. In Europe it has been gradually declining for ſeveral centuries, though it was here alſo in ſome ſort interwoven with religion, the holy water of the Roman catholic church being a ſlight remnant of it.

Ruſſia and Hungary are at preſent the only countries in this quarter of the world, where it is ſtill the cuſtom to bathe after the manner of the ancients. In Ruſſia particularly the bath forms ſo eſſential a part of the ſyſtem of living, that it is uſed by people of every age, and in all circumſtances, by infants, by lying-in women, in almoſt all ſickneſſes, before and after a journey, after hard work, &c. The bath is a neceſſary of life ſo indiſpenſible to the common people, that they frequent it as often as poſſible, well or ill, and without any particular occaſion, once a week at leaſt. Perſons of middle ſtation in good circumſtances, and the great, uſually conſtruct vapour baths, after the Ruſſian faſhion, in their own houſes, though in theſe claſſes the practice is declining under the increaſing influence of foreign manners. Baths have been common in Ruſſia from time immemorial. They are deſcribed by Neſtor ſo long ago as the 11th century, preciſely in their preſent form. Among the ancients the baths were public buildings, under the immediate cognizance of the government. The invention of them was owing to cleanlineſs and convenience; but in proceſs of time all the graces of architecture were laviſhed upon them; and at length luxury and voluptuouſneſs ſo perverted them from their primitive purpoſes, that they became offenſive and ſhocking to the moraliſts of antiquity. Alexander was aſtoniſhed at the magnificence of the baths in Perſia. At Rome, under the emperors, there were once 870 of theſe edifices, ſuch, with reſpect to magnificence and taſte, as might paſs for maſter-pieces of art; and in after ages they were demoliſhed by the Goths, or converted by biſhops into churches. In our days, however, Hungary is the only country that can ſtill exhibit baths, equal in magnificence to thoſe of the ancient Romans. In Ruſſia, on the contrary, they are always of that ſimple conſtruction, which indicates their primitive and moſt eſſential deſtination. Here the public baths, called public becauſe they are under the care of the police, and let out to common people on the crown's account, uſually conſiſt of mean wooden houſes, ſituate, whenever it is poſſible, by the ſide of a running ſtream. In the bath-room is a large vaulted oven, which, when heated, makes the paving ſtones lying upon it red-hot; and adjoining to the oven is a kettle fixed in maſonry, for the purpoſe of holding boiling water. Round about the walls are three or four rows of benches one above another, like the ſeats of a ſcaffold. The room has little light, but here and there are apertures for letting the vapour eſcape; the cold water that is wanted being let in by ſmall channels. Some baths have an anti-chamber for dreſſing and undreſſing; but in moſt of them this is done in the open court-yard, which on that account has a boarded fence, and is provided with benches of planks. In thoſe parts of the country where wood is ſcarce, they ſometimes conſiſt of wretched caverns, commonly dug in the earth cloſe to the bank of ſome river. In the houſes of wealthy individuals, and in the palaces of the great, they are conſtructed in the ſame manner, but with ſuperior elegance and convenience. The heat in the bath-room is uſually from 32° to 40° of Reaumur; and this is much increaſed by throwing water every five minutes on the glowing hot ſtones in the chamber of the oven. Thus the heat often riſes, eſpecially on the uppermoſt bench, to 44° of the thermometer. The perſons that bathe lie quite naked, on one of the benches, where they perſpire more or leſs in proportion to the heat of the humid atmoſphere in which they are enveloped. For promoting perſpiration, and more completely opening the pores, they are firſt rubbed, and then gently flagellated with leafy bunches of birch. After remaining for ſome time in this ſtate, they come down from the ſweating bench, and waſh their bodies with warm or cold water, and at laſt plunge over head in a large tub of water.

Many perſons throw themſelves immediately from the bath-room into the adjoining river, or roll themſelves in the ſnow in a froſt of ten or more degrees.

The Ruſſian baths are, therefore, "ſweating baths;" not the Roman tepidaria or caldaria of a moderate warmth, but very violent ſweating-baths, which to a perſon unhabituated to the practice, bring on a real, though a gentle and almoſt voluptuous ſwoon. They are "vapour-baths," not

water

water nor yet dry fweating-baths; differing in this refpect from all the baths of antiquity, as well as from thofe of the modern Orientals; and in this conſiſts their eſſential excellence, that they are beneficial in ſuch a variety of caſes, where hot-water baths would be uſeleſs or even pernicious. They are further "ſalutary baths," as they promote cleanlineſs, aſſiſt the perſpiration, render the ſkin ſoft and ſmooth, &c. and not voluptuous baths like thoſe of the Greeks and Romans. All the inventions of effeminacy and luxury are entirely obviated; and of anointing after the uſe of the bath, indiſpenſible in thoſe, the Ruſſian is wholly ignorant. Inſtead of this the ſudden tranſition from heat to a rigorous froſt hardens his body, and adapts it to all the ſeverities of climate, and to every viciſſitude of weather; a tranſition which ſeems to us unnatural or dangerous, merely from the prejudices of a ſoft and effeminate age.

Mr. Tooke adds, that, without doubt, the Ruſſians owe their longevity, their robuſt ſtate of health, their little diſpoſition to certain mortal diſeaſes, and their happy and chearful temper, moſtly to theſe baths, though climate, aliment, and habits of living likewiſe contribute their ſhare.

The great lord chancellor Bacon, and other ſagacious obſervers of nature, and of mankind, have lamented, and certainly not without cauſe, that the practice of bathing has fallen into diſuſe among the modern nations of Europe, and anxiouſly wiſh that it might again revive in all our towns and villages. In fact, when we conſider, ſays Mr. Tooke, that the old phyſicians ſo early introduced into their practice this remedy of nature's own invention, and employed it with ſuch great ſucceſs; when we recollect that Rome for 500 years had no phyſicians but only baths, and that to this day a multitude of nations cure almoſt all their maladies merely by baths; we cannot avoid regarding the diſmiſſion of them as the epocha of a grand revolution, which has been wrought in the phyſical ſtate of the human race, in one quarter of the world. The natural perſpiration, the moſt important of all excretions, muſt naturally go on better in a body conſtantly kept ſoft by bathing. Many impurities that privily lay in us the train to tedious and dangerous diſtempers are removed in time, before they poiſon the blood and juices. All exanthematic diſeaſes are abated by bathing, and conſequently the ſmall-pox; and if this dreadful diſorder be actually leſs fatal in Ruſſia than in other countries, this phenomenon need not be attributed to any other cauſe beſides vapour-baths.

Bathing, *medicinally conſidered*, ranks among the moſt efficacious means by which diſeaſes are prevented or cured. Its effects vary according to the variation of temperature, and according to the qualities of the liquid medium employed; that is, according as the bath conſiſts either of common water, or of water containing ſalt or other mineral ingredients (ſee Mineral Waters), or of water impregnated with the virtues of aromatic or other herbs. Theſe laſt, which go under the name of *medicated baths*, are ſeldom uſed; and when they are, we are inclined to believe that it is to the watery medium, rather than to ſuch impregnations, that their beneficial operation is to be aſcribed.

Under the preſent head, we ſhall confine ourſelves to the conſideration of the effects produced by bathing, ſo far as they depend upon a diminution or increaſe of temperature above or below the natural ſtandard of the human body.

Baths of different degrees of temperature, correſponding to the familiar terms, *cold*, *temperate*, and *hot*, are ſuited to different and oppoſite ſtates of the body. The manner of uſing them is alſo different; the time of immerſion or ſtaying in them varying according to the difference of temperature, and according to the required quantum of impreſſion or effect, as will be particularly noticed in treating of each.—And, firſt, of the

Cold Bath, by which is underſtood water of a temperature from 65 to 33 of Fahrenheit. The general effects produced in a healthy perſon by immerſion into an ordinary cold bath (that is, water of the temperature of 48 or 50) are, according to the accurate obſervation of Dr. Saunders, as follow: "Firſt, there is a general ſenſation of cold, forming that ſhock to the whole ſyſtem, which is one of the moſt important effects of the cold bath. This is almoſt immediately ſucceeded by an equally univerſal ſenſe of warmth, which increaſes rapidly to a certain point, ſo as to cauſe the ſurrounding water, though actually cold, to feel of a comfortable warmth; and this feeling is ſooner produced, and continues longer, in proportion as the perſon is in full health, and naturally poſſeſſes a vigorous circulation. By degrees, however, if the body continues immerſed, it becomes chilled; violent ſhivering comes on; the extremities grow numb and pale; ſometimes ſickneſs takes place; and, at laſt, the animal powers are exhauſted by cold and fatigue. In this proceſs, the moſt remarkable effects are thoſe which occur firſt, and are directly conſequent to the ſhock of immerſion; and theſe require particular attention in a medical view, as it is only to the production of theſe that the cold bathing ſhould be ſuffered to proceed. The ſenſations of returning warmth which take place directly after the cold of the firſt immerſion, conſtitute what has been called the *reaction of the ſyſtem*; and this is certainly a proper and characteriſtic term, as it imports an action produced in the body itſelf, to reſiſt an external impreſſion. Reaction in this place ſeems to be a peculiar effort of the living power, and to be excited in a degree proportionate to the force of that power, and to the intenſity of the cauſe which called it into action. It implies not merely an increaſe of the production of animal heat, but, ſuperadded to this, a ſudden effort within the body, and the whole arterial ſyſtem, to overcome an impreſſion on the extremities as ſudden and powerful. Hence it is, that a mere abſtraction of heat, by a cold medium, will not produce that which is preciſely meant by reaction, except the external cold be applied ſuddenly, and to a large ſurface. Theſe two conditions are fulfilled by ſudden immerſion into cold water. The ſuperior power of conducting heat which water poſſeſſes over air, is alſo a circumſtance that is always to be kept in mind in applying cold externally. This is particularly ſhewn where a perſon continues long in this cold medium beyond the firſt effects of reaction. On account of the high conducting power of water, the body muſt be conſtantly employed in producing an unuſual quantity of heat; and this appears to be a great effort in the conſtitution, which, if carried too far, goes directly to deſtroy the animal powers." Thus three effects are produced by immerſion in cold water; viz. an inſtantaneous and powerful ſhock, a ſudden abſtraction of heat from the ſurface of the body, and that exertion of the vital energies to counteract the ſhock and reſtore the loſt quantity of animal heat, which is termed reaction. It is eaſy to perceive, that when the body is placed under ſuch circumſtances for a few ſeconds, a conſiderable impreſſion muſt be made, firſt, upon the ſentient ſyſtem, i. e. the brain, and its ramifications, the nerves; and, ſecondly, upon the ſanguiferous and abſorbent ſyſtems: and that ſuch impreſſion may be rendered ſubſervient to the prevention and cure of various diſeaſes. Accordingly, the cold bath is a principal remedy, firſt, in many convulſive affections, and in maniacal attacks; and, ſecondly, in certain forms and conditions of fever.

1. In

1. In the convulſions to which children are ſo liable, Dr. Currie of Liverpool (whoſe obſervations on the ſubject of cold bathing cannot be too often quoted) has found this application a moſt uſeful remedy, whether the convulſions originated in worms, or other cauſes. In early infancy, however, he remarks, that he has uſed it with caution, ſometimes tempering the water when the weather was cold, and ſometimes pouring it upon the patient, rather than immerging the patient in it; making the application of the cold water in this way ſudden and tranſient, ſo as to ſecure reaction, and avoiding the remedy entirely in all caſes where the vital energy ſeemed much exhauſted. He further remarks, that the chief benefit derived from the cold bath in convulſive diſeaſes, depends on its being uſed in the paroxyſm of convulſion. It not only ſhortens the duration or abates the violence of the exiſting paroxyſm, but has a remote good effect in retarding or wholly preventing its return. In that convulſive diſorder termed *chorea Sti. Viti*, the cold bath, though ſtrongly recommended by moſt practitioners, has not ſucceeded with this author; and he candidly acknowledges, that his experience of its effects in epileptic fits is as yet too limited to enable him to form any ſatisfactory concluſion. The late Dr. Heberden, whoſe experience in theſe affections was conſiderable, had no great opinion of it. Againſt *tetanus*, whether idiopathic or ariſing from local injury, this remedy has been employed with the moſt decided good effect, particularly in the tropical climates; nor has it proved leſs beneficial in maniacal paroxyſms. See Dr. Currie's work hereafter quoted.

2. In certain forms and conditions of fever. In theſe caſes, cold bathing, whether by immerſion or affuſion, is of eminent ſervice when properly applied; as, by abſtracting the preternatural degree of heat, it rids the body of an exhauſting ſtimulus and irritation, and thereby abates the frequency of the pulſe, the delirium, and other febrile ſymptoms. It may be reſorted to in moſt fevers (ſome of the exanthematous fevers excepted) where the ſkin is hot and dry; but it is eſpecially adapted to the *typhus* or common contagious fever of this country, the ardent fevers of the hot climates, and the yellow fever of the Weſt Indies, &c.—"The ſafeſt and moſt advantageous time (ſays Dr. Currie) for uſing the aſperſion or affuſion of cold water, is when the exacerbation is at its height, or immediately after its declination is begun; and this has led me almoſt always to direct it to be employed from ſix to nine o'clock in the evening; but it may be ſafely uſed at any time of the day, when there is no ſenſe of chilline's preſent, when the heat of the ſurface is ſteadily above what is natural, and when there is no general or profuſe perſpiration." It is of the utmoſt importance that medical practitioners be careful not to apply this remedy during the cold fit of fever, when it would extinguiſh life; nor to apply it when the heat of the body is leſs than natural, or even only equal to the natural heat; nor when the fever-patient is in a ſtate of perſpiration. Cold bathing has alſo been tried in the *ſcarlatina*; but in this ſpecies of eruptive fever as well as in meaſles, the application of cold water to the ſurface of the body is, in our opinion, by no means adviſeable. Another caution we would ſubjoin with regard even to fevers that are not eruptive; viz. that when they are complicated (as often happens in this climate) with pneumonic inflammation, cold ablution is inadmiſſible.

Cold bathing has often been recommended in certain glandular diſeaſes, and particularly in ſcrophula. Accurate obſervation, however, has proved, that in theſe caſes it is generally hurtful; and that for ſuch complaints, a temperate bath, whether of freſh or ſalt water, is preferable.

Having thus deſcribed the general effects of cold bathing, as well as its particular application to certain ſtates of diſeaſe; we have only further to add a few words reſpecting the manner of uſing it. In the caſe of *immerſion*, the time of ſtaying ſhould in general not exceed a minute or two, where the degree of cold is below 60; but in the ſummer and autumnal ſeaſons, immerſion in rivers, and eſpecially in the ſea, may be continued as long as is pleaſant to the feelings of the bathers; provided the body is at the ſame time exerciſed in ſwimming. Much miſchief, however, is frequently done by ſtaying in too long.

It has been commonly ſuppoſed, that if a perſon has made himſelf warm with walking or any other exerciſe, he muſt wait till he becomes cooled before he ſhould plunge into the cold water. Dr. Currie, however, has ſhewn that this is an erroneous idea, and that in the earlier ſtages of exerciſe, before profuſe perſpiration has diſſipated the heat, and fatigue debilitated the living power, nothing is more ſafe, according to his experience, than the cold bath. This is ſo true, that he has for ſome years conſtantly directed infirm perſons to uſe ſuch a degree of exerciſe before immerſion, as may produce ſome increaſed action of the vaſcular ſyſtem, with ſome increaſe of heat; and thus ſecure a force of reaction under the ſhock, which otherwiſe might not always take place. The popular opinion, that it is ſafeſt to go perfectly cool into the water, is founded (he obſerves) on erroneous notions, and ſometimes productive of injurious conſequences. Thus, perſons heated and beginning to perſpire, often think it neceſſary to wait on the edge of the bath until they are perfectly cooled; and then plunging into the water, feel a ſudden chillneſs that is alarming and dangerous. In ſuch caſes, the injury is generally imputed to going into the water too warm, whereas in truth it ariſes from going in too cold.

Beſides immerſion, there are other modes of cold bathing; ſuch as *affuſion*, which conſiſts in ſuddenly pouring upon the body a ſufficient quantity of cold water from buckets or other veſſels. This mode of applying cold water produces a very conſiderable ſhock, and conſequent reaction. It is this mode of cold bathing that has been reſorted to with advantage in the contagious fevers of this climate, and in the yellow fever of the Weſt Indies. What is termed the ſhower-bath is only another mode of affuſion.

As cold bathing is a remedy which is ſucceſsfully employed for the cure of various diſorders, ſo is it a preſervative againſt others, and particularly againſt febrile infection. When uſed by perſons in health, it increaſes the tone of the muſcular fibre, ſtrengthens the digeſtive organs, and by diminiſhing the ſenſibility of the whole ſyſtem, and particularly of the ſkin, renders the body leſs ſuſceptible of atmoſpheric impreſſions from cold, wet, and ſudden changes of temperature; thus contributing to the production of what is termed a robuſt or athletic conſtitution. A temperate bath (i. e. from 70 to 85, or more) is applicable to the ſame caſes as the cold bath, and may be uſed in the ſame manner. It is preferable in many caſes where the ſhock of the ordinary cold bath is too great.

If after going into the cold bath a perſon feels dull or chilly, or complains of head-ach or tightneſs acroſs the cheſt, it is a proof that it diſagrees, and it ſhould accordingly be diſcontinued. It ſhould further be remarked, that this remedy is not ſuited to thoſe who have a tendency to conſumption, nor to ſuch as are conſtitutionally liable to bowel complaints. The beſt ſeaſons of the year for cold bathing are the ſummer and autumn.

We now proceed to the conſideration of

WARM BATHING: a remedy not leſs efficacious than the former in diſeaſes of an oppoſite nature; but

concerning

concerning the operation of which, wrong notions have till very lately been entertained by the generality of medical writers and medical practitioners. It has been imagined that the warm bath relaxes (a figurative expression) and weakens, whereas it produces a contrary effect; unless indeed the temperature be so high, or the time of immersion continued so long, as to bring on that degree of debility which is accompanied with deliquium. But this arises only from an abuse of hot bathing, and is even then the consequence of an excess of stimulation. So far is immersion of the body in water heated to 96 from having a lowering or weakening operation, that when duly regulated it is found to raise the spirits, to mend the pulse and appetite, and to refresh and invigorate the whole frame. Hence the benefit derived from it after great fatigue; in old age; in atonic gout, accompanied with stiffness and pallid swellings of the joints; in paralysis; in chlorosis, in diseases arising from a certain torpor of the lymphatic and glandular system, such as scrophula, leprous and other chronic eruptions, &c. In cases of predisposition to phthisis, it abates the frequency of the pulse, and tends to retard at least, if it does not wholly prevent, the pulmonary affection. In consequence of its soothing and agreeable impression upon the surface of the body, it produces very beneficial effects in certain disordered states of the alimentary canal, originating in diminished action; and it affords the best and speediest relief in a great variety of painful disorders, whether connected with local inflammation or not; such as chronic rheumatism, certain forms of lues venerea, nephritis, calculus vesicæ, colic, enteritis, &c.

The time of immersion should be varied according to the temperature of the water, and the feelings of the patient. In a bath of 96, a person may remain fifteen, twenty, or thirty minutes, or even longer; but in one of 98 or 100, it will seldom be proper, and indeed there are few persons that can bear, to remain beyond ten minutes, and in the generality of case not so long. Patients labouring under chronic rheumatism and palsy bear the high degrees of temperature best. When sweating is desired (which will seldom happen except in cases of local inflammation), the warm bath should be used in an evening, and the patient should immediately afterwards be put into a warm bed, and remain there until late the next morning: but in all other cases, where sweating is not required, or in which it would be hurtful, the best time for using the warm bath will be in the forenoon, about two hours after breakfast. In these cases, the bathers should not retire to bed, nor confine themselves within doors, but go about as usual; unless the weather should be particularly damp or inclement. Hot bathing, like cold bathing, is applied topically by pumping on the diseased part, as will be described when we come to treat on mineral waters. Sometimes steam is applied to the body instead of warm water. See Vapour Bath.

Among the works on cold and warm bathing, the following are those which seem most entitled to notice: viz. "Floyer on Cold Bathing," 1709. It should be remarked, however, that this author writes without method on this subject; that he is too indiscriminate in his praises of the cold bath, and that he recommends it in some diseases of debility to which warm bathing is better adapted. "Marcard über die Natur und den Gebrauch der Bäder." Hanover, 1793. Currie's "Medical Reports on the Effects of Water, cold and warm," 1797. And the 6th chapter of Dr. Saunders's "Treatise on Mineral Waters," 1800.

Bathing *a hawk or falcon*, is, when being weaned from her ramage fooleries, and also hired, rewarded, and thoroughly reclaimed, she is offered some water to bathe herself in, in a bason, where she may stand up to the thighs, choosing a temperate clear day for that purpose. By the use of bathing she gains strength, with a sharp appetite, and so grows bold.

Bathing, among the Cophts and Æthiopians, denotes the day of Christ's baptism, reputed the 6th of January; when, from an opinion of an extraordinary sanctity in the waters on that day, they not only, by ancient custom, baptised their catechumens, but were re-baptised themselves. The water of this day they carry home to keep; and Chrysostom assures us, that it had been often known to remain sweet and uncorrupted for two or three years. Orat. 74.

Bathing-*Tub*. In the Roman baths there are two kinds of bathing-tubs; the one fixed, and the other moveable. Among the latter, some were contrived on purpose to be suspended in the air; whereby, to the pleasure of bathing was added that of being swung or rocked by the motion given to the bathing-tub. Burette, in Hist. Acad. Inscript. tom. i. p. 122.

BATHINUS, in *Ancient Geography*, a river of Pannonia, near which the young men of the country assembled, laid down their arms, and threw themselves at the feet of the victorious Romans.

BATHIS, Batoum, a river of Asia, in the territory of Colchis, which ran from the east to the west, and discharged itself into the Euxine sea, 6 leagues south of the mouth of the Phasis.

Bathis, in *Entomology*, a species of Papilio (Pleb. rur.) that inhabits Surinam. The wings are two-tailed, with a black ocellar spot; beneath brown, fasciated with white; anal angle rufous. Fabricius.

BATHMONSTER, in *Geography*, a town of Hungary, separated by the Danube from Batha.

BATHOS, in *Ancient Geography*, a town of the Peloponnesus, in Arcadia, near the river Alpheus, according to Pausanias; who adds, that they celebrated every third year the mysteries of the greater goddesses in this place.

BATHRACUS, a port of Africa, in Marmarica. Ptolemy.

BATHRITITES, the name of a nome of Egypt, whence, according to Eusebius, king Vaphres sent succour to king Solomon.

BATHRUM, a name given by ancient surgeons to a kind of stool or bench proper for the reduction of dislocated bones. This is called Ἔδρον Ἱπποκράτους, or the *Hippocratic stool*. Its description and use are represented at large by Schulterus, Arm. Chir. p. i.

BATHURST, Ralph, in *Biography*, born at Howthorpe, a small hamlet belonging to the parish of Theddingworth in Northamptonshire, in the year 1620, received the rudiments of his education at the free-school in the city of Coventry; where his progress in the Latin and Greek languages was so rapid and extensive, that he was sent to Oxford, and entered in Gloucester Hall (now Worcester College), October the 10th, 1634, being then only fourteen years of age. He was however soon removed to Trinity College, where his father had been educated, and of which two of his brothers, George and Edward, were then members. Proceeding in his studies, he was elected scholar of the college, June 5th, 1637. In January following he took his degree of Bachelor of Arts; and in the year 1640, he was appointed Fellow of the College. In 1641, he proceeded Master of Arts; and in 1644, was ordained priest by the bishop of Oxford; his inclination, his biographer says, disposing him to theological studies. Finding however, from the troubles that then and for many years after afflicted the country

country, little proſpect of advancing himſelf in that line, he applied to the ſtudy of medicine, which, in a letter to a friend ſome years after, he called "his refuge in bad times, and not his primitive deſign." But as his mind was vigorous, he ſoon acquired conſiderable eminence in this profeſſion; being aſſiſted in his endeavours by Dr. Thomas Willis, with whom he kept up an intimate connection until death deprived him of that valuable friend. In 1654, he took the accumulated degrees of Bachelor and Doctor in Medicine; but he had before ſo far ſignalized himſelf, as to obtain the appointment of phyſician to the ſick and wounded of the navy, which office he performed to the ſatisfaction of the commanders of the ſhips, and of the admiralty. Quitting this ſituation, he returned and ſettled in Oxford; and, with his friend Dr. Willis, attended Abingdon market regularly every Monday, to give advice to ſuch patients as applied. He was an aſſociate with Mr. Boyle, Dr. Seth Ward, Chriſtopher Wren, and various other perſons, who met every week at the rooms of Dr. Wilkins, to diſcuſs philoſophical ſubjects; which meetings led to the formation of the Royal Society in London, in 1662. A committee or branch of the ſociety continued their meetings at Oxford for ſeveral years after, of which Dr. Bathurſt was elected preſident in 1688. On the reſtoration of king Charles the Second, he quitted the practice of medicine, and reſumed his theological ſtudies. In 1663, he was made chaplain to the king; and the year following, preſident of the college, which was nearly rebuilt under his direction. The expence of the building was furniſhed in part by the college, part by ſubſcriptions ſolicited by the doctor, and no ſmall portion of it from his own fortune. About the ſame time he married the widow of Dr. John Palmer, warden of All Souls College; but had no children by her. In 1670, he was inſtalled dean of Wells. This advancement was procured him by the duke of Devonſhire, to whoſe notice he had recommended himſelf by an elegant copy of Latin verſes to Mr. Hobbes, on his treatiſe of Human Nature, which was printed with the volume. In 1673 he was made chancellor of the univerſity, and was re-elected to that office the two following years, by which means he had opportunity of reforming many abuſes which had crept into the inſtitution, and of eſtabliſhing many uſeful regulations which ſtill continue to be obſerved. As he had contributed largely in rebuilding and beautifying his own college, and was the firſt in introducing Grecian architecture in Oxford, he now ſet about reſtoring St. Mary's church, which had ſuffered much during the protectorate. He ſubſcribed 300 l. towards paving the choir with marble, and erecting an organ there. In 1691, he was nominated by king William and Queen Mary, biſhop of Briſtol, with liberty to keep his deanery and headſhip of the college; but had the reſolution to decline this noble offer, leſt it ſhould detain him, he ſaid, too long from the univerſity, and be the means of retarding the improvements he was making there, both in diſcipline and in the buildings. In the mean while his fame for proficiency in letters became ſo extended, that he correſponded with moſt of the firſt literary characters in the kingdom, who frequently ſubmitted their works to his inſpection and criticiſm before they were publiſhed. He was particularly inſtrumental in advancing Derham, the celebrated author of the "Aſtro," and "Phyſico-Theology," from obſcurity and indigence; recommending him to the biſhop of Saliſbury, through whoſe means he was raiſed to an eminent ſtation in the church. As he was a ſtrict diſciplinarian, and regularly attended his duty both in the univerſity and at his deanery, he had little leiſure for undertaking any extenſive works; accordingly, excepting his "Prælectiones tres de Reſpiratione," we have only his "Orations" before the univerſity, on his being appointed vice-chancellor, on laying down his office, and on a few other ſubjects; with ſome ſhort poems. Theſe however have been ſufficient to eſtabliſh his character as an elegant Latin ſcholar. He was very abſtemious in his diet, and regular in taking exerciſe; and had the happineſs of enjoying an almoſt uninterrupted ſtate of good health until he was upwards of fourſcore years of age; when his ſight began to fail, and at length he became blind. Walking one day in his garden, the only amuſement that remained to him after the failure of his ſight, he had the misfortune to break his thigh bone, by what accident it is not ſaid; which occaſioned him exceſſive torture, and after languiſhing a few days, he died in 1704. His property, which was conſiderable, he had directed by his will to be diſpoſed of in the manner he had expended a large part of his income in his lifetime; in donations towards improving his college; in books and medals to different libraries; in donations to the cathedral at Wells, and to the ſervants of the cathedral and of his own college. The remainder was left among his relations, who were numerous. His directions concerning his funeral, as being ſingular, and marking ſomewhat the diſpoſition of the man, we ſhall tranſcribe.—"Concerning the place and manner of my funeral (he ſays) I am not at all ſolicitous, but ſhall leave it to the diſcretion of my executor; except it ſhall pleaſe God to give me leiſure and opportunity of ordering it at the time of my death, as occaſion may then require: only I ſhall always deſire, that it may be performed with all convenient frugality and privacy; and that my mouth and noſtrils may be firmly cloſed up with a plaſter of diachylon, and my whole head wrapped in cere-cloth; and that I be buried without any cover to my coffin, only with a black pall of woollen ſtuff looſely nailed on, and hanging looſe down." See Life of Ralph Bathurſt, by T. Warton.

Bathurst, Allen, earl Bathurſt, a nobleman not more diſtinguiſhed by the elevation of his rank, than by his abilities and integrity as a ſtateſman, and by the elegance of his taſte and the variety of his accompliſhments as a polite ſcholar, was the ſon of ſir Benjamin Bathurſt, deſcended from an ancient family of Luneburg, reſiding at a place called "Batters;" and ſettled in England in the time of the Saxons, at a place called "Batters Hurſt," or Batters Grove, in Suſſex, whence the name; and born in Weſtminſter, in the year 1684. At the age of 15 years, he was entered in Trinity College, Oxford, where he enjoyed peculiar advantages for improvement under his uncle, dean Bathurſt, who was then preſident. Having availed himſelf in an eminent degree of theſe advantages, he commenced his political career as a ſenator in 1705, being choſen repreſentative for the borough of Cirenceſter in Gloceſterſhire, which he ſerved in two parliaments. Under this character he diſtinguiſhed himſelf in the debates that related to the union of the two kingdoms, and vigorouſly ſupported this meaſure. He likewiſe concurred in the oppoſition planned by his two friends, Mr. Harley and Mr. St. John, againſt the duke of Marlborough and his adherents; and by his ſpirit and eloquence he was of great ſervice to his party. At the ſame time he was duly ſenſible of the merit of thoſe from whom he differed in political principles; and by his conduct toward lord Somers, both in and out of office, he preſerved his lordſhip's eſteem and friendſhip. In his oppoſition to the whig miniſtry, he appears to have acted from the conviction of his own mind; for after their diſmiſſion, he accepted no place under government, though his abilities and activity entitled him to notice, and his connection with the principal tories of that period might naturally have led him to expect ſome honour-

able and lucrative preferment. However, his merit was recompenſed in 1711, by advancement to the dignity of a peer of Great Britain, under the title of lord Bathurſt, baron Bathurſt of Battleſden in the county of Bedford. Upon the acceſſion of king George I. the political friends of his lordſhip were in diſgrace, and ſome of them were actually expoſed to the proſecution of government; and yet his attachment to them remained firm and unchangeable. He even avowed his diſapprobation of the treatment they ſuffered, which he conſidered as ſevere and vindictive; and on this occaſion he is ſaid to have obſerved, in ſtrong and poignant terms, "that the king of a faction was only the ſovereign of half his ſubjects." His zeal in defence of his friends was manifeſted by his joining in the proteſts againſt the attainder of lord Bolingbroke and the duke of Ormond; and by his oppoſing the proſecution, and concurring in the unanimous acquittal, of lord Oxford. In 1716, he oppoſed the ſeptennial bill; and united with thirty peers in entering his reaſons for diſſenting from it, as a violation of the conſtitution. From the commencement of the year 1718, he took an active and diſtinguiſhed part, for the ſpace of twenty-five years, in every matter of importance that came before the upper houſe of parliament, and he ſteadily oppoſed the meaſures of the court, and the adminiſtration of ſir Robert Walpole. Lord Bathurſt was a zealous advocate for biſhop Atterbury; and diſtinguiſhed himſelf, in 1723, on the third reading of the bill for inflicting pains and penalties on that ingenious and celebrated prelate. In 1727, he opened the debate on the king's ſpeech, and ſtrenuouſly oppoſed a war with Spain, which then threatened the country. "What (ſaid he) can we get by the war, if it be a ſucceſsful one? I'll ſay it in one word, nothing. What can we loſe, if it be unproſperous? I'll ſay it in one word, in a ſyllable, all." In the year 1731, he ſupported the bill againſt permitting penſioners to ſit in the houſe of commons; he moved an addreſs to the king for diſcharging the 12,000 Heſſian troops in the pay of Great Britain; and in the next parliament, he very ably reſiſted the undue taxation of the poor, on the bill for the revival of the ſalt-duty. On another occaſion he diſplayed his parliamentary talents, by the ſupport of the earl of Oxford's motion for reducing the number of forces to 12,000 effective men, and vindicated the expedience and uſefulneſs of a national militia, as the moſt proper and conſtitutional mode of defence in a free country. In a ſubſequent debate on the mutiny bill, his lordſhip declared himſelf, with great eloquence and ſpirit, againſt a large ſtanding army, and in favour of a national militia. Among other things, he particularly urged the importance of all men in the kingdom, or at leaſt all freeholders, farmers, and ſubſtantial merchants and tradeſmen, providing themſelves with arms, and training themſelves to military diſcipline. He likewiſe declared his utter diſapprobation of the method that had been adopted of alienating the ſinking fund, and applying it to other objects beſides the payment of the public debts. Lord Bathurſt was uniform and active in oppoſing the meaſures of ſir Robert Walpole's adminiſtration, particularly with regard to the tranſactions that regarded the Spaniſh depredations, and the convention with Spain, and the ſubſequent conduct of the war with that kingdom; and he exerted himſelf, with ſingular ability, in the debate that laſted two days, on the queſtion, whether an addreſs ſhould be preſented to the king for the removal of this miniſter from his majeſty's preſence and councils for ever. When his lordſhip had accepted a place, in conjunction with ſome of his friends, his reaſoning, in 1743, in vindication of the propriety and neceſſity of retaining the Hanoverian forces in the ſervice of England, was ſomewhat different from the ſentiments he had avowed on a former occaſion; but he was probably led to approve and defend this meaſure by the critical ſituation of our foreign affairs, and argued in its favour from a conviction of its prudence and rectitude. Whatever opinions may be entertained of lord Bathurſt's political principles, and of the general reaſons upon which his oppoſition to the whig miniſtry was founded, the hiſtory of that period will furniſh ſcarcely any character, in which we may diſcover leſs diſcrepancy of conduct than in that of his lordſhip. We ſhall cloſe this brief recital of his political hiſtory with the teſtimony of an anonymous writer, who delivered it at a time in which his talents were in their full exertion and diſplay. "Lord Bathurſt, in all he ſays, carries along with him that conviction which ariſes from a warm ſenſe of liberty and virtue, directed by great abilities and a moſt exquiſite diſcernment. He was called to the houſe of lords by means of the Tory intereſt, upon a particular exigence of ſtate; and therefore it might have been preſumed, that he was entirely devoted to that party. Yet he has choſen his principles of government ſo happily from what is commendable in both parties, that, upon whichſoever ſide he ſpeaks, he is always obſerved to lean to the extremes of neither." Gent. Mag. vol. x. p. 103.

Lord Bathurſt was married, in 1704, to Catherine, daughter and heireſs of ſir Peter Apſley, by whom he had four ſons and five daughters. Having reſigned, in 1744, the office of captain of his majeſty's band of gentlemen penſioners, to which he was appointed in 1742, his lordſhip was in no public employment till the year 1757, when he was appointed treaſurer to the preſent king, then prince of Wales, in which office he continued till the death of George II. At his majeſty's acceſſion in 1760, he declined the acceptance of any employment on account of his age; but in conſideration of his diſtinguiſhed merit, he had a penſion on the Iriſh eſtabliſhment of 2000 l. a year. "As his lordſhip's abilities and integrity," ſays an impartial and candid biographer, "in public life, gained him the eſteem even of his political opponents, ſo in private life, his humanity and benevolence excited the affection of all who were honoured with his more intimate acquaintance."—"To his other virtues lord Bathurſt added all the good-breeding, politeneſs and elegance of ſocial intercourſe. No perſon of rank, perhaps, ever knew better how to unite "Otium cum dignitate." The improvements he made round his ſeat at Cirenceſter were worthy of his fortune, and ſhewed the grandeur of his taſte." In this reſpect Mr. Pope (Works, vol. ii. p. 170. ed. 1776.) paid him a juſt and fine compliment:

"Who then ſhall grace, or who improve the ſoil?
Who plants like Bathurſt, or who builds like Boyle?"

The ſame excellent poet, in his epiſtle to Lord Bathurſt on the uſe of riches, has no leſs juſtly expreſſed his lordſhip's knowledge of the right mode of employing a large fortune:

"The ſenſe to value riches, with the art
T' enjoy them, and the virtue to impart,
Not meanly, nor ambitiouſly purſued,
Not ſunk by ſloth, not raiſed by ſervitude;
To balance fortune by a juſt expence,
Join with economy, magnificence;
With ſplendour, charity; with plenty, health;
Oh teach us, Bathurſt, yet unſpoil'd by wealth!
That ſecret rare, between th' extremes to move,
Of mad good-nature, or of mean ſelf-love."

His lordſhip's wit, taſte, and learning led him to ſeek the acquaintance of men of genius; and he was intimately connected

nected with the eminent perſons of this character who adorned the beginning of the laſt century. From the few letters of his lordſhip that have been publiſhed, it appears, that his correſpondence was a real honour and pleaſure to thoſe who enjoyed it. To the cloſe of his life he preſerved his natural chearfulneſs and vivacity; and he was always acceſſible, hoſpitable, and beneficent. He was fond of rural amuſements; and enjoyed, with a philoſophical calmneſs, the ſhade of the trees which he had planted. Till within a month of his death, he conſtantly rode out two hours in the morning, and drank his bottle after dinner, jocoſely obſerving, that he never could think of adopting Dr. Cadogan's regimen, as Dr. Cheyne had aſſured him fifty years before, that he would not live ſeven years longer, unleſs he abridged himſelf of his wine. About two years before his death, he had a party of friends; and being loth to part with them at an early hour in the evening, when his ſon, the chancellor, wiſhed to retire, he ſaid to his companions in a ſprightly manner, as ſoon as his ſon was gone, "Come, my good friends, ſince the old gentleman is gone to bed, I think we may venture to crack another bottle." In 1772, his lordſhip was advanced to the dignity of earl; and having lived to ſee his eldeſt ſurviving ſon ſeveral years lord high chancellor of Great Britain, and promoted to a peerage by the title of baron Apſley, he died in the 91ſt year of his age, after a few days' illneſs, at his ſeat near Cirenceſter, on the 16th of September, in the year 1775. Biog. Brit.

BATHUS, in *Entomology*, a ſpecies of PAPILIO (*Pleb. Rur.*), with entire, black wings, gloſſed with blue; beneath white, with numerous black dots, and a continued fulvous band. Fabricius. Inhabits Auſtria. This is *Papilio Bathus* of Schmetterl, and *Papilio Telephii* of Eſper.

BATHYCHRUS COLOR, in *Painting*, a term uſed by the Greeks to expreſs what the Romans call *auſterus color*. Such a colour was coarſe and dull, and wanted the life of the florid colours. See EVANTHI *Colores*.

BATHYCOLPUS, in *Ancient Geography*, a bay and river of Europe, in the Thracian Boſphorus. Heſychius.

BATHYLLUS, and PYLADES, in *Biography*, the inventors of a new method of repreſenting all kinds of theatrical pieces by dancing. Bathyllus was a freedman of Mæcenas, the object of his extravagant and licentious attachment; and in compliance with the wiſhes of Mæcenas, Auguſtus countenanced theſe players and their art. Bathyllus excelled as a comic, and Pylades as a tragic pantomime. They flouriſhed under Auguſtus, about the year B. C. 18. From theſe two competitors for public fame in the reſpective departments of their art ſprung two ſects, each of which retained the name and preſerved the manner and character of its maſter. The diſciples of Bathyllus were called Bathylli, and thoſe of Pylades were denominated Pyladæ. The Romans divided themſelves into parties on account of theſe two pantomimes; and the intereſt of Bathyllus's was at one time ſo prevalent as to procure the baniſhment of Pylades. Upon his return Auguſtus recommended his behaving better for the future, and not attempting to divide the people into parties or factions. Pylades replied, "Cæſar, it is of ſervice to you to have the people buſied about Bathyllus and me." Gen. Dict. Crev. Hiſt. vol. i. p. 122.

BATHYLLUS, in *Ancient Geography*, a fountain of Arcadia, in the Peloponneſus, near Megalopolis. Pauſanias.

BATHYMI, a people of Arabia Felix. Ptolemy.

BATHYS, a river of Phrygia Salutaris, which flowed in the north of this province, along the plain of the city Dorylæum, and diſcharged itſelf into the river Sangaris.

BATHYS, *Fiume Tayburo*, a river of Sicily, which ran into the gulf of Caſtel a Mare.

BATHYS, the name of a port of Ethiopia. Ptolemy.

BATI, a people of India, on the other ſide of the Ganges. Ptolemy.

BATIA, a town of Italy, in the territory of the Sabines.

BATIA, a diſtrict of Attica, belonging to the tribe of Ægides.

BATIÆ, a town of Epirus.

BATIANA, BAIX, a town of Gaul, on the right ſide of the Rhine, according to M. d'Anville.

BATIANI, a people of Italy, placed by Ptolemy in Liguria.

BATILLUS, a muſical inſtrument made of metal, in the form of a ſtaff, furniſhed with metalline rings, which being ſtruck, yielded a kind of harmonical ſounds; uſed by the Armenians in their church-ſervice.

BATINA, in *Ancient Geography*, a town of Aſia, in Media. Ptolemy.

BATINUS, a town of Italy, in Picentinum.

BATIS, in *Botany*, βατις, the name of an herb which bears ſome reſemblance to bramble, βατος, Pliny. Lin. gen. n. 1104. Reich. 1208. Schreb. 1503. Brown 356. Jacq. Amer. 260. Juſſ. 443. Claſs, and order, *dioecia triandria*. Gen. Char. * Male. *Cal.* ament pyramidal; ſcales one-flowered, fourfold, imbricate. *Cor.* none. *Stam.* filaments four, erect, longer than the ſcales of the ament; anthers oblong, twin, incumbent. * Female, on a ſeparate plant. *Cal.* ament common fleſhy, containing ſome floſcules conglobated into an ovate, quadrangular body; involucre, two-leaved. *Cor.* none. *Piſt.* germ quadrangular, faſtened to the ament; ſtyle none; ſtigma two-lobed, obtuſe, villoſe. *Per.* berry conjoined with the reſt, one-celled. *Seeds*, four, triangular, acuminate.

Eſſ. Char. Male. Ament four-fold, imbricate. *Cal.* and *Cor.* none. Female. Ament ovate; involucre two-leaved. *Cal.* and *Cor.* none. *Stigma* two-lobed, ſeſſile; berries conjoined, four-ſeeded.

Species, 1, B. *maritima*. Sloan. Jam. 1. 144. Kali. This is a ſhrub about four feet high; ſtems brittle, round, aſh-coloured, branched, diffuſed, procumbent; young branches, four-cornered, four-furrowed, green, oppoſite and upright; leaves oblong, acute, drawing to a point towards the baſe, fleſhy, ſucculent, flat above, convex beneath, ſeſſile, oppoſite, ſcarcely an inch long, numerous; ſtigma white; fruits yellow or greeniſh-yellow. The whole plant is very ſalt to the taſte; and is burnt for barilla at Carthagena, &c. A native of the Caribbee iſlands and the neighbouring continent; very common in all the ſalt marſhes on the ſouth ſide of Jamaica. Linnæus doubts whether it be diſtinct from the *bucephalon* of Plumier. Martyn's Miller's Dict.

BATIS, in *Entomology*, a ſpecies of PHALÆNA, found in England and ſome other parts of Europe. The anterior wings are brown, with five roſe-coloured ſpots on each; poſterior ones whitiſh. This is a rare and elegant inſect, and is called by collectors of Engliſh inſects the peach-bloſſom moth. Linn. Donov. Brit. Inſ. &c.

BATIS, in *Ichthyology*, a ſpecies of RAJA, called in England the SKATE. It is varied; back ſmooth in the middle, with a ſingle row of ſpines on the tail. Linnæus.

This is the largeſt fiſh of the Ray tribe; it inhabits all the northern parts of Europe in immenſe quantities, though it is certainly leſs common than the thornback, with which it is ſometimes confounded. The uſual ſize is from two to three feet in length, or rather more, including the tail; and they have been taken of the weight of an hundred and fifty

or two hundred pounds. They couple in March and April, and ſpawn in May. The fleſh of the ſkate is thought better than that of the other Rays.

BATISTANI, in *Ancient Geography*, a people of Spain, who inhabited the northern part of Bætica.

BATISTE, in *Commerce*, a fine white kind of linen cloth, manufactured in Flanders and Picardy.

There are three kinds of batiſte: the firſt very thin; the ſecond leſs thin; and the third much thicker, called Holland batiſte, as coming very near the goodneſs of Hollands. The chief uſe of batiſte is for neck-cloths, head-cloths, ſurplices, &c.

BATMAN, a weight in Turkey, conſiſting of ſix okes. Forty of theſe batmans make a camel's load, and amount to about ten hundred and twenty pounds Engliſh weight.

Batman, or battament, is a weight uſed in Turkey and Perſia. The Turkiſh batman is of two kinds; the larger containing ſix okes, or *ocquos*, at three pounds three quarters Paris weight the *ocquo*; ſo that the batman amounts to about twenty-two Paris pounds and an half; the ſmaller, compoſed likewiſe of ſix ocquos, at fifteen ounces the ocquo, amounting to five pounds ten ounces. The Perſian batman is likewiſe of two kinds: one called the *king's weight*, *batman de chahi*, or *cheray*, uſed for weighing moſt of the neceſſaries of life, equivalent to about twelve pounds and an half Paris weight; the other called *batman of Tauris*, equal to ſix pounds four ounces Paris or Amſterdam weight. Theſe, at leaſt, are the proportions given by Tavernier. Chardin rates the Perſian batmans ſomewhat lower, viz. the former at twelve pounds twelve ounces; and the latter at five pounds fourteen ounces.

BATMANSON, John, in *Biography*, prior of the Carthuſian monaſtery, or Charter-houſe, in London, in the 16th century. He ſtudied at Oxford; and being a great favourite of Edward Lee, archbiſhop of York, wrote at his requeſt againſt Eraſmus and Luther. He died in 1531, and was buried in the Charter-houſe. Bale repreſents him as proud, arrogant, and fond of wrangling; and ſays, that Eraſmus ſtyles him an ignorant fellow, and vain-glorious even to madneſs. Pits, on the other hand, commends his genius, learning, piety, and zeal; his acquaintance with the ſcriptures, and his highly exemplary life. His works are "Animadverſiones in Annotationes Eraſmi in N. T." "A Treatiſe againſt ſome of Luther's writings;" both theſe he afterwards retracted: "Comment. in Proverb. Solomonis,"—"in Cantica Canticorum;" "De Unicâ Magdalenâ;" "Inſtitutiones Noviciorum;" "De Contemptu Mundi;" "De Chriſto duodenni," a homily on Luke ii. 42; and "On the words *Miſſus eſt*, &c." Biog. Brit. Gen. Dict.

BATNÆ, in *Ancient Geography*, a town of Meſopotamia, in Oſdroene. Ammianus Marcellinus calls it Batne and Batna, and ſays, that it was a municipal city of Anthemuſia, of great trade, built by the Macedonians, at a ſmall diſtance from the Euphrates. The emperor Juſtinian made it a place of defence by encompaſſing it with walls. Procopius calls it a ſmall and obſcure town, and ſays, that it was about a day's journey diſtant from Edeſſa. It lay ſouth of Edeſſa, and eaſt of Zeugma. It was reduced by Trajan, who took it from Choſroes, king of the Parthians.

Batnæ was alſo a ſmall town of Syria, ſituate between Berœa and Hierapolis, pleaſantly ſeated in a grove of cypreſſes, about twenty miles from the latter city. When Julian viſited this town, A. D. 363, the ſolemn rites of ſacrifice were decently prepared by the inhabitants, who ſeemed attached to the worſhip of their tutelary deities, Apollo and Jupiter.

BATNIR, or Batinda, in *Geography*, a town of Hindoſtan, in the country of Moultan, in a diſtrict famous for paſtures and fine horſes. Timur marched from Adjodin, a town included in one of the large iſlands formed by the branches of the Setlege, to Batnir, the diſtance of 60 coſſes, 50 coſſes being equal to about 95 Britiſh miles; and in his way he croſſed an exte five deſert; ſo that Alexander was not miſinformed when he was told there was a deſert beyond the Hyphaſis. After taking and deſtroying Batnir, repreſented as a very ſtrong place, which, however, employed only a few days, he marched by a circuitous road to Samanah, directly diſtant from Batnir only 72 geographical miles. Batnir is about 150 miles, E. S. E. of Moultan, and 170 N. W. of Agimere. N. lat. 29° 15′. E. long. 74° 40′.

BATO, one of the Ladrone iſlands. N. lat. 12°. E. long. 142°. See Ban.

Bato, a river of Italy, in the kingdom of Naples, which runs into the Mediterranean, 2 miles S. E. of Scalea, in the province of Calabria Citra.

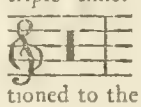
BATOA, a ſmall iſland near the weſt coaſt of Sumatra, ſeated very nearly under the equinoctial line. E. long. 98°.

BATOE, *Ikan Batoe*, *Iang Aloe*, *& Ikan Pampus Cambodia*, names given by Valent. in his work on Indian fiſhes, to the ſpecies of Chætodon, ſpecifically called Annularis by Gmelin.

BATON, or Batoon, in *Heraldry*. See Baston.

Baton, or *Baſton*, as an inſtrument of puniſhment. See Bastonado.

Baton, Fr. in *Muſic*, a muſical character for ſilence, during two bars in *alla breve* time, and four of common and triple time. It fills up two ſpaces of the five-line ſtaff;



and has a 2 or a 4 placed over it, proportioned to the time of the movement. See Breve, Time-Table, and Rests.

BATOONS of St. Paul, *Baſtoncini di San Paolo*, in *Natural Hiſtory*, a name given by ſome of the Italian writers, as Auguſtino Scilla and others, to the *lapides Judaici*, or other ſpines of *echini*. Theſe are found in vaſt abundance in the iſland of Malta; and as every thing there is commemorated with ſome title, with St. Paul at the end of it, theſe are called *baculi Sti Pauli*, or *St. Paul's batoons*.

BATOPILAH, in *Geography*, a town of North America, in the province of New Navarre, 120 miles north of Cinaloa.

BATOS, in *Ichthyology*. See Batis.

BATRACHA, in *Ancient Geography*, a town of Aſia, in Sarmatia. Ptolemy.

BATRACHIAS *Lapis*, the *frog ſtone*, a name applied by different writers to two very different ſubſtances; ſome underſtanding by it lumps of common flint, which have accidentally formed themſelves into this figure; and others, thoſe pieces of amber, which contain either a whole frog, or any part of one.

BATRACHITES, among *Ancient Naturaliſts*, a kind of gem found in Egypt, denominated from its reſemblance in colour to a frog. The word is formed from βάτραχος, *rana*, *a frog*. Pliny ſpeaks of three ſtones under this denomination; *unam ranæ ſimilem colore*, *alteram ebori* (or rather, according to Hardouin's correction, *ebeni*), *tertiam rubentis et nigro*. The batrachites differed from the modern *bufonites*, which does not appear to have been known to the ancients.

BATRACHOIDE, in *Ichthyology*, a genus of fiſhes of the Jugulares kind, eſtabliſhed by Lacépède for two fiſhes; the one belonging to the *Gadus*, and the other to the

the *Blennius*, genera of Linnæus, viz. G. *tau*, and B. *rarinus*. The character of the batrachoides conſiſts in having the head very large and greatly depreſſed; opening of the mouth very ſpacious; and one or more beards ſituated about or at the underſide of the lower jaw.

BATRACHOMYOMACHIA, formed of the Greek βατραχος, *frog*, μυς, *mouſe*, and μαχια, *pugna*, and denoting the battle of the frogs and the mice; the title of a burleſque poem, uſually aſcribed to Homer. The ſubject of the poem is the death of Pſycharpax, a mouſe, ſon of Toxartes, who being mounted on the back of Phyſignathus, a frog, on a voyage to its palace, to which he had been invited, was ſeized with fear when he ſaw himſelf in the middle of the pond, ſo that he tumbled off and was drowned. Phyſignathus being ſuſpected to have ſhaken him off with deſign, the mice demanded ſatisfaction, and unanimouſly declared war againſt the frogs. Stephens, Nunneſius, and other modern authors, take the poem not to be Homer's; but ſeveral of the ancients ſeem of another opinion; and Statius, who wrote under Domitian, makes no doubt of it. See Fabric. Bibl. Græc. lib. ii. c. 1. § 3.

BATRACHOSALIS, in *Ichthyology*, a name aſſigned by many of the Greek writers to the fiſh called by Linnæus Lophius Piscatorius.

BATRACHUS, the name given by Klein to the Linnæan Lophius Piscatorius.—Batrachus capite, rictuque ranæ, &c. Klein. The laſt writer alſo deſcribes the Linnæan Lophius Vespertilio, as Batrachus capite vomeris inſtar cornuto, &c.

Batrachus, a ſpecies of Silurus, found in Aſia and Africa. The dorſal fin is ſingle, and contains ſixty rays; beards of the mouth eight. Linn. Muſ. Fr.—The tail is entire.

BATTA, or Bata, in *Geography*, a duchy or province of Africa, ſituate on the ſouth-weſt of Pango, and having Dembo, Amulaſſa, and the ſalt-petre mountain on the eaſt, on the ſouth the marquiſate of Incuſſa, and the burnt mountains, and Congo and Pemba on the weſt. It is of conſiderable extent, was formerly called Anguirima or Aghirimba, and was a kingdom of itſelf, till both king and people ſubmitted to the kings of Congo. This country is generally fertile, well watered by rivers, and produces ſeveral ſorts of grain. The inhabitants are more civilized than their neighbours.

Batta, the capital of the above duchy, is diſtinguiſhed in no other reſpect beſides the fertility of its territory, and its being the reſidence of the governors of this province. Theſe are allowed to have a number of arquebuſiers in pay, to defend it from the incurſions of the wild Giagas, or Jagas, who inhabit the diſtricts near its eaſtern frontiers, beyond the mountains of the Sun and Saltpetre, and who chiefly ſubſiſt by ravaging the adjacent territories. The road between this capital and that of the kingdom of Congo, called St. Salvador, has, it is ſaid, a great number of houſes and hamlets on both ſides.

Batta, the name of a country in Sumatra, where the Engliſh have two ſettlements. The inhabitants ſtill eat human fleſh, but reſtrict themſelves to that of priſoners taken in war, and capital offenders.

BATTABLE Ground, denotes land lying between England and Scotland, of which the right of poſſeſſion was diſputed, when they were two diſtinct kingdoms.

The word imports as much as litigious, or diſputable ground, from *battre*, *to beat* or *fight*.

BATTACKS, or Battoges, a puniſhment in Ruſſia, ſimilar to the baſtinado, or baſtonado, of China, Turkey, &c. The delinquent is ſtripped naked, and made to lie on his belly, while two executioners beat him with ſmall ſticks, till the judge cries out, *enough*. The order to deſiſt is frequently not given till the back of the unfortunate ſufferer has been mortally mangled. During the whipping, he is obliged to pronounce the word "Winawat," which means "I am guilty;" and at the end of the puniſhment he muſt go and kiſs the feet of him who directed it, and thank him that he did not make it more ſevere. The higheſt lords are not exempted from the battoges, and take vengeance for it on their unhappy vaſſals. This puniſhment is particularly reſerved for the inferior orders whom malverſation or roguery would any where elſe drive from their employments. In Ruſſia, it is reckoned ſufficient to reduce them to an inferior employment, after the correction of the battoges. Chantreau's Travels in Ruſſia, vol. i. p. 117. See Bastonado.

BATTAGLIA, in *Geography*, a town of Italy, in the kingdom of Naples, and province of Capitanata, 3 miles N. W. of Vieſte.

BATTAL, in *Ancient Geography*, a promontory of Arabia, north-eaſt of Julia Cæſarea.

BATTALIA, an army ranged in order of battle, or ready for engagement.

In this ſenſe, we meet with the depth of a battalia; to march in battalia, with the baggage in the middle; to break the battalia, &c. In the Roman battalia, the Hastati made the front.

BATTALION, in the *Military Art*, ſignifies a ſmall body of infantry, arranged in regular order, and inſtructed to march and to act in concert.

There are different opinions reſpecting the force of which a battalion ſhould conſiſt. If compoſed of too great a number of men, it cannot perform its evolutions with the neceſſary facility; if, on the contrary, the troops are not ſufficiently numerous, it is incapable of producing by its attack any conſiderable effect. The number muſt therefore be ſo regulated, as to permit the neceſſary manœuvres to be executed with promptitude and regularity; and at the ſame time to compoſe a ſolid body, capable both of charging with firmneſs, and of ſuſtaining the aſſault of other corps to which it may be oppoſed without falling into diſorder.

The number of the battalion varies according to the uſages of belligerent nations, their arms, the manner in which they employ thoſe arms, and the order in which they engage. Europeans formerly differed very widely on all theſe points; but at preſent all the continental powers, the Turks alone excepted, obſerve nearly the ſame diſpoſitions with reſpect to the battalion. The term even is adopted in every modern language.

The French have fixed the number of the battalion at about 700 men. Some nations form them ſtill ſtronger, others weaker. In the Engliſh ſervice they uſually conſiſt, in time of war, of ten companies; forming, excluſively of the ſtaff, a total of between ſeven and eight hundred. When employed on ſervice, the battalions being filled up at the commencement of a campaign, and rarely recruited till its cloſe, are ſeldom or ever complete; as well from the loſs they ſuſtain in different engagements, as on account of ſickneſs and other accidents inſeparable from the military profeſſion.

The arms of the battalion have been frequently and materially altered. In the infancy of modern tactics, one third of the troops were furniſhed with pikes, and drawn up in the centre; the other two thirds carrying muſquets, were poſted on the wings, to flank, protect, and ſecond, by their fire, the onſet of the pikes. The infantry are now univerſally armed with firelocks and bayonets, the uſe of the pike being completely laid aſide.

The modern method of arrangement has been decried by the

the ingenious chevalier de Folard (Traité de la Colonne, p. 7.) as rendering the battalions too ſhallow, weak, incapable of ſupporting each other, and expoſing them to be eaſily penetrated and broken through, all which he denominates eſſential faults in tactics. According to him, the real ſtrength of a corps conſiſts in its thickneſs, or the depth of its files, and their connection and cloſeneſs, this rendering the flanks almoſt as ſtrong as the front. He even lays it down as a maxim, that every battalion arranged deeply, and with a ſmall front, will defeat another much ſtronger than itſelf diſpoſed according to the uſual method. In fact, a corps whoſe front is widely extended, and whoſe depth is but ſmall, manœuvres with more difficulty, and cannot totally avoid that wavering from which the cloſe order of M. Folard's battalion or column renders it comparatively exempt. The opinion of the Chevalier has been in a great meaſure adopted by his countrymen, though his theory has been violently attacked by two French officers formerly in the ſervice of the States General. They admit the ſuperior ſtrength of the column to the modern battalion, were the action to be decided with pikes and ſwords; but maintain that where fire-arms are uſed, M. Folard's column is but ill calculated for the purpoſe, and muſt be infallibly deſtroyed. The late campaigns in Italy furniſh the beſt commentary upon theſe ſeparate ſyſtems.

Battalion, *Square*, is a battalion the files of which are equal to the ranks, and whoſe ſides form an equal front. There are two kinds, the ſolid, and the hollow: in the former, the ordinary intervals between the ranks and files are the only ones preſerved; in the latter, a vacant ſpace is left in the centre, of pretty conſiderable extent, according to the ground occupied by the battalion. We ſhall preſently give ſome account of the evolutions neceſſary in forming both kinds of the ſquare.

The *ſolid* ſquare, however ingenious in its formation, and reſpectable in its appearance on a field of exerciſe, is of very little utility in actual ſervice. In the firſt place, it ſuffers prodigiouſly from the fire of the enemy, eſpecially if artillery is brought to bear upon it; in the ſecond, it is next to impoſſible for the troops in the centre of the battalion to employ their own fire effectually. M. de Folard, in his treatiſe de la Colonne, expoſes much at large the defects both of the ſolid and the hollow ſquare. He indirectly, however, recommends their uſe; his own column being nothing more than two or three battalions drawn up according to the rules of the ſolid ſquare, and placed without any intervals in the rear of each other. Regarding, however, the ſolid ſquare as entirely diſtinct from the column, of which we ſhall ſpeak more at large in its proper place, we ſhall here conclude by obſerving that the only caſe in which it ſeems capable of affording any real ſervice is when oppoſed to an enemy whoſe forces conſiſt entirely of cavalry.

The *hollow* ſquare, which claims for its inventor the celebrated prince Maurice of Naſſau, is much leſs unwieldy in its movements, ſooner formed, and more eaſily reduced, than the ſolid. Its fire too is more regular, better directed, and does much greater execution. It however participates in a great meaſure of all the diſadvantages of the ſolid ſquare, and its uſe can only be recommended in caſes of the laſt extremity, or, as above, when oppoſed to cavalry.

Battalion, *Triangular*, is a body of troops diſpoſed in a triangle, whoſe ranks, augmenting equally, form an arithmetical progreſſion. Many ſkilful officers have preferred it to the ſquare, from its preſenting a greater front, and being able to make head on all ſides. The difficulty is to enure ſoldiers to march in this order; and we may conclude the triangular only preferable to the ſquare battalion in cloſe action, when it is neceſſary to preſerve an extended front or when the nature of the ground requires ſuch a diſpoſition.

Battalion, *Round*, is that in which the ranks form a number of concentric circles. The Romans made frequent uſe of this manœuvre in caſes of emergency, and were very perfect in its execution. Cæſar's commentaries furniſh ſeveral examples, eſpecially on occaſion of the defeat of Sabinus and Cotta by Ambiorix, where the formation and nature of the orb are very ſatisfactorily elucidated. (De Bell. Gall. lib. v.). But in the battle between Cæſar and Labienus in Africa, tranſlators ſeem to have miſtaken for the orb, a diſpoſition perfectly different. (Hirt. de Bello Afr.)

Although recommended by M. de Puyſegur, the round as well as the triangular battalion are now generally diſuſed.

At a crisis like the preſent, we truſt the following account of the training the recruit for ſervice, the order and formation of the battalion, and the principal evolutions it is deſtined to execute, will not prove wholly unacceptable to our readers. Care has been taken to render the narration as little tedious as poſſible, and as conciſe as may be conſiſtent with perſpicuity.

Drill of the Recruit without Arms.

It requires in the inſtructors to whom this duty is entruſted, and who are anſwerable for its execution, an unremitting perſeverance, an accurate knowledge of the ſubject, and a clear and conciſe method of conveying inſtruction, united with a firmneſs capable of commanding perfect attention to their directions. They muſt allow for weakneſs of capacity in the recruit, be patient and not rigorous where endeavour and good-will are not wanting, as quickneſs is only to be acquired by much practice. Officers and inſtructors muſt be critically exact in their own commands, as well as in obſerving the execution of what they require from others. Without this, all labour will prove ineffectual, and the propoſed diſcipline never be attained.

The recruit muſt be taught progreſſively to comprehend one thing before he proceeds to another. In the firſt circumſtances of poſition, his firelock, fingers, elbows, &c. are to be juſtly diſpoſed by the inſtructor. When more advanced, recruits ſhould not be touched, but from example and directions be taught to correct themſelves when admoniſhed. They ſhould not be kept too long at any particular part of their exerciſe, ſo as to fatigue or render them uneaſy; and marching without arms ought to be much intermixed with the uſe of the fire-lock. Fife, or muſic, muſt on no account be uſed. The young ſoldier is to be confirmed by habit alone in that cadence of ſtep he is afterwards to maintain in marching to the enemy in ſpite of every variety of noiſe or circumſtance that may tend to derange him.

Each recruit muſt be trained ſingly, and in ſquad, as hereafter deſcribed; nor until ſteadied in various points of his duty, is he to be allowed to join the battalion, which is ſenſibly inconvenienced by the awkward behaviour even of one man. On return from long abſence, every ſoldier muſt be re-drilled before he can again join his company.

I. *Poſition of the Soldier.* The equal ſquareneſs of the ſhoulders and body to the front is the firſt and great principle of the poſition of a ſoldier. The heels muſt be in a line, and cloſed; knees ſtraight, without ſtiffneſs; toes a little turned out, ſo that the feet may form an angle of about ſixty degrees; the arms are to hang near the body, but not ſtiff, the flat part of the hand and little finger touching the thigh; the thumbs as far back as the ſeams of the breeches; elbows and ſhoulders to be kept back; the belly rather drawn in, and the breaſt advanced, but without conſtraint; the body upright, but inclining forward,

ward, ſo that its weight principally bears on the fore part of the feet; the head to be erect, and turned neither to the right nor left. The poſition in which a ſoldier ſhould move, determines that which he is to obſerve when ſtanding ſtill. No method muſt be left untried to ſupple the limbs, and baniſh the air of the ruſtic. But that exceſs of poſition which ſtiffens the perſon, and tends to throw the body backward inſtead of forward, is contrary to every true principle of movement, and muſt therefore be moſt carefully avoided.

II. *Standing at Eaſe.* 1. On the word *Stand at Eaſe*, the right foot muſt be drawn back about ſix inches, and the greateſt part of the weight of the body be brought to bear on it; the left knee a little bent, the hands brought together before the body; but the ſhoulders to be kept back and ſquare; the head to the front, and the whole attitude without conſtraint. 2. On the word *Attention*, the hands are to fall ſmartly down the outſide of the thighs; the right heel to be brought up on a line with the left, and the proper poſition of a ſoldier to be immediately reſumed. After ſtanding at eaſe for any conſiderable time in cold weather, the men may be permitted, by command, to move their limbs, but without quitting their ground, ſo that on the word *Attention*, no one ſhall have materially loſt his dreſſing in the line.

III. *Eyes to the right*, &c. On the word *Eyes right*, glance the eyes to the right, with the ſlighteſt poſſible turn of the head; *Eyes left*, turn them in the like manner to the left; *Eyes front;* the look and head are to be directly to the front, the habitual poſition of the ſoldier. Theſe motions are only uſeful on the wheeling of diviſions, or when dreſſing is ordered after a halt. Particular attention muſt be paid, in the ſeveral turnings of the eyes, to prevent the recruit from moving his body, which ſhould be preſerved perfectly ſquare to the front.

IV. *The Facings.* In going through the facings, the left heel never quits the ground; the body muſt rather incline forward, and the knees be kept ſtraight. At the word, *to the right, face*, firſt, place the hollow of the right foot ſmartly againſt the left heel, keeping the ſhoulder ſquare to the front; ſecond, raiſe the toes, and turn to the right on both heels. *To the left, face;* firſt, place the right heel againſt the hollow of the left foot, ſhoulders ſquare to the front; ſecond, turn, as before, to the left on both heels. *To the right about, face;* firſt, place the ball of the right toe againſt the left heel, ſhoulders ſquare to the front; ſecond, raiſe the toes, and turn to the right about on both heels; third, bring the right foot ſmartly back, in a line with the left. *To the left about, face;* firſt, place the right heel againſt the ball of the left foot, keeping the ſhoulders ſquare to the front; ſecond, turn, as before, to the left about; third, bring the right foot ſmartly up, in a line with the left. The utmoſt preciſion muſt be obſerved in the facings, for if they are not exactly executed, a corps, although previouſly properly dreſſed, will loſe their dreſſing on every ſmall movement of facing.

V. *Poſition in Marching.—March!* The ſoldier muſt here, as much as poſſible, maintain the poſition of his body, as directed in ſect. i. He muſt be well balanced on his limbs. His arms and hands, without ſtiffneſs, muſt be kept ſteady to his ſides, and not ſuffered to vibrate. He muſt not ſtoop forward, ſtill leſs lean back. His body is to be kept ſquare to the front, and thrown rather more forward in marching than when halted, that it may accompany the movement of the leg and thigh, which movement muſt ſpring from the haunch. The ham muſt be ſtretched, but without ſtiffening the knee. The toe a little pointed, and kept ſo near the ground, that the ſhoe-ſoles may not be viſible to a perſon in front. The head to be well kept up, ſtraight to the front, and the eyes not ſuffered to be caſt down. The feet, without being drawn back, muſt be placed flat on the ground.

VI. *Ordinary Step.* The length of each pace, from heel to heel, is 30 inches, and the recruit muſt be taught to take 75 of theſe ſteps in a minute, without tottering, and with perfect ſteadineſs. Ordinary time being the pace on all occaſions whatever, unleſs greater celerity be particularly ordered, the recruit is to be carefully and thoroughly trained to this moſt eſſential part of his duty, and made perfectly to underſtand, that he is to maintain it for a long time together, in line, in column, and in marching over rough or ſmooth ground. This is the ſloweſt ſtep which a recruit is taught, and is alſo applied in all movements of parade.

VII. *The Halt.* On the word, *halt*, let the rear foot be brought upon a line with the advanced one, ſo as to finiſh the ſtep which was taking when the command was given.

VIII. *The oblique Step.* Having acquired the regular length and cadence of the ordinary pace, the recruit is next to be taught the oblique ſtep. At the words, *to the left oblique—march!* he will, without altering his ſquareneſs of perſonal poſition, when he is to ſtep with his left foot, point, and carry it forward 19 inches, in the diagonal line, to the left, which gives about 13 inches to the ſide, and nearly the ſame number to the front. On the word *two*, he will bring forward his right foot 30 inches, thus placing the heel of that foot 13 inches directly before the left one. Here he will pauſe, and on the word *two*, continue the ſame mode of marching, by advancing his left foot 30 inches, pauſing at each ſtep, until confirmed in his poſition, as it is eſſentially neceſſary to take the greateſt care in preſerving the ſhoulders ſquare to the front. Combining theſe two movements, the obliquity gained will amount to an angle of about 25 degrees. When the recruit is habituated to the ſtep, he muſt be made to continue it firmly, without pauſing, and in the cadence of the ordinary pace, viz. 75 ſteps in the minute. As all marching (the ſide ſtep excepted) commences by the left foot, whether the obliquing commences from the halt, or on the march, the firſt diagonal ſtep taken, is by the leading foot of the ſide inclined to, when it comes to its turn, after the command is pronounced. Squareneſs of perſon, and the habitual cadenced ſtep are, conſequently, the great directions of the oblique, as well as the direct march.

Each recruit ſhould be ſeparately and carefully inſtructed in the principles of the foregoing eight ſections of the drill. They form the baſis of all military movements. Three or four recruits will now be formed in one rank, at very open files, and inſtructed in the following manner.

IX. *Dreſſing when halted.* Dreſſing is taught equally by the left as by the right. On the word, *dreſs*, each individual will caſt his eyes to the point to which he is ordered to dreſs, with the ſmalleſt turn poſſible of the head, but preſerving the ſhoulders and body ſquare to the front. The whole perſon of the man muſt move as may be neceſſary, and bending backward and forward is not to be permitted. He muſt take ſhort, quick ſteps, thereby gradually and exactly to gain his poſition, and on no account be permitted to attempt it by any ſudden or violent alteration, which will infallibly derange whatever is beyond him. The faces of the men, not their breaſts, or feet, are the line of dreſſing. Each ſoldier is to be able juſt to diſtinguiſh the lower part of the face of the ſecond man beyond him. In dreſſing, eyes are always turned to the officer who gives the word; who is poſted at the point by which the body halts: and who from that point corrects his men on another, at or beyond the

the oppoſite flank. Faults to be avoided, and generally committed in dreſſing, are, paſſing the line; the head forward, and body kept back; ſhoulders not ſquare; or the head turned too much.

Two or more men being moved forward, or backward, a given number of paces, and placed in the new line and direction, the following commands will be given: 1. *by the right* (or *left*) *forward-dreſs*; 2. *on the right* (or *left*) *backward-dreſs*. The dreſſing once accomplished, *eyes front* will be given, that heads may be replaced, and remain ſquare to the front. No rank, or body, ever ſhould be dreſſed, without the officer on its flank determining a line on which to form it, and for that purpoſe taking as his object the diſtant flank man, or a point beyond him, or a man purpoſely thrown out. Dreſſing muſt then be made gradually, and progreſſively, from the fixed point, towards the diſtant flank one; and each man ſucceſſively, but quickly, muſt be brought up into the true line, ſo as to become a new point, from whence the inſtructor proceeds in the correction of the others; and himſelf, while thus occupied, muſt take care, that his perſon, at leaſt his eyes, be in the true line, which he is then giving.

X. *Stepping out.* The ſquad marches, as already directed, in ordinary time. On the word, *ſtep out*, the recruit muſt be taught to lengthen his ſtep to 33 inches, by leaning forward a little, but without altering the cadence. This ſtep is neceſſary, when a temporary exertion in line, and to the front, is required; or when the rear diviſions of a column are to move up in line with the leading ones, and is applied both to ordinary and quick time.

XI. *Mark time.* On this word, the foot then advancing completes its pace. The cadence is then continued, without gaining any ground, but alternately throwing out the foot, and bringing it back ſquare with the other. At the word, *ordinary time*, or *forward*, the uſual pace of 30 inches will be taken. This ſtep is neceſſary marching in line, when any particular battalion is advanced, and has to wait for the coming up of others.

XII. *Stepping ſhort.* On the word, *ſtep ſhort*, the foot advancing will finiſh its pace, and afterwards each recruit will ſtep as far as the ball of his toe, and no farther, until the word, *forward*, be given, when the uſual pace is to be taken. This ſtep is uſeful when a momentary retardment either of a battalion in line, or of a diviſion in column, is required.

XIII. *Changing the Feet.* To perform this in marching, the advancing foot completes its pace, and the ball of the other is brought up quickly to the heel of the advanced one, which inſtantly makes another ſtep forward, ſo that the cadence may not be loſt. This is required of an individual who may be ſtepping with a different foot from the reſt of his diviſion; in doing which, he will, in fact, take two ſucceſſive ſteps with the ſame foot.

XIV. *Side, or cloſing Step.* This is performed from the halt in ordinary time, at the following command; *Cloſe to your right*, or *left* (a caution)—*March!* On the latter word, eyes are turned to the right, and each man carries his right foot about 12 inches directly to his right; or, if the files are cloſed, to his neighbour's left foot, and inſtantly brings up his left foot, till the heel touches his right heel; he then pauſes, ſo as to perform this movement in ordinary time, and proceeds to take the next ſtep in the ſame manner: the whole with perfect preciſion of time, ſhoulders kept ſquare, knees not bent, and in the true line on which the body is formed. At the word *halt*, the whole halt, turn their eyes to the front, and are perfectly ſteady.

XV. *Back Step.* This is performed in the ordinary time and length of pace, from the halt, on the command *ſtep back*—*March!* The recruit muſt be taught to move ſtraight to the rear, preſerving his ſhoulders ſquare to the front, and his body erect. On the word *halt*, the foot in front muſt be brought back ſquare with the other. A few paces only of the back ſtep can be neceſſary at a time.

XVI. *Quick Step.* The cadence of the ordinary ſtep having become perfectly habitual to the recruits, they are now to be taught to march the quick time, which is 108 ſteps in the minute, each of 30 inches, making 270 feet in a minute. The word of command, *Quick—March!* is given with a pauſe between them. The word *Quick*, is to be conſidered as a caution, and the whole to remain perfectly ſtill and ſteady. On the word *March!* the recruits ſtep off with the left foot, keeping the body in the ſame poſture, and the ſhoulders ſquare to the front. The foot to be lifted from the ground, that it may clear any ſtones, or other impediments in the way, and to be thrown forward, and placed firm. The whole of the ſole to touch the ground, and not the heel alone. The knees are not to be bent, neither are they to be ſtiffened, ſo as to occaſion fatigue or conſtraint. The arms to hang with eaſe along the outſide of the thigh; a ſmall motion to prevent reſtraint may be permitted, but not to ſwing out, and thereby occaſion the leaſt turn, or movement of the ſhoulder. The head is to be kept to the front; the body well up, and the utmoſt ſteadineſs to be preſerved. This is the pace to be uſed in all filings of diviſions from line into column, or from column into line; and by battalion columns of manœuvre, when independently changing poſition. It may occaſionally be uſed in the column of march of ſmall bodies, when the route is ſmooth, and no obſtacles occur; but in the march in line of a conſiderable body it cannot prudently be required, nor often in a column of manœuvres. Fatigue will otherwiſe ariſe to the ſoldier, and more time be loſt in hurry and inaccuracy than is attempted to be gained by quickneſs.

N. B. The word *March* given ſingly, at all times denotes that *ordinary* time is to be obſerved. When the *quick* march is meant, that word will precede the other. The word *March* marks the commencement of movements from the halt; but is not given when the corps is in previous motion.

XVII. *Quickeſt Step.* The quickeſt time, or wheeling march, is 120 ſteps of 30 inches each, or 300 feet, in the minute. The directions already given for the march in quick time are equally applicable to the march in quickeſt time. This is adapted chiefly to the purpoſe of wheeling, and is the rate at which all bodies accompliſh their wheels; the outward file ſtepping 33 inches, whether the movement is from line into column, into column during the march, or from column into line. In this time alſo diviſions ſhould double and move up, when paſſing obſtacles in line, or when in column of march it becomes neceſſary to increaſe or diminiſh the front.

Three or four recruits in rank, with intervals of twelve inches between them, ſhould be practiſed in the various ſteps, that they may acquire a firmneſs and independence of movement. Many different times of march would only perplex the ſoldier: the three already mentioned muſt ſuffice. Plummets, which vibrate the required times of march in a minute, are of great utility, and can alone prevent or correct uncertainty of movement. They muſt be in the poſſeſſion of, and occaſionally referred to, by each inſtructor of a ſquad. The ſeveral lengths of plummets ſwinging the times of the different marches in a minute, are as follows:

Ordinary time,	75 ſteps in a minute,	24 inch.	96 hund.	
Quick do.	108 do.	-	12	3
Quickeſt do.	120 do.	-	9	80

A muſket

A muſket ball, ſuſpended by a ſtring which is not ſubject to ſtretch, and on which are marked the different required lengths, will anſwer the above purpoſe, and ſhould be frequently compared with an accurate ſtandard. Accurate diſtances of ſteps may alſo be marked out on the ground along which the ſoldier is practiſed to march, and thereby accuſtom him to the juſt length of each.

Six or eight recruits will now be formed in a rank, at cloſe files, having a ſteady well-drilled ſoldier on their flank to lead; and *file* marching may be taught them.

XVIII. *File Marching.* The recruits muſt firſt face, and then be inſtructed to cover each other exactly in file, ſo that the head of the man immediately before may conceal the heads of all the others in his front. The ſtricteſt obſervance of all the rules for marching is particularly neceſſary in marching by files, which is firſt to be taught at the ordinary, and afterwards in quick time. On the word *March*, the whole immediately ſtep off together, gaining at the very firſt ſtep thirty inches, and continuing each ſtep without increaſing the diſtance betwixt each recruit, every man locking or placing his advanced foot on the ground, before the ſpot whence the preceding man has taken up his. No looking down nor leaning backward is to be tolerated on any pretence. The leader is to be directed to march ſtraight forward to ſome diſtant object given him for that purpoſe, and the recruits made to cover one another during the march with the moſt ſcrupulous exactneſs. Great attention muſt be paid to prevent them from marching with their knees bent, which they will at firſt be extremely apt to do, from an apprehenſion of treading down the heels of thoſe before them.

XIX. *Wheeling in ſingle Rank, from the Halt.* At the word *to the Right Wheel*, the man on the right of the rank faces to that flank; on the word *March*, they ſtep off together, the whole turning their eyes to the left (the wheeling flank), except the left hand man, who looks inwards, and during the wheel becomes a kind of baſe line for the reſt to conform to and maintain the uniformity of front. The outward wheeling man always lengthens his ſtep to thirty-three inches. The whole obſerve the ſame time; but each man ſhortens his ſtep, in proportion as he is nearer to the ſtanding flank on which the wheel is made. During the wheel, the whole remain cloſed to the ſtanding flank, i. e. they touch without incommoding their neighbour; nor muſt they ſtoop forward, but remain upright. Opening out from the ſtanding flank, or cloſing in upon it, during the wheel, are equally to be avoided. On the word *Halt—Dreſs*, each man halts immediately, without jumping forward or making any falſe movements. When able to perform the wheel with accuracy in the ordinary time, the recruits muſt be next practiſed in the quickeſt. Nothing ſooner tends to enable them to acquire the proper length of ſtep, according to their diſtance from the pivot, than continuing the wheel without halting for ſeveral revolutions of the circle.

XX. *Wheeling, in ſingle Rank, from the March.* The recruits are firſt taught to perform this wheeling at the ordinary, afterwards in the quickeſt time, the proper wheeling ſtep. The rank marching to the front in ordinary time, receives the word of command, *Right—Wheel*. The man on the right of the rank inſtantly halts, and faces to his right. The reſt of the rank turning their eyes to the wheeling flank (as above directed), immediately change the ſtep together to wheeling time. As ſoon as the portion of the circle intended to be wheeled, is completed, the words *Halt—Dreſs* will be given, (a pauſe of two or three ſeconds may be made), and then *March*, at which the whole rank ſteps off together in ordinary time.

XXI. *Wheeling backwards, in ſingle Rank.* At the word *On your Right, backwards,—Wheel*, the right-hand man of the rank faces to his left. At the word *March*, the whole ſtep backward in wheeling time, dreſſing by the outward wheeling man; thoſe neareſt the pivot making their ſteps extremely ſmall, and thoſe towards the wheeling man increaſing them as they are placed nearer to him. The recruit in this wheel muſt not bend forward, nor be ſuffered to look down; but by caſting his eyes to the wheeling flank, preſerve the dreſſing of the rank. On the word *Halt*, the whole remain perfectly ſteady, ſtill looking to the wheeling flank, till they receive the word *Right—Dreſs*. The recruits ſhould be firſt practiſed to wheel backwards at the ordinary ſtep. At all times it will be neceſſary to prevent their hurrying the pace, an error ſoldiers are very ſubject to, particularly in the backward wheel. Where large bodies wheel from line into column, this wheeling is neceſſary to preſerve the covering of pivot flanks, and the diſtances of the diviſions, which the line has broken into.

XXII. *Wheeling in ſingle Rank, on a moveable Pivot.* In performing this wheel, both flanks are moveable, and deſcribe concentric circles round a point, which is removed a few paces from what would otherwiſe be the ſtanding flank; and eyes are all turned towards the directing pivot man, whether he is on the outward flank or the flank wheeled to. When the wheel is to be made to the directing pivot flank (ſuppoſe the left), the rank marching at the ordinary pace, receives the word *Right Shoulders Forward;* on which the pivot man, without altering either the time or length of his pace, continues his march on the circumference of the leſſer circle; and tracing out a conſiderable arch, on the principle of dreſſing, gradually brings round his rank to the direction required, without obliging the other flank, which is deſcribing the circumference of a larger circle, to too great hurry. On the word *Forward*, ſhoulders are ſquared, and the pivot marches directly to his front. When the directing pivot is on the outward flank, and has to deſcribe the circumference of the larger circle, on the word *Left Shoulders Forward*, he will (preſerving the time and length of his pace) gradually bring round the rank to the required direction, ſo as to enable the inward flank to deſcribe a ſimilar arc of a leſſer circle, concentric to the one he himſelf is moving on. During both theſe wheels, the rank dreſſes to the proper pivot; and when he deſcribes the ſmaller circle of the wheel, the other flank which has more ground to go over, will quicken its march and ſtep out. When the pivot deſcribes the greater circle of the wheel, the other flank having leſs ground to go over, will ſtep ſhorter and gradually conform. In the firſt caſe, the recruit muſt be cautioned againſt opening out from the pivot; and in the latter, from crowding on him. The juſt performance of this mode of wheeling depends ſo much on the directing pivot, that a well-drilled ſoldier ſhould at firſt be placed on the flank named, as the proper pivot, and changed occaſionally. It is uſed when a column of march (to follow the windings of its route) changes its direction in general leſs than the quarter circle.

Drill of the Recruit with Arms.

I. *Poſition of the Soldier.* When the firelock is given, and is ſhouldered, the perſon of the ſoldier remains in the poſition deſcribed in ſection I. of the drill without arms, except that the wriſt of the left hand is turned out, the better to embrace the butt; the thumb alone is to appear in front, the four fingers to be under the butt, and the left elbow a little bent inwards, without being ſeparated from the body, or being more backward or forward than the right one. The firelock is placed *in* the hand, not on the middle

of the fingers, and ſo carried, that it ſhall not raiſe, advance, or keep back, one ſhoulder more than the other. The butt muſt therefore be forward, and as low as can be permitted without reſtraint; the fore-part nearly even with that of the thigh, and the hind-part of it preſſed by the wriſt againſt the thigh. The piece muſt be kept ſteady and firm before the hollow of the ſhoulder. Should the firelock be drawn back, or attempted to be carried high, in that caſe one ſhoulder will be advanced, the other kept back, and the upper part of the body diſtorted, and not placed ſquare with reſpect to the limbs. Each recruit muſt be ſeparately taught the poſition of ſhouldered arms, and not allowed to proceed until he has acquired it.

II. *Motions of the Firelock.* The following motions of the firelock will be taught and practiſed, until each recruit is perfect in them; being neceſſary for the eaſe of the ſoldier in the courſe of exerciſe. 1. Supporting arms; 2. Carrying arms; 3. Ordering at eaſed arms; 4. Standing at eaſe; 5. Attention; 6. Shouldering; 7. Trailing arms; 8. Shouldering from the trail. The recruit muſt be accuſtomed to *carry* his arms for a conſiderable time together: it is moſt eſſential he ſhould do ſo, and not be allowed to *ſupport* them ſo often as is practiſed; under the idea that long carrying them is a poſition of too much reſtraint.

III. *Forming the Squad.* When the ſquad, or diviſion, of ſix or eight files, is ordered to *Fall in*, each man, with carried arms, will, as quick as poſſible, take his place in the ranks, beginning from the flank to which he is ordered to form. He will dreſs himſelf in line by the rule already given, aſſume the ordered poſition of a ſoldier, and ſtand perfectly ſtill and ſteady, until ordered to ſtand at eaſe, or that ſome other command be given him. Attention muſt be paid, that the files are correctly cloſe; that the men in the rear ranks cover well, looking their file leaders in the middle of the neck; that the ranks have their proper diſtance of one pace, or 30 inches, from each other; that all the ranks are equally well dreſſed; that the men do not turn their heads to the right or left; and that each man has the proper unconſtrained attitude of a ſoldier.

IV. *Open Order.* The recruits being formed in three ranks at cloſe order, on the caution *Rear ranks take open order*, the flank men, on the right and left of the centre and rear ranks, ſtep briſkly back, one and two paces reſpectively, face to the right, and ſtand covered, to mark the ground on which each rank is to halt, and dreſs at open order: every other individual remains ready to move. On the word *March*, the dreſſers front, and the centre and rear ranks fall back one and two paces, each dreſſing by the right, the inſtant it takes its ground.

V. *Cloſe Order.* On the word *Rear ranks take cloſe order*, the whole remain perfectly ſteady. At the word *March*, the ranks cloſe within one pace, marching one and two paces, and then halting.

VI. *The Manual Exerciſe.* The following is the regulation for performing the manual exerciſe, the recruit ſtanding at the poſition already deſcribed, with his firelock ſhouldered. The manual is not to be executed by one word, or ſignal, but each ſeparate word of command is to be loudly and diſtinctly given by the officer who commands the body performing it. Three ſeconds are the time allotted between each motion, except that of fixed bayonets, in which a longer time muſt be given.

Order Arms. Bring the firelock to the trail in two motions; ſeizing it at the firſt at the lower loop, juſt above the ſwell; at the ſecond, bring it down to the right ſide, the butt within two inches of the ground; at the third, drop the butt on the ground, placing the muzzle againſt the hollow of the right ſhoulder, and the hand flat upon the ſling.

Fix Bayonets. At the word, *fix*, place the thumb of the right hand, as quick as poſſible, behind the barrel, taking a gripe of the firelock. As ſoon as the word of command is fully out, puſh the firelock a little forward, at the ſame time drawing out the bayonet with the left hand, and fixing it with the utmoſt celerity. The inſtant this is done, return as quick as poſſible to the order as above deſcribed, and ſtand perfectly ſteady.

Shoulder Arms. As ſoon as the word *ſhoulder* is given, take a gripe of the firelock with the right hand, as in fixing bayonets; and at the laſt word, *arms*, the firelock muſt be thrown with the right hand, in one motion, and with as little appearance of effort as poſſible, into its proper poſition on the left ſhoulder. The hand croſſes the body in ſo doing; but muſt be inſtantly withdrawn.

Preſent Arms. Firſt, ſeize the firelock with the right hand, beneath the guard, turning the lock to the front, but without moving it from the ſhoulder; ſecond, bring it to the poiſe, ſeizing it with the left hand, the fingers extended along the ſling, the wriſt upon the guard, and the point of the left thumb equal in height with the eyes; third, bring down the firelock, with a quick motion, as low as the right hand will admit without conſtraint, drawing back the right foot at the ſame inſtant, ſo that the hollow of it may touch the left heel. The firelock in this poſition is to be totally ſupported in the left hand, the body to reſt entirely on the left foot, both knees to be ſtraight.

Shoulder Arms. Firſt, by a turn of the wriſt, bring the firelock to its proper poſition on the ſhoulder, as deſcribed above, the left hand graſping the butt; ſecond, quit the right hand, and bring it briſkly down to its place at the ſide.

Charge Bayonets. Firſt, at one motion throw the firelock from the ſhoulder acroſs the body, to a low diagonal recover, a poſition generally denominated *porting arms*, or *preparing for the charge*, in which the lock is to be turned to the front, and at the height of the breaſt, the muzzle ſlanting upwards, ſo that the barrel may croſs oppoſite the point of the left ſhoulder, with the butt proportionally depreſſed. The right hand graſps the ſmall of the butt, and the left holds the piece at the ſwell, cloſe to the lower pipe, the thumbs of both hands pointing towards the muzzle; ſecond, make a half face to the right, and bring down the firelock to nearly a horizontal poſition, with the muzzle inclining a little upwards, and the right wriſt reſting againſt the hollow of the thigh, juſt below the hip. N. B. The firſt motion of the charge is the poſition which the ſoldier will, either from the ſhoulder, or after firing, take, in order to advance on an enemy whom it is intended to attack with bayonets fixed. The word of command, for that purpoſe, is, *Prepare to charge*. The ſecond poſition is that which the front rank takes when arrived at a few yards diſtance only from the body to be attacked. The firſt motion of the charge is alſo that which ſentries are to take, when challenging any perſons who approach their poſts.

Shoulder Arms. Firſt, face to the front, and throw up the piece into its poſition on the ſhoulder, by a turn of the right wriſt, inſtantly graſping the butt, as above deſcribed, with the left hand: ſecond, quit the firelock briſkly with the right hand, bringing it to its proper place by the ſide.

The men muſt likewiſe be taught to *ſupport arms* at three motions, throwing the firſt and ſecond nearly into one. Firſt, they ſeize the ſmall of the butt under the lock with the right hand, bringing the butt in front of the groin, and keeping the lock ſomewhat turned out; ſecond, they bring their left arm under

under the cock; third, they quit the right hand. In *carrying arms*, from the ſupport, the motions are exactly reverſed. In marching any diſtance, or in ſtanding at eaſe when ſupporting, the men are allowed to bring their right hand acroſs the body, to the ſmall of the butt, which latter muſt, in that caſe, be thrown ſtill more forward; the fingers of the left hand being uppermoſt, muſt be placed between the body and the right elbow. The right hands are to be inſtantly removed, when the diviſion halts, or is ordered to dreſs by the right. In regard to the motions of *ſecuring*, *grounding*, and *trailing*, as well as *piling* arms, it will be ſufficient for the ſoldiers to be taught to perform them in the quickeſt and moſt convenient method. *Unfixing bayonets* is to be done from the order, in the ſame manner as fixing them.

Sentries poſted with ſhouldered arms, are permitted afterwards to *ſupport*, but not to ſlope them. On the approach of an officer, they immediately *carry* their arms, and put themſelves into the proper poſition; not at the inſtant he paſſes, but by the time he is within twenty yards of their poſt, ſo that they may be perfectly ſteady before he comes up. If a field officer, he is entitled to the *preſent arms*. Corporals marching with reliefs, or commanding detachments or diviſions, will carry their arms *advanced*.

VII. *The Platoon Exerciſe*. When perfect in the manual, the troops are next to be taught this part of their duty, and the manner in which to execute the ſeveral firings. The recruit ſtanding at ſhouldered arms, the firſt word given is:

Make Ready. This is done by bringing the firelock to the recover, and inſtantly cocking.

Preſent. Slip the left hand along the ſling as far as the ſwell of the firelock, and bring the piece down to the preſent, ſtepping back about ſix inches to the rear with the right foot.

Fire; Having fired, drop the firelock briſkly to the priming poſition, and half cock.

Handle Cartridge. Firſt, draw the cartridge from the pouch; ſecond, bring it to the mouth, holding it between the forefinger and thumb, and bite away the top of it.

Prime. Firſt, ſhake a little powder into the pan; ſecond, ſhut the pan with the three laſt fingers; third, ſeize the ſmall of the butt with the ſame three fingers.

Load. Firſt, face to the left on both heels, ſo that the right toe may point directly to the front, and the body be a very little faced to the left, bringing at the ſame time the firelock round to the left ſide, without ſinking it. It ſhould, while in this poſition, be nearly perpendicular (having the muzzle only a ſmall degree brought forward); and, as ſoon as it is ſteady there, it muſt inſtantly be forced down within two inches of the ground, the butt nearly oppoſite to the left heel, and the firelock itſelf ſomewhat ſloped, and directly to the front. The right hand at the ſame inſtant catches the muzzle in order to ſteady it; ſecond, ſhake the powder into the barrel, putting in after it the paper and ball; third, ſeize the top of the ramrod with the fore-finger and thumb.

Draw Ramrods. Firſt, force the ramrod half out, and ſeize it, back-handed, exactly in the middle; ſecond, draw it entirely out, and turning it with the whole hand and arm extended from you, put it one inch into the barrel.

Ram down Cartridge. Firſt, puſh the ramrod down, holding it, as before, exactly in the middle, till the hand touches the muzzle; ſecond, ſlip the fore-finger and thumb to the upper end, without letting the ramrod fall further into the barrel; third, puſh the cartridge well down to the bottom; fourth, ſtrike it two very quick ſtrokes with the ramrod.

Return Ramrods. Firſt, draw the ramrod half out, catching it back-handed; ſecond, draw it totally out, turning it very briſkly from you, with the arm extended, and put it into the loops, forcing it as quick as poſſible to the bottom; then face to the proper front, the finger and thumb of the right hand holding the ramrod, as in the poſition immediately previous to drawing it, and the butt raiſed two inches from the ground.

Shoulder Arms. Strike the top of the muzzle ſmartly with the right hand, to fix the bayonet and ramrod more firmly, and at the ſame time throw it nimbly up at one motion, to the ſhoulder. N. B. Though the butts are not to come to the ground in caſting about, as accidents may happen from it, yet they are permitted, while loading, to be ſo reſted; but it muſt be done without noiſe, and in a manner imperceptible in the front.

In priming and loading quick, 1ſt, bring the firelock down in one briſk motion to the priming poſition, the thumb of the right hand placed againſt the pan cover or ſteel, the fingers clenched, and the elbow a little turned out, ſo that the wriſt may be clear of the cock. 2d, Open the pan, by throwing up the ſteel with a ſtrong motion of the right arm, turning the elbow in, and keeping the firelock ſteady in the left hand. 3d, Bring your hand round to the pouch, and draw out the cartridge. The reſt as above deſcribed; except that in the quick loading, all the motions are to be done with the utmoſt diſpatch poſſible, the ſoldiers taking their time from the flugel-man in front, for caſting about and ſhouldering only.

In firing three deep, the priming poſition for the front rank is the height of the waiſtband of the breeches; for the centre rank, about the middle of the ſtomach; and for the rear rank, cloſe to the breaſt. The firelocks in all theſe poſitions is to be kept perfectly horizontal.

As Front Rank kneeling—make ready. Bring the firelock briſkly up to the recover, catching it in the left hand, and, without ſtopping, ſink down with a quick motion on the right knee, keeping the left foot faſt, the butt of the firelock at the ſame moment falling upon the ground. Then cock, and inſtantly ſeize the cock and ſteel together in the right hand, holding the piece firm in the left, about the middle of that part which is between the lock and the ſwell of the ſtock; the point of the left thumb to be cloſe to the ſwell, and pointing upwards. As the body is ſinking, the right knee is to be thrown ſo far back, that the left leg may be right up and down, the right foot a little turned out, body ſtraight, and the head as much up as if ſhouldered. The firelock muſt be upright, the butt about four inches to the right of the inſide of the left foot.

Preſent. Bring the firelock down firmly to the *preſent*, by ſliding the left hand to the full extent of the arm along the ſling, without letting the motion tell; the right hand at the ſame time ſpringing up the butt by the cock ſo high againſt the right ſhoulder, that the head may not be too much lowered in taking aim; the right cheek to be cloſe to the butt, the left eye ſhut, and the middle finger of the right hand on the trigger. Look along the barrel with the right eye, from the breech-pin to the muzzle, and remain ſteady.

Fire. Pull the trigger ſtrong with the middle finger, and, as ſoon as fired, ſpring up nimbly upon the left leg, keeping the body erect, and the left foot faſt, and bringing the right heel to the hollow of the left. At the ſame inſtant, drop the firelock to the priming poſition, half cock, handle cartridge, and go on with the loading motions as before deſcribed.

As Centre Rank—make ready. Spring the firelock briſkly to the recover. As ſoon as the left hand ſeizes it above the lock, raiſe the right elbow a little, placing the thumb of that hand upon the cock, with the fingers open on the plate of

the lock, and then, as quick as poſſible, cock the piece, by dropping the elbow, and forcing down the cock with the thumb. Step at the ſame time with the right foot a moderate pace to the right, and keeping the left faſt, ſeize the ſmall of the butt with the right hand. The piece muſt be held in this poſition perpendicular, and oppoſite the left ſide of the face, the butt cloſe to the breaſt, but not preſſed, the body ſtraight and full to the front, and the head erect.

Preſent, as in the foregoing explanation.

Fire. Pull the trigger ſtrong with the middle finger; and, as ſoon as fired, bring the firelock to the priming poſition. Prime and load as before, with this difference only, that the left foot is to be drawn up to the right, at the ſame time that the firelock is brought down to the priming poſition; and that, immediately after the firelock is thrown up to the ſhoulder, the men ſpring to the left again, and cover their file leaders.

As Rear Rank—make ready. Recover and cock as before directed for the centre rank. As the firelock is brought to the recover, ſtep briſkly to the right a full pace, at the ſame time placing the left heel about ſix inches before the point of the right foot. The body to be kept ſtraight, and as ſquare to the front as poſſible.

Preſent, as in the foregoing explanation.

Fire, as before; remembering only the difference of the priming poſition for this rank. After firing and recovering the ſhoulder, the men ſtep as the centre rank does.

In firing with the front rank ſtanding, that rank makes ready, &c. as mentioned in the firſt part of the platoon exerciſe. The platoon exerciſe is always to be performed with ranks cloſed, except at the drill.

VIII. *Firings*. When the recruits have acquired the management of their arms, and are perfect in the motions of the manual and platoon exerciſes, they will be inſtructed in cloſed ranks, at firing, 1ſt, direct to their front; 2dly, obliquely to the right and left; and, 3dly, by files.

IX. *Marching to the front and rear*. The diviſion, or ſquad, is to be particularly well dreſſed, files correct, arms carried, the rear ranks covering exactly, and each individual to have his juſt attitude and poſition, before the ſquad is ordered to move. The march will be made by the right or left flank, and a proper trained man will therefore conduct it. The word *march* may be given as a caution; and at the word *march*, each man ſteps forward a full pace. The recruit muſt not turn his head to the hand to which he is dreſſing, as a turning of the ſhoulders would undoubtedly follow. His elbows muſt be kept ſteady, without conſtraint: if they are opened from his body, the next man muſt be preſſed upon; if they are cloſed, there ariſes an improper diſtance, which muſt be filled up. In either caſe, waving on the march will take place, and is therefore to be avoided. The going to the right, or left about, in march, is not to be at firſt practiſed, but the ſquad is to halt, front by command, and then march. As the being able to march ſtraight forward is of the utmoſt conſequence, the officer commanding the drill will take every pains to perfect his ſquad in it. For this purpoſe, he will often go to the rear, place himſelf behind the flank file which regulates the march, and take a point or object exactly in front of that file. He will then command, *march*; and remaining in his place, will direct the advance of the ſquad, by keeping the flank file always in a line with the object. It is alſo from behind he will ſooneſt perceive the leaning back of a ſhoulder, or the bringing it forward; faults which ought inſtantly to be rectified, as productive of the worſt conſequence in a line, where one man, by bringing forward a ſhoulder, may change the direction of the march, and oblige the wing of a battalion to run, in order to keep dreſſed. In ſhort, it is impoſſible to labour too much at making the ſoldier march ſtraight forward, keeping always the ſame front as when he ſtepped off. This is effected by moving ſolely from the haunches, keeping the body ſteady, the ſhoulders ſquare, and the head to the front; and will without difficulty be attained by a ſtrict attention to the rules for marching, and a careful obſervance of an equal length of ſtep, and an equal cadence or time of march.

Changing from ordinary to quick time, and from quick to ordinary, muſt always be preceded by a halt. Although this may not appear eſſential for the movements of a diviſion or battalion, it is abſolutely ſo for thoſe of a larger body, and is therefore required in ſmall ones. Turning on the march, in order to continue it, though inaccurate and improper for a large body, is neceſſary, and muſt often be allowed, in the movements of ſmall diviſions in file or front, when connected with others in line or column. As helps for fixing the true cadence of the march, the plummet muſt often be reſorted to. The words *left*, *right*, may, when neceſſary, be repeated; ſlowly for ordinary, and more rapidly for quick time. Strong taps of the drum, regulated by the plummet, may be allowed to be given immediately before the word *march*, to imprint the required meaſure on the mind of the recruit; but they are on no account, or in any ſituation, to be given during the march.

X. *Open and cloſe Order, on March*. The ſquad, when moving to the front in ordinary time, receives the word, *Rear ranks take open order;* on which the front rank continues its march without altering the pace, and the centre and rear ranks mark the time, viz. the centre once, and ſteps off at the ſecond pace; the rear rank moving forward on the third. On the word *Rear ranks take cloſe order*, the centre and rear ranks ſtep nimbly up to cloſe order, and inſtantly reſume the pace at which the firſt rank has continued to march.

XI. *March in File to a Flank*. The accuracy of the march in file is ſo eſſential in all deployments into line, and in the internal movements of the diviſions of the battalion, that the ſoldier cannot be too much exerciſed to it. The whole battalion, as well as its diviſions, is required to make this flank movement, without the leaſt opening out, or lengthening of the file, and in perfect cadence and equality of ſtep. After facing, and at the word *march*, the whole ſquad ſteps off at the ſame inſtant, each replacing, or rather overſtepping the foot of the man before him, i. e. the right foot of the ſecond man comes within the left foot of the firſt, and thus of every one; more or leſs overlapping, according to the cloſeneſs or openneſs of the files, and the length of ſtep. The front rank will march ſtraight along the given line, each ſoldier of that rank looking along the necks of thoſe before him; never to the right or left; otherwiſe a waving of the march will take place, and of courſe the loſs and extenſion of line and diſtance, whenever the body returns to its proper front. The centre and rear ranks muſt look to, and regulate themſelves by their leaders of the front rank, and always dreſs in their file. Although file marching is generally in quick, yet it muſt alſo be practiſed in ordinary time. The above poſition of feet takes place in all marching in front, where the ranks are cloſe, and locked up. With a little attention and practice, this mode of marching, apparently ſo difficult, will be found by every ſoldier to be eaſier than the common method of marching by files, when, on every halt, the rear muſt run up to gain the ground it has unneceſſarily loſt.

XII. *Wheeling in File*. The ſquad, when marching in file, muſt be accuſtomed to wheel its head to either flank; each

each file following in ſucceſſion, without loſing or increaſing diſtance. On this occaſion, each file makes its ſeparate wheel, on a pivot moveable in a very ſmall degree, but without altering its time of march, or the eyes of the rear ranks being turned from their front rank. The front rank men, whether pivot-men or not, muſt keep up to their diſtance; and the wheeling men muſt take a very extended ſtep, and loſe no time in moving on.

XIII. *Oblique Marching in Front.* When the ſquad is marching in front, and receives the word *to the right oblique*, each man, the firſt time he raiſes the right foot, will, inſtead of throwing it ſtraight forward, carry it in the diagonal direction, as has been already explained in § 8. of the drill without arms; taking care not to alter the poſition of his body, ſhoulders, or head. The greateſt attention is to be paid to the ſhoulders of every man in the ſquad, that they remain parallel to the line on which they firſt were placed, and that the right ſhoulders do not fall to the rear, which they are very apt to do in obliquing to the right, and which immediately changes the direction of the front. On the word *forward*, the incline ceaſes, and the whole march forward. In obliquing to the left, the ſame rules are to be obſerved, with the difference of the left leg going to the left, and attention to keeping up the left ſhoulder. The ſame inſtructions that are given for ordinary time, ſerve alſo for quick time; but this movement, though it may be made by a ſmall diviſion, cannot be required from a larger body. Obliquing to the right is ſometimes to be practiſed with eyes to the left; and obliquing to the left, with eyes to the right; as being abſolutely neceſſary on many occaſions: for if one of the battalions of a line in advancing be ordered to oblique to the right or to the left, the eyes muſt ſtill continue turned towards its centre.

XIV. *Oblique Marching in File.* In obliquing to the right or left by files, the centre and rear rank men will continue looking to their leaders of the front rank. Each file is to conſider itſelf as a rank entire, and is to preſerve the ſame front, and poſition of the ſhoulders, during the oblique, as before it began. This being a very uſeful movement, recruits are to be often practiſed in it.

XV. *Wheeling forward from the Halt.* The directions already given for the wheeling of a ſingle rank, are to be ſtrictly attended to in this wheel of the ſquad. On the word *right*, or *left wheel*, the rear ranks, if at one pace diſtance, lock up. At the word *march*, the whole ſtep together in the quickeſt time, and the rear ranks, during the wheel, incline ſo as to cover their proper front rank men. At the word *halt*, the whole remain perfectly ſteady.

XVI. *Wheeling backward.* The ſquad muſt be much practiſed in wheeling backward in the quickeſt time. In this wheel, the rear ranks may preſerve their diſtance of one pace from each other. Great attention ſhould be paid to prevent the recruits from fixing their eyes on the ground.

XVII. *Wheeling from the March.* The directions for wheeling on a halted, and on a moveable pivot, have already been given under the drill without arms. The ſquad ſhould now be practiſed in both, until thoroughly confirmed in thoſe movements.

XVIII. *Stepping out*, &c. The ſquad muſt likewiſe be practiſed in *ſtepping out, ſtepping ſhort, marking time, changing the feet, the ſide ſtep*, and *ſtepping back*; the inſtructions for which have been fully detailed in the firſt part of the drill.

It can neither be too ſtrongly inculcated, nor too often remembered, that upon the correct equality of march, eſtabliſhed and practiſed by all the troops of the ſame army, every joint movement and manœuvre depend. If this is not attended to, diſunion and confuſion will neceſſarily take place on the junction of ſeveral battalions in corps; although, taken individually, each may be in moſt reſpects well trained. It is in the original inſtruction of the recruit and ſquad, that this great point is to be laboured at and attained. The time and length of ſtep, on all occaſions, are preſcribed. The time is infallibly aſcertained by the frequent corrections of the plummet, which, when ſo applied, will ſoon give to each man that habitual meaſure ſo much deſired. Every driller muſt therefore have it at hand; and, as already obſerved, before any ſquad or larger body is put in march, five or ſix ſtrong taps of the drum may be given, in exact time, as regulated by the plummet, which will imprint the true meaſure on each ear, and prepare for taking an accurate ſtep at the word *march*. The length of ſtep is only to be acquired by repeated trial; and therefore, before the recruit is put in motion, each inſtructor ſhould aſcertain the ſpace on which he is to drill his men; he will therefore (ſuppoſing that he himſelf is accurate in his paces, and that there is ground for that purpoſe) mark out an oblong ſquare of forty paces by twenty or thirty, the corners of which he will aſcertain by halberts, ſtones, or any other viſible manner. Along the ſides of this figure he will march the pivot flank of his ſquad, making correct wheels and halts at the angles. The time of march being exactly aſcertained, he will then ſee that the ſides of the oblong are gone over at the known number of ſteps; and if there be any inaccuracy, he will lengthen or ſhorten the ſtep, till the ſquad marches with the utmoſt preciſion, every man preſerving his juſt poſition, and all the other indiſpenſible attentions in marching being ſtrictly obſerved. Where there is a ſufficiency of ground, the ſquads will occaſionally march over larger ſpaces; but the diſtances ſhould in the ſame manner be exactly determined, ſo that there may be no doubt as to the true length of the ſtep. In proportion to the ſtrength of ſquads or drills, one or more formed ſoldiers ſhould accompany each, to march on the flank, give diſtances, and in other points regulate the motions of the drill.

Formation and Exerciſe of the Platoon, or Company.

The recruit being thoroughly grounded in all the preceding parts of the drill, is now to be inſtructed in the movements of the platoon, as a more immediate preparation for his joining the battalion. For this purpoſe, from ten to twenty files are to be aſſembled, formed, and told off in the following manner, as a company in the battalion.

I. The platoon falls in three ranks, at cloſe order, with ſhouldered arms; the files lightly touching, but without crowding. Each man will then occupy a ſpace of about 22 inches. The commander of the platoon takes poſt on the right of the front rank, covered by a ſerjeant in the rear rank. The other ſerjeants will form a fourth, or ſupernumerary rank, three paces from the rear rank. The platoon will be told off into ſubdiviſions, and, if of ſufficient ſtrength, into four ſections; but as a ſection ſhould never be leſs than five files, it will often happen that, for the purpoſes of march, three ſections only can be formed. The four beſt-trained ſoldiers are to be placed in the front rank, on the right and left of each ſubdiviſion. When thus formed, the platoon will be practiſed in opening and cloſing of ranks; dreſſing to the front, to the rear, or in an oblique direction, by the right or left; and exerciſed in the ſeveral motions of the firelock. Cloſe order is the chief and primary order in which the battalion and its parts at all times aſſemble and form. Open order is only regarded as an exception from it, and occaſionally uſed in ſituations of parade and ſhew. In cloſe order, the rear ranks are cloſed up to within one pace; the length of which is to be taken from the

the heels of one rank to thoſe of the next. At open order, they are two paces diſtant from each other.

II. *Marching to the Front.* In the drill of the platoon, the perſon inſtructing muſt always conſider it as a company in battalion, and regulate all its movements upon that principle. He will therefore, before he puts it in motion to front or rear, indicate which flank is to direct, by giving the word *Eyes Right*, or *Eyes Left*, and then *March*. Should the right be the directing flank, the commander of the platoon himſelf will fix on objects to march upon, in a line truly perpendicular to the front of his corps. When the left flank is ordered to direct, he and his covering ſerjeant will ſhift to the left of the front rank, and take ſuch objects to march upon. To march on one object only, and to preſerve a ſtraight line, is an operation not to be depended upon. The conductor of the platoon therefore, before the word to march is given, will endeavour to remark ſome diſtinct object on the ground in his own front, and perpendicular to the directing flank. He will then obſerve ſome nearer and intermediate point in the ſame line, ſuch as a ſtone, tuft of graſs, &c. Theſe he will move upon with accuracy; and as he approaches the neareſt of thoſe points, he muſt from time to time chuſe freſh ones, in the original direction, which he will by this means preſerve, never having fewer than two ſuch points to move upon. If no object in the true line can be aſcertained, his own ſquareneſs of perſon muſt determine the direction of the march. A perſon placed in the rear of a body can, more readily than if poſted in its front, determine the line which is perpendicular to that front; and, could we ſuppoſe ranks and files perfectly correct, the prolongation of each file would be a perpendicular to the front of the body. As the march of every corps, except in the caſe of inclining, is made on lines perpendicular to its then front, each individual compoſing that corps muſt in his perſon be placed and remain perfectly ſquare to the given line; otherwiſe he will naturally and inſenſibly move in a direction perpendicular to his own perſon, and thereby open out or cloſe in according to the manner in which he is turned from the true point of his march. If the diſtortion of a ſingle man (and all turnings of the head do ſo diſtort him) operates in this manner, it may eaſily be imagined what that of ſeveral will occaſion, each of whom is marching on a different front, and whoſe lines of direction are croſſing each other. Accuracy and ſquareneſs of poſition, the equality of cadence and ſtep, the light touch of the files which is never to be relinquiſhed, juſt diſtances, and true lines of movement, will give, without apparent conſtraint, the head being turned, or the leaſt trouble taken in dreſſing, the moſt deciſive exactneſs in the marches and operations of the largeſt bodies.

The platoon, during its march in line, will occaſionally be ordered to *ſtep out*, *mark time*, *open* and *cloſe ranks*, and *oblique*, as already deſcribed.

III. *Side Step.* The ſide or cloſing ſtep muſt alſo be frequently practiſed. It is very neceſſary and uſeful on many occaſions, when halted, and when a very ſmall diſtance is to be moved to either flank: for inſtance, to open or cloſe files; to join one diviſion to, or open it from, another; to regain an interval in line; to move a whole battalion or parade twenty or thirty paces to a flank; to regulate diſtances between cloſe columns, before deploying, &c. Alterations made in this manner are imperceptible from the front, and better made than by facing and file-marching. The words of command muſt be decided and ſtrong. When the whole platoon is to cloſe; at the word, *to the Right—Cloſe*, the platoon officer takes one ſtep to the front, and inſtantly faces about, the covering ſerjeant replacing him. On the word *March*, the whole move together. On the *Halt*, the platoon officer reſumes his place, having ſtepped in the ſame manner as the men, but fronting them, and thereby aſſiſted in preſerving the direction.

IV. *Back Step.* The platoon muſt be accuſtomed, at the halt on the words *Back Step—March*, to ſtep back any ordered number of paces in the ordinary time and length, as it is an operation that may be ſometimes required from a battalion.

V. *File Marching.* In marching by files, the commander of the platoon will lead the front rank. If therefore the movement is by the left, on the word *to the Left—Face*, he and his covering ſerjeant will inſtantly ſhift to the left flank of the diviſion. At the word *Quick—March*, the whole ſteps off together; and on the *Halt*, *Front*, the leader and his ſerjeant will return to their poſts on the right.

VI. *Wheeling from a Halt.* In wheeling, whether forward or backward, from a halt, the commander of the platoon, on the word *Right* or *Left Wheel*, moves out, and places himſelf one pace in front of the centre of his platoon. During the wheel, he turns towards his men, and inclines towards that flank which has been named as the directing or pivot one; giving the word *Halt—Dreſs*, when his wheeling man has juſt completed the required degree of wheel. He then ſquares his platoon, but without moving what was the ſtanding flank, and takes his poſt on the now directing flank.

VII. *Wheeling forward by Subdiviſions from Line.* On the word *By Subdiviſions, — to the Right, Wheel*, the commander of the platoon places himſelf one pace in front of the centre of the right ſubdiviſion; at the ſame time, the men on the right of the front rank of each ſubdiviſion face to the right. At the word *March*, each ſubdiviſion ſteps off in wheeling time, obſerving the directions above given for wheeling forward. The commander of the platoon, turning towards the men of the leading ſubdiviſion, and inclining to its left (the proper pivot flank), gives the word *Halt—Dreſs*, for both ſubdiviſions, as his wheeling man is taking the laſt ſtep that finiſhes the wheel ſquare; and inſtantly poſts himſelf on the left, the pivot flank. The covering ſerjeant, during the wheel, goes round by the rear, and takes poſt on the pivot flank of the ſecond ſubdiviſion. It is to be obſerved, that the commander of the platoon invariably takes poſt with the leading ſubdiviſion; therefore, when the platoon wheels by ſubdiviſions to the left, the commander of the platoon moves out to the centre of the left ſubdiviſion, and during the wheel, inclines towards the right, now become the proper pivot flanks of the ſubdiviſions. The proper pivot flank in column, is that which, when wheeled up to, preſerves the diviſions of the line in the natural order, and to their proper front; the other is denominated the *reverſe* flank. In column, diviſions cover and dreſs to the proper pivot flank; to the left when the right is in front, and to the right when the left is in front.

VIII. *Wheeling backward by Subdiviſions from Line.* The platoon will alſo break into open column of ſubdiviſions by wheeling backwards. When the right is intended to be in front; at the word, *By Subdiviſions, on your left backwards Wheel*, the commander of the platoon moves out briſkly, and places himſelf in front of the centre of the right ſubdiviſion; the man on the left of the front rank of each ſubdiviſion at the ſame time faces to the right. On the word *March*, each ſubdiviſion wheels backward in quickeſt time. During the wheel, the commander of the platoon turns towards his men, inclining at the ſame time to the left, or pivot flank; and on completing the wheel, gives the word *Halt—Dreſs*, to both diviſions. He and his covering

covering ſerjeant then place themſelves on the left flanks of their ſubdiviſions. It may be conſidered as a rule almoſt general (the reaſons for which are ſubſequently given), that all wheels of the battalion or line (when halted, and when the diviſions do not exceed ſixteen or eighteen files) into column, ſhould be backward; and all wheels from column into line, forward. The only neceſſary exceptions ſeem to be in narrow ground where there is not room for ſuch wheels.

IX. *Marching on an Alignment, in open Column of Subdiviſions.* The platoon having wheeled backwards by ſubdiviſions from line, as juſt ſtated, and a diſtant marked object in the prolongation of the two pivot flanks being taken, the commander of the platoon, who is now on the pivot flank of the leading ſubdiviſion, immediately fixes on his intermediate points to march on. On the word *March*, both diviſions ſtep off at the ſame inſtant; the leader of the foremoſt corps marching with the utmoſt ſteadineſs and equality of pace on the points he has taken; and the commander of the ſecond diviſion preſerving the leader of the firſt in an exact line with the diſtant object, at the ſame time he keeps the diſtance neceſſary for forming from the preceding diviſion, which diſtance is to be taken from the front rank. Theſe objects are in themſelves ſufficient to occupy the whole attention of the leaders of the two diviſions; therefore they muſt not look to, nor endeavour to correct, the march of their men, which care muſt be entirely left to the non-commiſſioned officers of the ſupernumerary rank.

X. *Wheeling into Line from open Column of Subdiviſions.* The platoon being in open column of ſubdiviſions, marching at the ordinary ſtep on the alignment, receives the word *Halt* from the inſtructor of the drill. Both diviſions inſtantly halt, and the inſtructor ſees that the leaders of the diviſions are correct on the line in which they have moved. He then gives the word (ſuppoſing the right of the platoon to be in front), *By Subdiviſions, to the left wheel into Line.* On this the commander of the platoon goes to the centre of his ſubdiviſion; the two pivot men face to their left, exactly ſquare with the alignment, and a ſerjeant runs out and places himſelf in a line with them, ſo as to mark the preciſe point at which the right flank of the leading ſubdiviſion is to halt, when it ſhall have completed its wheel. At the word *March*, the whole wheel up in quickeſt time. During the wheel, the commander of the platoon, turning towards his men, inclines to the wheeling flank, and gives the word *Halt—Dreſs*, the moment the wheel of the diviſion is completing. He alſo, if neceſſary, corrects the internal dreſſing of the platoon on the ſerjeant and pivot men. This dreſſing muſt be quickly made; and when done, the commander of the platoon gives the word *Eyes Front*, in a moderate tone of voice, and reſumes his poſt in line. In all wheels of the diviſions of a column (either from the halt or from the march) that are made on a halted pivot, the flank firelock of the front rank on the hand wheeled to, is ſuch pivot; not the officer who may be on that flank, and whoſe buſineſs is to conform to it. All wheels by ſubdiviſions or ſections from line into column, or from column into line, are performed on the word given by the commander of a battalion, when the whole of a battalion is at the ſame inſtant ſo to wheel; or on the word given by the captain of the company, when companies ſingly, or ſucceſſively, ſo wheel. They are not to be repeated by the leaders of its diviſions.

XI. *In Open Columns of Subdiviſions, wheeling into an Alignment.* The platoon being in open column of ſubdiviſions, marching in ordinary time; when its leading diviſion arrives at the ground, where the wheel is to commence, it receives the word, *Right* or *Left Wheel*, from its commander. On this the rear ranks, if at one pace diſtance, lock up; the flank front-rank man alone halts, and faces into the new direction, while the others quicken their pace to the wheeling time, and regulate their ſtep by the outward hand to which they have turned their eyes, until the wheel is completed. He then gives the word *Halt—Dreſs*, for his diviſion to dreſs to the hand it is to move by; and whenever the ſecond diviſion, which has continued to advance in ordinary time, arrives cloſe to the wheeling point, he gives his diviſion the word *March*, and moves on in ordinary time, ſo as its rear rank does not occaſion even a momentary ſtop to the diviſion behind it, which at that moment receives the word *Wheel*, then *Halt—Dreſs*, and finally *March*, whenever the leading diviſion has gained its proper diſtance from it. The officer conducting the leading and every other diviſion of the column in march on any given point or object where it is to wheel into a new direction, and to its proper pivot hand on a halted pivot, always ſtops at that point or object cloſe on his outward hand, and gives the word *Wheel*, when the front rank of his diviſion has taken one pace beyond ſuch object. He thus allows ſpace for his own perſon, when the wheel is finiſhed, to move on cloſe behind the new direction of march. But if the proper pivot flank is to be the wheeling one, each commander of a diviſion gives his word *Wheel*, as he ſucceſſively arrives at ſuch a diſtance from the point on which he has moved, as that at the completion of the wheel, his diviſion may halt perpendicular to the new line, but with the given point of courſe behind the proper pivot; and that he alſo, in his own perſon, be on the new direction, prepared to give his word *March*, and to proceed. The rear ranks, if at one pace diſtance, muſt cloſe up at the word *Wheel;* and during the wheel, they incline ſo as to cover their proper front-rank men. The ſubdiviſions muſt take care that they continue their march correctly upon, and wheel exactly at the point where the leading one wheeled, and that they do not ſhift to either flank, which without much attention they are apt to do. In this manner, the ſubdiviſions ſucceed each other; and if the words of command be juſtly given, no ſtop made on arriving at the wheeling point, the wheels performed at an increaſed time and ſtep, and the proper halt, dreſſing, and pauſe, be made after the wheel, no extenſion of the column will take place, but the juſt diſtances between the diviſions will be preſerved. The officer conducting the directing flank of a diviſion may, during the wheel, be advanced one or two paces before it, and remains ſo, facing to the flank, that he may the more critically be enabled to give the word *Halt*, at which inſtant he will again place himſelf on the flank, ready to judge his diſtance, and to give the word *March*.

XII. *In Open Column of Subdiviſions, wheeling into a new Direction on a moveable Pivot.* The commander of the leading ſubdiviſion, when at a due diſtance from the intended new direction, will give the word *Right* or *Left Shoulders Forward;* and he himſelf carefully preſerving the rate of march, without the leaſt alteration of ſtep or time, will begin to circle in his own perſon from the old into the new direction, ſo as not to make an abrupt wheel, or that either flank ſhall be ſtationary. The reſt of his diviſion, on the principle of dreſſing, will conform to the direction he is giving them; when this is effected, he will give the word *Forward*. The leader of the ſecond ſubdiviſion, when he arrives at the ground on which the firſt began to wheel, will in this manner follow the exact tract of the firſt, always preſerving his proper diſtance from him. Thus, without the conſtraint of formal wheels, a column, when not confined on its flanks, may be conducted in all kinds of winding and changeable directions; for, if the changes be made gradual and circling, and that the pivot leaders of diviſions

diviſions purſue their proper path, at the ſame uniform equal pace, the true diſtances will be preſerved, which is the great regulation object on this occaſion, and to which every other muſt give way.

XIII. *Countermarch by Files.* The platoon, when it is to countermarch, muſt always be conſidered as a diviſion of a battalion in column. The inſtructor of the drill will therefore, previous to his giving the caution to countermarch, ſignify whether the right or left is ſuppoſed to be in front, that the commander of the platoon and his covering ſerjeant may be placed on the pivot flank, before ſuch caution is given; as it is an invariable rule in the countermarch of the diviſions of a column by files, that the facings be made from the flank, then the pivot one, to the one which is to become ſuch. On the word *To the Right* or *Left Face*, the platoon faces; the commander of it immediately goes to the other flank; and his covering ſerjeant, advancing to the ſpot which he has quitted, faces to the right about. At the word *Quick March*, the whole, except the ſerjeant coverer, ſteps off together; the platoon officer wheeling ſhort round the rear rank (viz. to his right, if he has ſhifted to the right of the platoon; or to his left, if he remains on the left of it); and proceeds, followed by the platoon in file, till he has conducted his pivot front-rank man cloſe to his ſerjeant, who has remained immoveable. He then gives the words *Halt, Front, Dreſs*; ſquares, and cloſes his platoon on his ſerjeant, and then replaces him. All countermarches by files neceſſarily tend to an extenſion of the files. Unity of ſtep is therefore abſolutely indiſpenſible, and the greateſt care muſt be taken, that the wheel of each file be made cloſe, quick, and at an increaſed length of ſtep of the wheeling man, ſo as not to retard or lengthen out the march of the whole.

XIV. *Wheeling on the Centre of the Platoon.* The platoon muſt be accuſtomed to wheel upon its centre, half backward, half forward, and to be pliable into every ſhape which circumſtances can require of it; but always in order, and by a decided command. The words of command are, *Platoon—on your Centre, to the Right Wheel, to the Left Wheel; to the Right about wheel; to the Left about wheel; &c.* When the wheel is to be made to the right, or right about, the right half platoon is the one to wheel backward, and the left forward. The reverſe will take place when the wheel is to be made to the left, or to the left about. On the word *March*, the whole move together in the quickeſt time, regulating by the two flank men, who, during the wheel, preſerve themſelves in a line with the centre of the platoon. As ſoon as the required degree of wheel is performed, the commander of the platoon gives the word *Halt—Dreſs*, and inſtantly ſquares it from that flank on which he himſelf is to take poſt.

XV. *Oblique Marching.* The inſtructor of the drill will have the oblique march frequently practiſed in platoon, in ſubdiviſions, and in file. He will ſee, when in diviſions, that the rear ranks lock well up, and cover exactly; when in file, that the exact diſtances are preſerved between the files; and in both caſes, that the platoon, during its march, continues parallel to the poſition from which it commenced obliquing.

XVI. *Increaſing and diminiſhing the Front of an Open Column, when halted.* 1. Increaſing. The company ſtanding in open column of ſubdiviſions (ſuppoſe the right in front) receives from the inſtructor of the drill the caution to *form platoon.* The commander of the platoon inſtantly orders *Rear Subdiviſion, to the Left oblique—Quick March.* When it has obliqued, ſo as to open its right flank, i. e. when its right flank has room to march paſt the left flank of the diviſion that was in its front he gives the word *Forward;* and, on its arriving in a line with the firſt diviſion, he orders *Halt—Dreſs*, and takes poſt on the left, the pivot flank of the platoon. 2. Diminiſhing. On the cautionary command, from the inſtructor of the drill, *to form Subdiviſions*, the commander of the platoon orders, *Left Subdiviſion—to the Right Face;* and inſtantly on facing, the three leading files diſengage to the rear, the ſerjeant coverer running round to head them. On the word *Quick March*, the ſerjeant conducts the ſubdiviſion in file, to its proper diſtance, in the rear of the firſt ſubdiviſion. The commander of the platoon, having moved to the left flank of the leading diviſion, as ſoon as he ſees the rear file of the ſecond in a line with his own perſon, gives the words *Halt—Front* and *Left—Dreſs*. The ſerjeant coverer at the ſame time moves briſkly to his poſt on the left flank of the rear ſubdiviſion, and ſquares it. It is to be obſerved as a general rule, in diminiſhing the front of a column by the doubling of ſubdiviſions or ſections, whether the column be halted or in motion, that the ſubdiviſion or ſection on the reverſe flank is the one behind which the other ſubdiviſions or ſections double. Thus, when the right is in front, the doubling will be in rear of the right diviſion, and *vice verſâ* when the left is in front; by which means the column is at all times in a ſituation to form line to the flank, with its diviſions in their natural order, by ſimply wheeling upon the pivot flanks. In increaſing the front of a column, the rear ſubdiviſions or ſections oblique to the hand the pivot flank is on; ſo that when the right is in front, the obliquing will be to the left; and the reverſe when the left is in front.

XVII. *Increaſing and diminiſhing the Front of an open Column on the March.* 1. Increaſing: The platoon marching at the ordinary time in open column of ſubdiviſions (ſuppoſe the right in front), receives from the inſtructor of the drill the cautionary command *Form Platoon.* The commander of the platoon inſtantly gives the words *Left oblique—Quick March;* on which the rear ſubdiviſion oblique to the left, and as ſoon as its right flank is open, receives the word *Forward.* When it gets up to the firſt ſubdiviſion, which has continued to march with the utmoſt ſteadineſs at the ordinary pace, the commander of the platoon gives the words *Halt—March*, and takes poſt on the pivot flank. 2. Diminiſhing: When the inſtructor of the drill gives the caution to form ſubdiviſions, the commander of the platoon immediately orders, *Left Subdiviſion, Mark Time.* This it does till the right one, which continues its march ſteadily at the ordinary pace, has cleared its flank. He then orders the left ſubdiviſion, *Quick oblique;* and when he perceives that it has doubled properly behind the right one, he gives the word *Forward*, on which it takes up the ordinary march, and follows at its due diſtance. The ſame directions that apply to increaſing or diminiſhing by ſubdiviſions, apply equally by ſections, which individually repeat the ſame operations. The words for the ſubdiviſions or ſections increaſing or diminiſhing the front of a column, are given by the commander of a company, and not repeated by thoſe of its diviſions. Increaſing and reducing the front of a column is an operation that will frequently occur in the march of large bodies; and it is of the utmoſt importance that it be performed with exactneſs. The inſtructor of the drill muſt therefore be particularly attentive, that the tranſition from one ſituation to the other be made as quick as poſſible; that the leading diviſion continues its march at the regular time and length of pace; and that the exact diſtances between the diviſions be accurately preſerved. During the operation, the ranks muſt be well cloſed, arms carried, and the greateſt attention required from each individual.

XVIII. *The*

XVIII. *The Platoon in open Column of Subdiviſions to paſs a ſhort Defile by breaking off Files.* We ſuppoſe the platoon in open column of ſubdiviſions, with the right in front, marching in ordinary time. When the leading diviſion is arrived within a few paces of the defile, it receives from the inſtructor of the drill an order to break off a certain number of the files (ſuppoſe three); the commander of the leading diviſion inſtantly gives the words, *Three Files on the Left, Right turn.* The named files immediately turn to their right, and wheel out in rear of the three adjoining files. The commander of the ſubdiviſion himſelf cloſes into the flank of the part formed. When the ſecond ſubdiviſion comes to the ſpot where the firſt diviſion contracted its front, it will receive the ſame words of command from its own leader, and will proceed in like manner. Should it be required to diminiſh the front of the column one or two files more, the commander of the leading diviſion will, as before, order the deſired number of files to turn; on which thoſe already in the rear will incline to their right, ſo as to cover the files now ordered to break off, and which are wheeling out in the manner already preſcribed. In this movement, the files in the rear of the ſubdiviſions muſt lock well up, ſo as not to impede the march of the ſucceeding diviſion. As the defile widens, or the inſtructor of the drill ſhall direct, the commander of the leading ſubdiviſion will order files to move up to the front, by giving the word *One, two,* or *three Files to the Front;* on which the named files turn to their front, the left, and lengthening their pace, march up, file by file, to the front of their ſubdiviſion, and immediately reſume the ordinary pace. Thoſe files which are to continue in the rear, will oblique to the left, lengthening alſo their ſtep, till they cover, and are cloſed up to the three files on the left flank of their ſubdiviſion.

XIX. *Marching in quick Time.* The platoon muſt frequently be practiſed to march in quick time, particularly in file, until the men have acquired the utmoſt preciſion in this movement, which is eſſential in all deployments from cloſe column. The platoon will alſo occaſionally be marched in front at the ſame ſtep, as it may be ſometimes required from ſmall bodies.

XX. *Forming to the Front from File.* The platoon, when marching in file, may form to its front, either in ſections, ſub-diviſions, or in platoon. The right flank being ſuppoſed to lead, on the word *halt front,* the platoon inſtantly halts, and faces to its left. The word is then given, *by ſections, ſub-diviſions,* or *platoon, on your left backwards wheel;* and at the word *march,* the wheel ordered is performed in the manner already directed in ſect. viii. But in ſituations where it may have been neceſſary to order an extenſion of files (ſuch as will ſometimes occur in marching through the ſtreets of a town), a body thus moving, in order to avoid incorrect diſtances between the diviſions, may form to the front in the following manner, either by platoon, ſub-diviſions, or ſections. On the word *to the front form platoon,* the front rank man of the leading file halts alone, and is inſtantly covered by his centre and rear rank men. Every other file of the platoon makes a half face to the left, and ſucceſſively moving up, dreſſes on the right file. When the commander of the platoon ſees it is properly dreſſed, he gives the word *eyes left,* and places himſelf on the pivot flank. Should the order have been, *to the front form ſections* or *ſub-diviſions,* the leading ſub-diviſion or ſection will proceed in the manner already detailed for the platoon. The ſucceeding ſub-diviſions or ſections will each continue moving on, until its front file arrives at the proper forming diſtance from the diviſion in its front, when it will receive from its commander the word *to the front form,* and will inſtantly form up by files in the manner already deſcribed.

XXI. *Forming from File to either Flank.* The platoon marching in file, ſuppoſe from the right, has only to halt and front to be formed to the left flank. To form to the right, it will receive the word *to the right form.* The front rank man of the leading file inſtantly turns to his right, and halts; his centre and rear rank men move round and cover him. All the other files of the platoon make a half turn to their left, and move round ſucceſſively in a line with the right hand file; the centre and rear rank men of each file keeping cloſed well up to their file leaders.

XXII. *To form to either Flank from open Column of Subdiviſions or Sections.* The platoon marching in the ordinary time in open column of ſub-diviſions or ſections, to form to its left receives the words *halt, left wheel, and form, march,* &c. and proceeds as has already been ſhewn in ſect. x. To form the platoon to its right flank, the inſtructor of the drill gives the cautionary word of command, *to the right form platoon;* on which the commanders of the ſeveral diviſions ſhift to the other flank, and the commander of the leading ſubdiviſion or ſection inſtantly gives the word to his diviſion, *right wheel:* and when it has wheeled ſquare, he orders *halt, right dreſs;* goes to the right flank of his diviſion, and dreſſes it on the intended line of formation. The commander of the other ſub-diviſions or ſections, on the leading one being ordered to wheel, gives the word *to the left oblique,* and gradually inclines ſo as to be able to march clear of the rear rank of the diviſion forming. This being effected, the word *forward* will be given to each diviſion, and they move on in the rear of the one formed. When the ſecond ſub-diviſion or ſection is arrived at the left flank of the firſt, its commander gives the word *right wheel,* then *halt, dreſs up;* on which the diviſion moves up into the line with the one formed; and its commander inſtantly places himſelf two or three files from the left of his firſt diviſion, and dreſſes his own on it as quickly and as accurately as poſſible. Thus each ſucceeding ſection ſhould proceed, until the whole be formed.

XXIII. *The Platoon moving to the Front to gain Ground to a Flank, by a March in Echellon by Sections.* In the drill of the platoon, when the ſoldier is completely formed, he may be taught to march in echellon by ſections. This is a very uſeful movement for a battalion or larger body moving in line, that is required to gain ground to a flank, and may be ſubſtituted inſtead of the oblique march. It will be performed in the following manner: the platoon marching to the front in the ordinary time, receives the word *by ſections to the right.* The right hand men of the front rank of each ſection turning in a ſmall degree to their right, mark the time for three paces, during which the ſections are wheeling in ordinary time on their pivot men. At the fourth pace, and at the word *forward,* the whole move on direct to the front that each ſection has now acquired, and the commander of each ſection having taken poſt on the right of his diviſion, the platoon continues its march in echellon. On the word *form platoon,* the pivot men mark the time for three paces, turning back in a ſmall degree to the left, their original front; and the ſections inſtantly wheel backward into line. At the fourth pace, the whole move forward. When the platoon is in two ranks only, two paces inſtead of three will be ſufficient to mark time, and to ſtep off at the third inſtead of the fourth pace.

XXIV. *From three Ranks, forming into two.* The platoon halted, is ordered *form two deep.* The rear rank men of the left ſub-diviſion inſtantly ſtep back one pace. On the word *left face,* the rear rank of both ſub-diviſions face.

The word *quick march* is then given, on which the men of the rear rank of the left ſub-diviſion ſtep ſhort, until thoſe of the right get up to them; they then move on with them in file. As their rear is clearing the left flank of the platoon, the commander, who has ſhifted to this flank during the movement, gives the words *halt, front, dreſs up*, inſtantly dreſſes them on the ſtanding part of his platoon, and reſumes his poſt on the right. One third or one more ſub-diviſion is thus added to the front of the company, which is here ſuppoſed ſtanding as one in a battalion column.

XXV. *From two Ranks, forming into three.* The platoon being halted, and told off into three ſections, it receives the word *form three deep;* on which the third ſection inſtantly ſteps back one pace. The word *right face* is then given, and the man on the right of its front rank, on facing, diſengages a little to his right. On the word *quick march*, the front rank men of the third ſection ſtep off, thoſe of the other mark the time, till they have paſſed, and then follow. When the leading man has got to the right of the platoon, the commander gives the word *halt front;* on which, each man halts, faces to his left, and inſtantly covers his proper file leader.

In purſuance of the foregoing inſtructions, and on the principles they contain, every company of a battalion muſt be frequently exerciſed by its own officers, each ſuperintending a rank, or an allotted part of the whole. On a ſpace of ſeventy or eighty yards ſquare, every circumſtance can be practiſed that is neceſſary to qualify it for the operations of the battalion. That ſpace being pointed out by under officers, or other marks, as directed at the latter end of the drill with arms, the company will practiſe, both at open and cloſe files, without and with arms.

By ranks. 1ſt, March in ſingle file, by ſucceſſive ranks, along the four ſides of the ſquare; the ſame by twos. 2d, March and wheel by ranks of fours; file off ſingly and double up, preſerving proper diſtances, and not quickening on the wheel. 3d, March and wheel by ſub-diviſions of ranks. 4th, March and wheel by whole ranks. 5th, March to front and to rear, ranks at ten paces aſunder. 6th, March the company in a ſingle rank to front and to rear, by a flank and by the centre. 7th, Oblique, by ranks. 8th, Open and cloſe files, and intervals, by the ſide ſtep. 9th, March in file to either flank. 10th, Ranks ſucceſſively advance ſix or eight paces, halt, and dreſs; ranks ſucceſſively fall back the ſame number of paces, halt, and dreſs. 11th, Advance or retire two or three flank men, the ranks dreſs to them. 12th, Open and cloſe ranks.

At cloſe ranks and files. 13th, March and wheel in all directions, by ſub-diviſions and by company; ſhorten ſtep, and lengthen it; the march to be made both in ordinary and quick time; the wheels to be made in wheeling time. 14th, Advance and retire two or three flank files, and dreſs to them. 15th, Open and cloſe to the flank by the ſide ſtep. 16th, Change front by the countermarch by files. 17th, March in file to the flanks, cloſe, and without opening out, form to the front, or to either flank. 18th, March oblique. 19th, Sub-diviſions double on the march, and again form up by obliquing. 20th, Wheel backwards by ſub-diviſions, march along the line to prolong it; form to the flank by wheeling up, or to the front by obliquing. 21ſt, File from the flank of company to the rear, as in the paſſage of lines; halt front, cloſe into pivot file, wheel up as in forming line. 22d, From three deep, form two deep. 23d, From two deep, form three deep. 24th, Exerciſe of the firelock, manual and platoon, by ranks and company. 25th, Firings by Files, ſub-diviſions, and company.

The neceſſary pauſes and formations betwixt theſe movements in order to connect them, muſt of courſe be made. They may be practiſed in whatever ſucceſſion ſhall at the ſame time be found proper. The greateſt preciſion muſt be required and obſerved in their execution, according to the rules already laid down.

Every officer muſt be inſtructed in each individual circumſtance required of a recruit, or a ſoldier; alſo in the exerciſe of the ſword; and accuſtomed to give words of command with that energy and preciſion which is ſo eſſential. Every officer, on firſt joining a regiment, is to be examined by the commanding officer; and if he is found imperfect in the knowledge of the movements required from a ſoldier, he muſt be ordered to be exerciſed, that he may learn their juſt execution. Till he is maſter of thoſe points, and capable of inſtructing the men under his command, he is not to be permitted to take the command of a platoon in the battalion. Squads of officers muſt be formed, and exerciſed by a field officer. They muſt be marched in all directions; to the front, oblique, and to the flank. They muſt be marched in line, at platoon diſtance, and marched as in open column. They muſt change direction, as in file, and cover anew in column. In theſe, and other ſimilar movements, the pace and the diſtances are the great objects to be maintained. From the number of files in diviſion, they muſt learn accurately to judge the ground neceſſary for each, and to extend that knowledge to the front of greater bodies. They muſt acquire the habit of readily aſcertaining, by the eye, perpendiculars of march, and the ſquareneſs of the wheel. An officer muſt not only know the poſt which he ſhould occupy in all changes of ſituation, the commands which he ſhould give, and the general intention of the required movement; but he ſhould be maſter of the principles on which each is made, and of the faults that may be committed, in order to avoid them himſelf, and to inſtruct others.

Theſe principles are in themſelves ſo ſimple, that moderate reflection, habit, and attention, will ſoon ſhew them to the eye, and fix them in the mind; and individuals, from time to time, when qualified, muſt be ordered to exerciſe the battalion, or its parts. The complete inſtruction of an officer enlarges with his ſituation, and at laſt takes in the whole circle of military ſcience. From the variety of knowledge required of him, his exertion muſt be unremitting, every one ſtriving to make himſelf maſter of his own part. Beſides the inſtruction peculiar to the non-commiſſioned officers, they ſhould be exerciſed in the ſame manner as the officers are, as they are frequently called on to replace them. The neceſſity alſo of order, ſteadineſs, ſilence, and of executing every thing deliberately, and without hurry, ſhould be ſtrongly inculcated on the infantry ſoldier.

Formation of the Company.

The company is always to be ſized from flanks to centre. It is formed three deep. The files lightly touch, when firelocks are ſhouldered and carried, but without crowding, and each man will occupy a ſpace of about twenty-two inches.

Cloſe order is the chief and primary order, in which the battalion and its parts at all times aſſemble and form. Open order is only regarded as an exception from it, and occaſionally uſed in ſituations of parade and ſhew. In cloſe order, the officers are in the ranks, and the rear ranks are cloſed up within one pace. In open order, the officers are advanced three paces, and the ranks are two paces diſtant from each other. Each company is a platoon. Each company forms two ſubdiviſions, and alſo four ſections. But as ſections ſhould never be leſs than five files, it will happen, where

where the companies are weak, that they can only, for the purpoſes of march, form three ſections.

When the company is ſingly formed, the captain is on the right, the enſign on the left, of the front rank, each covered by a ſerjeant in the rear rank. The lieutenant is in the rear, as alſo the drummer and pioneers in a fourth rank, at three paces diſtance. The left of the front rank of each ſubdiviſion is marked by a corporal. The right of the left ſubdiviſion may be marked by another corporal. When neceſſary, the places of abſent officers may be ſupplied by ſerjeants; thoſe of ſerjeants by corporals; and thoſe of corporals by intelligent men. When the company is to join others, and the battalion, or part of it, to be formed, the enſign and his covering ſerjeant quit the flank, and fall into the fourth rank, until otherwiſe placed.

When the company is to take open order from cloſe order, on the command *Rear Ranks—take open Order*, the flank men on the right and left of the rear ranks, ſtep back to mark the ground on which each rank reſpectively is to halt and dreſs at open diſtance. They face to the right, and ſtand covered. Every other individual remains ready to move. At the word of command *March*, the rear rank dreſſers front, and the rear ranks fall back one and two paces; each dreſſing by the right the inſtant it arrives on its ground. The officers move out in front three paces, and divide their ground. One ſerjeant is on each flank of the front rank. The pioneer remains behind the centre of the rear rank. The drummer places himſelf on the right of the right ſerjeant.

When the company is to take cloſe order from open order, at the word of command *Rear Ranks take cloſe Order*, the officers, ſerjeants, and drummer face to the right. On the word *March*, the ranks cloſe within one pace, marching one and two paces, and then halting. The officers move round the flanks of the company to their reſpective poſts: the ſerjeants and drummers fall back, and each individual reſumes his place, as in the original cloſe order. The above regards the company when ſingle; but when united in the battalion, other poſts are allotted to the drummer and pioneer.

Formation and Order of the Battalion.

A perfect uniformity in the formation and arrangement of all companies and battalions is indiſpenſible for the execution of juſt and combined movements. The ſtrength of the battalion is ten companies: one grenadier, eight battalion, and one of light infantry, conſiſting moſt commonly of three officers, three ſerjeants, three corporals, two drummers, and fifty-ſeven privates. When theſe companies join, and the battalion is formed, there is to be no interval between any of them, grenadier, light company, or other; but every part of the front of the battalion ſhould be equally ſtrong. Each company which makes a part of the ſame line, and is to act in it, muſt be formed and arranged in the ſame manner.

The companies will draw up as follows, from right to left. Grenadiers; firſt and third captain; fifth and ſeventh captain; eighth and ſixth captain; ſecond and fourth captain; light infantry. The four eldeſt captains are on the right of the grand diviſions. Officers commanding companies or platoons are all on the right of the front rank of their reſpective companies. The eight battalion companies will compoſe four grand diviſions, eight companies or platoons, ſixteen ſubdiviſions, and thirty-two ſections, when ſufficiently ſtrong to be ſo divided, otherwiſe twenty-four, for the purpoſes of march. The battalion is alſo divided into right and left wings. When the battalion is on a war eſtabliſhment, each company is to be divided into two platoons. When the ten companies are with the battalion, they may then, for the purpoſes of firing or deploying, be divided into five grand diviſions, from right to left. The battalion companies will be numbered from the right to the left, 1, 2, 3, 4, 5, 6, 7, 8; the ſubdiviſions will be numbered 1, 2, of each; the ſections will be numbered 1, 2, 3, 4, of each. The files of companies will alſo be numbered 1, 2, 3, 4, &c. The grenadier and light companies will be numbered ſeparately in the ſame manner, and with the addition of thoſe diſtinctions. Theſe ſeveral appellations will be preſerved, whether faced to front or rear.

The companies muſt be equalized in point of numbers, at all times when the battalion is formed for field movement; and could the battalions of a line alſo be equalized, the greateſt advantages would ariſe. But though, from the different ſtrengths of the battalions, this cannot take place, yet the firſt requiſite always muſt, and is indiſpenſible.

Pl. III. *fig.* 2. When the battalion is formed in cloſe order, ranks are at the diſtance of one pace, except the fourth or ſupernum rary rank, which has three paces. All the field officers, and the adjutant, are mounted. The commanding officer is the only officer advanced in front, for the general purpoſe of exerciſe, when the battalion is ſingle; but in the march in line, and in the firings, he is in the rear of the colours. The lieutenant colonel is behind the colours, ſix paces from the rear rank. The major and adjutant are ſix paces in the rear of the third and ſixth companies. One officer is on the right of the front rank of each company or platoon, and one on the left of the battalion. All theſe are covered in the rear rank by their reſpective ſerjeants, and the remaining officers and ſerjeants are in a fourth rank behind their companies. It is to be obſerved, that there are no coverers in the centre rank to the officers or colours.

The colours, which in moſt regiments are carried by the two youngeſt enſigns, are placed between the fourth and fifth battalion companies both in the front rank, and each covered by a non-commiſſioned officer or ſteady man in the rear rank. One ſerjeant is in the front rank between the colours; he is covered by a ſecond ſerjeant in the rear rank, and he by a third in the ſupernumerary rank. The ſole buſineſs of theſe three ſerjeants is, when the battalion moves in line, to advance and direct the march. The place of the firſt of thoſe ſerjeants, when they do move out, is preſerved by a named non-commiſſioned officer, who moves up from the ſupernumerary rank for that purpoſe. Of the officers appointed to carry the colours, the eldeſt carries the king's, the youngeſt the regimental colour. Whenever the right wing advances or retires, the king's colour accompanies it on its flank, and to it the men's eyes are directed as their point of dreſſing. In the ſame manner, the regimental colour accompanies the left wing.

The fourth rank is at three paces diſtance when halted, or marching in line. When marching in column, it muſt cloſe up to the diſtance of the other ranks. The eſſential uſe of the fourth rank is to keep the others cloſed up to the front during the attack, and to prevent any break beginning in the rear. On this important ſervice too many officers and non-commiſſioned officers cannot be employed. The pioneers are aſſembled behind the centre, formed two deep, and nine paces from the third rank. The drummers of the eight battalion companies are aſſembled in two diviſions, ſix paces behind the third rank of their ſecond and ſeventh companies. The grenadier and light infantry drummers and fifers are ſix paces behind their reſpective companies. The muſic are three paces behind the pioneers in a ſingle rank, and at all times, as well as the drummers and pioneers, are formed at looſe files only, occupying no more ſpace than is neceſſary. The ſtaff of chaplain, ſurgeon, quarter maſter, and ſurgeon's

aſſiſtant, are three paces behind the muſic. Officers in general remain poſted with their proper companies; but commanding officers will occaſionally make ſuch changes as they may find neceſſary. Whenever the officers move out of the front rank, in parade, marching in column, wheeling into line, or otherwiſe, their places are taken by their ſerjeant coverers, and preſerved until the officers again reſume them. When the line is halted, and eſpecially during the firings when engaged, the ſerjeant coverers fall back into the fourth rank, and obſerve their platoons.

Pl. III. *fig.* 4. When the battalion is to take open order, at the word of command *Rear Ranks take open Order*, the flank men on the right of the rear ranks of each company ſtep briſkly back to mark the ground on which each rank reſpectively is to halt. They face to the right, and cover as pivots, being regulated and dreſſed by the adjutant or ſerjeant major on the right. Every other individual remains ready to move. At the word *March*, the flank dreſſers face to the front, and the whole move as follows:—The rear ranks fall back one and two paces, each dreſſing by the right the inſtant it arrives on the ground. The officers in the front rank, as alſo the colours, move out three paces. Thoſe in the rear, together with the muſic, move through the intervals left open by the front rank officers, and divide themſelves, viz. the captains covering the ſecond file from the right; the lieutenants the ſecond file from the left; and the enſigns oppoſite the centre of their reſpective companies. The muſic form between the colours and the front rank. The ſerjeant coverers move up to the front rank, to preſerve the intervals left by the officers. The pioneers fall back to ſix paces diſtance behind the centre of the rear rank. The drummers take the ſame diſtance behind their diviſions. The major moves to the right of the line of officers. The adjutant to the left of the front rank. The ſtaff place themſelves on the right of the front rank of the grenadiers. The lieutenant colonel and the colonel (diſmounted) advance before the colours, two and four paces. The whole being arrived at their ſeveral poſts, the words *Halt—Dreſs* are given to the reſpective companies, and the battalion remains formed for parade in the order in which it ſhould receive a ſuperior officer. When the battalion is reviewed ſingly, then in order to make more ſhow, the diviſion of drummers may be moved up, and formed two deep on each flank of the line. The pioneers may form two deep, on the right of the drummers of the right; and the ſtaff may draw up on the right of the whole.

When the battalion is to reſume cloſe order, the words *Rear Ranks take cloſe Order* is given. The lieutenant-colonel, officers, colours, ſtaff, and muſic face to the right. The drummers and pioneers, if on the flanks, face to the centre. The ſerjeants, if in the front rank, face to the right. At the word *March*, the rear ranks cloſe within one pace, moving up one and two paces, and then halting. The muſic marches through the centre interval. The ſerjeants, drummers, pioneers, &c. reſume their places, each as in the original formation of the battalion in cloſe order. The officers move through and into their reſpective intervals, and each individual arrives, and places himſelf properly at his poſt, in cloſe order.

On particular occaſions, and when neceſſary, officers commanding platoons, who in line are on the right of their platoons, ſhift to the left to conduct the heads of files, or the pivot flanks of their diviſions, in echellon, or in column. When the battalion wheels by companies, or ſubdiviſions, to either flank into column, both colours, and the file of directing ſerjeants always wheel to the proper front, and place themſelves behind the third file of the new pivot. There is no ſeparate colour reſerve, the pioneers, muſic, &c ſufficiently ſtrengthen the centre; but in the firings, the two files on each ſide of the colours may be ordered to reſerve their fire.

The conſtant order of the light company, when formed in line, and united with the battalion, is at the ſame cloſe files as the battalion. Their extended order is an occaſional exception. When the light company is detached, and the grenadier company remains, it will be undivided on one flank of its battalion, whenever there are ſeveral battalions in line; but when the battalion is ſingle, it is permitted to be occaſionally divided on each flank. When the grenadier or light companies are detached, and make no part of the line, they may be formed two deep, if it is found proper.

With a very few obvious alterations, theſe general rules take place when a company or battalion is permitted or ordered to form in two ranks only; and which, on the low eſtabliſhment of our battalions, may often be done for the purpoſes of exerciſe or movement on a more conſiderable front. It is alſo evident that they generally apply, whether the companies are ſtrong or weak, and whether a greater or leſſer number of them compoſe the battalion.

We ſhall now proceed to give an abſtract of the moſt eſſential general attentions required in the movements of the battalion, and which may be found more fully detailed in the rules and regulations for the battalion and the line, as publiſhed by his majeſty's command.

I. *Attentions of the Soldier.*

Quick time is in general confined to wheelings and filings. The other movements of the platoon or battalion are made in *ordinary time*. It is ſeldom that they will, or ought to be, required at quick time. All *wheelings*, forward or backward, are made quick. Eyes are turned to the wheeling flank, at the word *March*, and not before. The wheeling flank man ſteps out firm at a pace of thirty-three inches, till he receives the word *Halt*. It is the buſineſs of the reſt of the rank to keep up to him. Eyes remain in all caſes to the wheeling hand, till a new order is given by the commanding officer. All *filings* are made quick, cloſe, and at the lock ſtep. Files are at no time to open out, on occaſions of exerciſe, parade, or manœuvre; but they will often be ſo permitted and ordered, when marching in the ſtreets; or in common route marching, when the march by diviſions cannot ſo conveniently take place. All *facings* muſt be accurately made on the left heel. Pivot men muſt cover carefully and exactly. In wheeling backward, the ſtanding man faces the oppoſite way to that he does in wheeling forward. Pivots, whether in wheeling into column, or in wheeling into battalion, when once poſted are to remain immoveable, and do not alter their poſition in conſequence of platoon dreſſing, nor on any account, but by order of the commanding officer of the battalion, when he finds it neceſſary to require a more correct dreſſing from the whole.

The great obſervance of the ſoldier in the ranks, and under arms, is the ſquareneſs of the ſhoulders and body, the head to the front, and the eyes only glanced to the point of dreſſing. When the battalion is halted, and a more accurate dreſſing is ordered, the head may be a little turned during that operation only, and each man ſhould juſt diſtinguiſh the lower part of the face of the ſecond man from him. Whether in movement, or halted, each man is juſt to touch, without crowding, his neighbour's arm, towards which he dreſſes, to depend on that chiefly for his line, and at no time to ſeparate from him. At the word *March*, the ſtamp of the foot is not to be made, but the firſt ſtep is to be taken as firm and long as any other, and the body of each man, if in his true poſition under arms, is prepared for it by an inclination

forward. On the perfect execution of this, depends much of the accuracy of march. On the word *March*, the firſt ſtep in all ſituations is taken with the left foot. When the commanding officer of the battalion gives that word, the whole ſtep off together, whether in line or in column. When he gives the word *Halt*, the whole halt at that inſtant. At the word *March*, eyes are directed to the pivot flank, if in column; or to the head of the file, if filing; to the colours, if marching in battalion; and in general to that point by which they are conducted. At the word *Halt*, the foot in the air finiſhes its ſtep, and the other is brought up to it. Eyes remain directed to the pivot flank if marching in column; to the colours, if in line; or to the wheeling flank, if wheeling; and in general to the point to which they were turned when in movement, until a new order commands a new dreſſing. Whenever the word *Dreſs* is given by platoon officers to their platoons, eyes are turned to the pivot where the officer is, and from whence he corrects them upon a diſtant object. In marching in line, each man muſt preſerve his body perfectly ſquare, and juſt feel the touch of his neighbour, who is nearer than himſelf to the directing point. The rear ranks are to be well locked up, particularly when firing. In marching in battalion, or when halted, rear ranks will be locked up; but in marching in column, they may in general be at one pace diſtance. The ſteps are to be taken firm, and marked.

All alterations in *carrying*, *ſupporting arms*, &c. are done by the whole battalion at once, whether in line or column, and not by the diviſions of it ſeparately. The commanding officer gives the word, and not the platoon officers; and no ſuch change is at any time made, but in conſequence of his command. The men therefore, in all caſes, wheel, halt, march, dreſs, &c. with their arms carried, ſupported, trailed, or ſloped, according as the laſt-given command directed them. The ſame is to be obſerved whenever the battalion, moving in line or in column, changes its time of march.

In column, when the right of the battalion is in front, the left is the pivot flank; and when the left is in front, the right is the pivot. In marching in column, the pivot files of men next to the officers muſt have great attention in covering, when the movement is made in a ſtraight line, as they are points on which the formation is made; and therefore for that purpoſe, they muſt remain cloſe to their pivot officers, who in that ſituation cover and give diſtance.

Supported arms ſhould only be allowed when halted in line, or when moving in column. But the march in line, and in general all wheelings up into line, and all formings of the line or dreſſing it, ſhould be made with *carried arms*, as the only ſituation which preſerves the true diſtance of files, or can give an accurate line.

II. *Covering Platoon Serjeants.*

The covering ſerjeant accompanies and aſſiſts the platoon officer in all his movements, and preſerves his place in line, or on the pivot flank in column, whenever the officer's duty requires him occaſionally to quit it. In battalion, he covers in the rear rank. At open order he moves into the officer's place in the front rank. At cloſe order, he leaves it for the officer to take it. In the march in echellon, he is on the outward flank of the front rank. When the battalion breaks into column to the right or left, the ſerjeant falls back two paces; and when the wheel is finiſhed, he covers his officer on the pivot flank. When the column marches, if the officer is in front of the platoon, the ſerjeant is on the pivot of the front rank, and is anſwerable for the platoon diſtance; if the officer remains on the pivot flank, the ſerjeant then falls behind the rear rank, and covers the ſecond file from the pivot. When from column the right in front platoons wheel up to the left into line, the ſerjeant at the word *Wheel*, goes to the right of the front rank of the platoon, and wheels up with it, thereby preſerving the officer's place. If the wheel is to the right, the ſerjeant is behind the right file, ready to move up to the officer's place at the concluſion of the wheel. On all occaſions, when any platoon, which is then ſeparated, joins in line to one on its right; at that inſtant muſt the covering ſerjeant be on its right, to preſerve the place of his officer, who may be employed in dreſſing his platoon.

When the platoons wheel either into line or into column, the ſerjeant of the leading platoon runs out, and marks the point in the line of pivots where its flank is to halt. When platoons countermarch in column, the ſerjeant moves into the officer's place on his quitting it to lead in file, faces to the right about, ſtands faſt, and becomes the pivot point for the front rank leader to cloſe to after the countermarch is finiſhed, and its place is occupied by the officer after dreſſing his diviſion. When the platoons from columns file, in order to take a new line either to the front or rear; the ſerjeant of each ſucceſſively, as it arrives within thirty yards of that line, and no ſooner, runs out, takes diſtance, places himſelf upon it, and remains as a point to which his officer is to bring and cloſe in the pivot flank man of his platoon, and as a point which the officer himſelf is afterwards to occupy. Whenever the battalion halts to fire, the ſerjeants fall back, and in concert with the ſupernumerary rank, keep the rear ranks well locked up and attentive to their duty. When the battalion again moves, ſerjeants reſume their places. When the battalion is in column of ſubdiviſions, if the officer is ordered to march in front of his platoon, the ſerjeant is on the pivot of the leading ſubdiviſion. If the officer is on the flank of his leading ſubdiviſion, the ſerjeant takes the flank of the ſecond. In column of ſections, the ſerjeant alſo takes the flank of the ſecond ſection. In cloſe column, the ſerjeant is on the flank of the rear rank, behind the officer; and in forming line after the *Halt*, *Front*, of the platoon, he remains on its outward flank, and marches up with it.

The pioneers, in column of march, are in front; in line, they are formed two deep behind the centre, and nine paces from the rear rank. Drummers, in column of march or cloſe column, are with their companies, and on the flank not the pivot one. In line, the grenadier and light drummers are ſix paces behind the rear rank of their companies. The battalion drummers are in two diviſions, and formed ſix paces behind the third and ſeventh companies. In parade, at open order, the drummers preſerve their ſix paces from the rear rank. Whenever the platoon is cautioned to wheel forward or backward any *named* number of paces, the ſerjeant immediately poſts himſelf before or behind the eighth file from the ſtanding flank, and takes the ordered number of paces; when his platoon has conformed, he places himſelf on its outward flank. The muſic, in open or cloſe column, are on the flank which is *not* the pivot one; in line, they are in a ſingle line behind the centre, twelve paces from the rear rank. On parade, at open order, they are between the colours and the front rank. Drummers, muſic, pioneers, &c. will take care not to impede the flank movements of the cloſe column, nor its formation into line, but will get into the rear of their reſpective battalions, as ſoon as they are diſengaged from each other.

III. *Attentions in Platoon Officers.*

When the battalion is formed in line, company or platoon officers are all on the right of their platoons. In column, they are on the pivot flank, unleſs particularly ordered into the front of each platoon, if a march for any conſiderable diſtance is to be made. When on the pivot flanks, they

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are anſwerable in their own perſons for diſtances and covering. When in front, their ſerjeants, under their direction, preſerve the ordered diſtance.

In wheeling from line to column, each moves out, and places himſelf one pace before the centre of his platoon. Each turns towards his men during the wheel, and inclines to his pivot flank. Each gives his word, *Halt—Dreſs*, when his wheeling man has juſt completed his degree of wheel. Each ſquares his platoon, but without moving what was the ſtanding flank. Each then places himſelf on the proper pivot flank. After the wheel into column is compleated, no one is to cauſe his platoon to ſhift, by way of covering on the pivot flank, unleſs ſo ordered by the commanding officer, or that in the courſe of marching a ſtraight line is gradually taken up. In wheeling *from* column into line, the officer places himſelf one pace before the centre of his platoon, turns towards his men during the wheel (inclining towards the pivot of his preceding platoon), and gives the word *Halt—Dreſs*, when his wheeling man, on whom his eye is fixed, is juſt arrived at the next ſtanding pivot man. He then, from that pivot man correcting the interior of his platoon upon his own pivot man, takes his place, and remains ſteady on the right of his platoon.

If the column is in movement, and platoons are ſucceſſively to wheel into a new direction, each officer, to whatever hand he is to wheel, gives the word from the point he is then placed at, whether in front or on the flank. If on the wheeling flank, he conducts it; if on the ſtanding flank, he ſteps out two or three paces, the better to ſee that his platoon wheels quick, with a proper ſtep, and that he may time his word *Halt*. This done he is to fall back to his place on the pivot flank, no longer to look to his platoon, but having his eye fixed on the officer of the preceding platoon, he is to give his word *March* at the inſtant that officer is taking the laſt ſtep which eſtabliſhes the proper diſtance between the platoons. When an officer is marching on the pivot flank, he is to be anſwerable for diſtance and covering. Theſe circumſtances alone muſt ſolely engage his attention: he can only occaſionally give a glance of his eye towards his platoon, which muſt dreſs to him of courſe, and without any particular direction. When platoons in column are each to countermarch on its own ground, the officer, when his platoon faces, goes to that flank which is to become the pivot flank, conducts his platoon in file, and cloſes its leader to the ſerjeant, who has remained to mark the pivot, *Halts*, *Fronts*, and dreſſes it ſquare. He then places himſelf where the ſerjeant ſtood.

When the battalion marches in line, officers then become individuals, equally attentive as the ſoldier; nor can officers then be attentive to any thing but to the correctneſs of their own perſonal march. Every operation then depends on the word from the commanding officer, who moves, halts, and dreſſes the battalions. Whenever the battalion is in line, officers give no commands except in firings.

When the platoons of a column file ſeparately to a flank, the officer conducts the head; and when he arrives within thirty paces of the new poſition in which he is to form, he detaches his ſerjeant to mark the point at which he is to place his pivot front rank man, either in filing to front or rear. The officer ſtops at that ſerjeant, and halts, fronts, and dreſſes his platoon cloſe to the ſerjeant. He then himſelf, after correcting his platoon, replaces the ſerjeant, who falls back to the rear rank. In filing, diſtances and dreſſing are taken from that hand to which, by a face of the platoons, the whole would ſtand fronted in column, and the line breaks into column towards the directing point. The leaders of the third, fourth, &c. platoons from the directing flank are never to overpaſs the ſtraight line which joins the heads of the firſt and ſecond, but are, if any thing, to be behind it, till they arrive and halt exactly in the new line. In movements to the rear, diſtances and dreſſing are always taken from the ſame point to which they would be made, if the movement was to the front; that is, from the left in going to the rear, if it ſhould be from the right in going to the front.

On the leading platoon officer of the column much of the preciſion of march depends. He muſt lead at an equal, ſteady pace, and on two objects either given to him, or which he himſelf takes up on every alteration of poſition. This demands his utmoſt attention; nor muſt he allow it to be diverted by looking at his platoon, the care of whoſe regularity depends on the other officers and non-commiſſioned officers belonging to it. The ſecond platoon officer muſt alſo be ſhewn, and know, the points on which the firſt leads. He is always to keep that firſt officer and thoſe points in a line; and thoſe two officers, together with the placed mounted officers, thus become a direction for the other pivot officers to cover. In marching in open column, the covering ſerjeants are placed behind the ſecond file from the pivot officers, that the officers may the more correctly ſee and cover each other in column. In the column of march, after the word *Halt* is given, no one is to move, and pivots particularly muſt remain where they are then placed. In this ſituation, when ordered to form, each platoon wheels up to its adjoining pivot; the whole will then perhaps, as in the caſe of marching upon a road, along the different turnings of a height, &c. &c. be on a winding line, and muſt not attempt to get into a ſtraight line, unleſs ſo ordered by the commanding officer to anſwer ſome particular object. When the platoon wheels *backwards* from line into column, the ſituation and buſineſs of the officer are the ſame as when wheeling forwards; and he halts and dreſſes from his pivot flank, which he gains during the wheel.

In cloſe column, diviſion officers are on the pivot flanks. In forming line, before the diviſions face, they are ſhifted to the leading flank, if neceſſary. The officer of each ſtops in his own perſon, when the diviſion nearer to the forming point than himſelf, receives the word *Halt*, *Front*, allows his ſerjeant to proceed with the diviſion; at the due inſtant gives his word *Halt*, *Front*,—*Dreſs*, and as ſoon as the front of his diviſion is clear, the word *March*, conducting it into line. Before the diviſion arrives within three or four paces of its ground, the officer will have ſtepped out nimbly to the flank of the preceding diviſion, and will be thus ready to give the word *Halt—Dreſs* at the inſtant his inward flank man joins the preceding diviſion. The men dreſs by the formed part of the line, and the officer corrects them on the known diſtant point. He then reſumes his platoon place, which has been preſerved by a ſerjeant. When the cloſe column, or part of it, forms line on a rear diviſion, the officer of each, when the one behind him halts, fronts, will ſtep nimbly round the rear, and without impeding his diviſion, allow his ſerjeant to proceed. From hence he can better judge the proper moment of giving his words *Halt*, *Front*, to his diviſion. He then places himſelf on its inward flank, and marches up when his front is clear. The officer of one of the centre platoons is always in open column, to preſerve diſtance for the colour files. The colours wheel up into column, with the leading centre platoon, and place themſelves behind the third file of men from its pivot flank. When the line forms, they cloſe in to that flank.

When officers march in front of their diviſions, they muſt in their own perſons keep ſo cloſe to the preceding ones, as not to hinder the flank of their own diviſion from preſerv-

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ing its proper diſtance. When the head of a column of march changes its direction, and that marching in an alignment is not in queſtion, inſtead of making regular wheels on fixed points, the officer who conducts the leading diviſion will often be directed to bring it gradually round into the new direction, by the turn of the outward ſhoulder, making both its flanks continue moveable; but each ſucceeding diviſion, without the formality of command or halt, does the ſame thing, the whole attention reſting on each pivot flank, which at no rate muſt increaſe its diſtance, but during this operation preſerves the ſame equality of time and length of ſtep at which it was before moving. On all occaſions of forming in line, either by wheeling up from open column, or in moving up from cloſe column, or in marching up from echellon, &c. the conducting officer moves nimbly to his point of appui, ſome paces before the arrival of his diviſion in the line, and from thence gives his word to *Halt*, and inſtantly dreſſes it.

Officers and ſerjeants of the ſupernumerary rank are in the rear of their reſpective companies. When the battalion is halted, or marching in line, they are three paces from the rear rank. In open column, they are within one pace of the rear rank. In cloſe column, they go on the flank of their diviſion which is not the pivot. Their great attention during movements is, that files are correct, ranks kept up, and that perfect order is preſerved among the ſoldiers; circumſtances in which they greatly aſſiſt the platoon officer, who having the more important objects of diſtance and the covering of pivots to obſerve, cannot in ſuch ſituation be giving minute directions to his platoon, without loſing ſight of his more material duties. During the firings, the ſupernumerary rank, aſſiſted by the platoon ſerjeants, are to keep the rear ranks well cloſed up to the front, and to prevent any break beginning in the rear.

The ſtaff (adjutant excepted), in line, are three paces behind the muſic; in parade, at open ranks, they are on the right of the grenadier front rank. It is the particular buſineſs of the adjutant at all times to aſcertain the direction on which the column is to move, or on which the formation of the line is to be made. For this purpoſe he is mounted; otherwiſe he could not properly diſcharge this important duty; and he can be much aſſiſted in it, by having two or three camp colour men, or non-commiſſioned officers, properly trained to line themſelves quickly with any two given points. He is to take care that the point where the battalion in column enters an alignment is aſcertained to it; when it is moving in that alignment, that two points a-head of the column are always prepared; when it wheels up into line, that a point beyond each flank of that line is aſcertained; when the line is to be prolonged, and has wheeled backward by diviſions, that two points in the exact line of the pivots are ready for its march; when the cloſe column is to form in line, that a point to each flank is given; when the battalion changes poſition, either by files, or by the diagonal march of diviſions, that there are points given on which the pivots of files will cover, and can dreſs their diviſions upon from their ſeveral points of appui; in ſhort, that upon all occaſions, fixed points of forming, dreſſing, and march, are given, except in advancing in line, where the aſcertaining ſuch points does not depend on the adjutant.

When the battalion changes poſition, by the echellon march, the named diviſion wheels its eighth file into the new direction. The other diviſions wheel their eighth file half the number of paces as the named one. The ſerjeant is on the outward flank, the officer on the inward flank of each diviſion. At the word *March*, they move on, preſerving their relative diſtance, and covering of pivots from before them, and juſt before the inward flank of each diviſion arrives at the outward flank of its preceding one, which is already halted in line, its officer places himſelf before that flank; and when his inward man touches it, he gives his word *Halt—Dreſs up*, if the movement is to the front, and dreſſes his diviſion on the diſtant prepared flank point, ſo that his diviſion is ſteadied before the arrival of the next one. When the change is made to the rear, the retiring part faces about before the diviſion wheels are made, proceeds as above, and each officer gives the word *Halt, Front, Dreſs—Back*, to his diviſion when its inward man touches the preceding formed one.

IV. *Attentions of Commanding Officers of Battalions.*

The battalion may be conſidered with reſpect to the line, what the platoon is to the battalion.

Commanding and field-officers are always to be mounted, and unleſs they are active on horſeback, it is impoſſible for them to ſee, to correct, to prevent miſtakes, or to move with that diſpatch which is neceſſary from one point to another. Whatever operation is to be performed by the whole of the battalion at once, is done upon the word from the commanding officer, without any repetition being made by platoon officers. He puts it in motion, and halts it, whether in line or in column. He wheels it from line into column, and from column into line. He orders arms to be carried, ſupported, &c. He dreſſes it from the centre, when it has marched in line, and halts; and from what was the leading flank when it has wheeled up from column into line.

Before the column marches, the commanding officer aſcertains points to the leading officer; and when he intends to change the direction of the march, he gives new points, and he watches over the juſt leading of the column. He takes care that all wheels of platoons are made at the identical point where the leading platoon wheeled; that all doublings of ſubdiviſions are made ſucceſſively in the ſame manner and at the ſame point; and that forming up to platoons is made at the ſpot where the firſt forming up is made; that in all diminutions of the front, the natural order of the column is preſerved, whether the right or left of the battalion leads; that a column of half platoons occupies no more ſpace than a column of whole platoons, viz. juſt enough to wheel up into battalion.

When the open column marching in an alignment is to form in a ſtraight line, and for that purpoſe halts; the inſtant that it does halt, the commanding officer from the head of the battalion corrects the pivot files of men (which however ought not to be neceſſary) in the true line, and upon a rear point. But if the march is making in a winding direction, and that the intention is not to form, or not to take up a ſtraight line, the platoons remain on the ground on which they halt, and do not move in any ſhape, until they receive a further order, either to form in line, or firſt to cover, and then to form or to continue the march. The commanding officer always conducts the head of his battalion column to the point at which it is to enter a new line, and he takes care in time to diſpatch a mounted officer to aſcertain that point. When the platoons wheel up into line, he immediately, if neceſſary, corrects the dreſſing of the battalion from the flank which led when in column, and that generally upon a point beyond the other flank.

When acting in line with others, the commanding officer of each battalion conforms to the movements of the regulating one, and from it takes, and rapidly repeats, his words of *Halt, Wheel, March*, &c.; and the leaſt delay in repeating any of theſe words muſt undoubtedly diſorder the line in proportion to that delay, for the whole of a line ſhould march or halt at the ſame inſtant. In line, the commanding

officer is in the rear of the colours. From thence, by marked cautions, he makes his battalion ſtep out, or ſtep ſhort, or incline, as is neceſſary to preſerve its place in the general line. His great attention is to ſee and prevent the beginning of faults, and not wait till they have had their effect. By watching and regulating his advanced ſerjeants, he beſt regulates his battalion. The ſquareneſs of the march, the compactneſs of the files, and the equality of ſtep, are the great objects he is to have in view. The other mounted officers are behind the wings, and can aſſiſt much in preventing faults, and in correcting them.

All the battalions of a line muſt halt at the ſame inſtant in conſequence of that word, repeated by commanding officers, whether they are then correct, or not in line. Each half battalion from its own colour, and the men looking to it, will be immediately dreſſed on the colours of the next adjoining battalion. By this means a general continued line will be obtained, or, at any rate, a ſtraight one between each two colours; and if all the colours ſhould have truly halted in one line, the whole corps will be completely formed in a ſtraight line. But if the halt is not juſtly made, and that a better line muſt be obtained, the colours of the defective battalions will be brought into the general line; the platoon officers will quickly arrange themſelves, eyes will be ordered to the right, and the men will in an inſtant move up. Too much celerity cannot be uſed in completing this operation.

A ſingle battalion, when it halts, is dreſſed on its right or left centre company, and is therefore in a ſtraight line. Two battalions dreſs each from its centre on each other's colours, their outward wings conforming, and are therefore in a ſtraight line. Three or more battalions dreſs from the centre of each, on their next colour; and therefore if all the colours halt in a line, the line of the whole will be ſtraight: if they are not ſo halted, the general line will not be dreſſed, till a ſpecial correction is made, but no flank will be thrown out of the general direction. When a battalion retires and halts, it ought never to remain in that ſituation, but be immediately faced about, and dreſſed to the proper front. The greateſt fault that a battalion in line can make, is increaſing its interval. Bad dreſſing may be remedied without danger, but a falſe diſtance preſents a weak part to the enemy, and is not to be cloſed without a hazardous movement, and great operation of the line. Commanding officers cannot take too much precaution to aſcertain true points in the line in which they are to form, before the arrival of their battalions in it. When a battalion is exerciſing ſingly, a commanding officer may have two camp colour bearers behind each flank, properly trained, and ready to run out to that flank, to give points of marching, forming, or dreſſing upon the true line; in doing which, one flank of the battalion is generally conſidered as in that line, and often both.

Words of command cannot be ſpecified for all the variety of circumſtances and ſituations that occur, but commanding officers, being themſelves clear in what is to be done, ſhould by diſtinct and explicit orders, which they divide and adapt for the occaſion, lead their battalions through all the points of execution with preciſion. This will always be found the ſhorteſt path, nor on any account ſhould any operation, more eſpecially the correction of an error or miſtake, when once a battalion is aſſembled under arms, be performed in a careleſs or ſlovenly manner, which will always be the caſe if the commander's orders be not pointed, loud, and ſufficiently explanatory.

A battalion cloſe column forms in line on its front diviſion, on a rear diviſion, or on a central one, according as circumſtances require; and in all caſes the line formed upon is that on which the head of the column or columns is halted before the formation begins. Therefore the diviſion on which each battalion at any time forms, moves up at the proper inſtant, and halts on that line. When ſeveral cloſe battalions, ſtanding on the line, are to extend and form, the regulating and named battalion only can be obliged to form on a central diviſion. Each of the others will form on its front or rear diviſion, viz. on that which firſt arrives at its ground where it halts, fronts, and occupies its proper place, while the others move on, and ſucceſſively come up to it. In forming line from cloſe column, points muſt be given beyond both flanks in the direction of the line, and a mounted officer halts, and fronts each diviſion, which is eſpecially neceſſary for thoſe that form upon a rear one, although leſs ſo for thoſe that form upon a front one. The dreſſing and correction of the line is from the firſt formed diviſion towards the other flank, and all the eyes of the battalion are of courſe turned to that firſt formed diviſion.

The ſame number of points are required for the march into an alignment, and wheeling up into line of an open column of one battalion, as for that of ſeveral battalions; viz. *one* where the line is entered, and always *two* beyond the head of the column. Therefore, although theſe precautions may appear formal for the movements of the battalion when ſingle, yet they are neceſſary in all its exerciſes, when it is recollected, that ſuch battalion is in the place of, and muſt conſider itſelf as the leading one of the column, on whoſe correct poſition that of every following one depends. The ſame exactneſs is required in every extenſion from cloſe column into line, and in every forming and change of poſition that the battalion makes. In fine, in order to qualify the battalion for acting in the general line, it muſt at its ſingle exerciſes work on points fixed and relative, and make no chance and accidental movements or formations. Although on moſt occaſions of movement and formation, and at all times in inſtruction, determined points marked by detached and mounted officers are given; yet ſuch helps cannot be expended or depended upon, when the line is advancing on an enemy, when a corps is haraſſed in its retreat, and when it is unſafe to ſend out officers, &c. In ſuch ſituations every thing will depend on the eye and judgment of conducting officers, who muſt preſerve ſuch direction of movement, and ſeize ſuch accidental points as preſent themſelves, and lead to the object which is to be accompliſhed.

In whatever ſhape a battalion is moving, the commanding officer is never to loſe ſight of this great principle, that the battalion ſhould at no time cover more ground than its proper extent when formed in line. Therefore if he is marching in line, he muſt take care that his files do not open; if in column, his great attention ſhould be, that his diviſions do not open. For this purpoſe his march muſt be juſt and compact, his wheels quick, and all doublings up, or back, which alter the extent of front, muſt be made ſo as not to impede the general movements of the column, or to change its diſtances. When the front is to be diminiſhed, he muſt ſee that the doubling diviſion ſlackens its pace, and when diſengaged from the other diviſion, that it inclines well up, quick, and covers, ſo as not to impede the diviſion in its rear. When the front is to be increaſed, the moving up diviſion does it quick, and by oblique marching.

The commanding officer muſt recollect, in the winding movements of the open column of march, that the wheeling diſtances muſt be juſt; that the pivots are to follow on the exact tract which the leading one has traced out; that the whole, when ordered, halt on the preciſe ground they then occupy; and that when they wheel up and form, the line will not then be a continued, but probably an irregular curved one.

one. But if a ſtraight line is to be entered, and formed upon, from the point where the head enters, and not ſooner, and where a mounted officer remains poſted, does every platoon pivot officer begin to cover in the true line, to march in that line, and to preſerve his true diſtance; nor muſt any obſtacle that can poſſibly be ſurmounted, ever force the pivot officers out of that line, although the men of their platoon, when it becomes neceſſary, may open or widen their files from them. If the pivots, on account of any material impediment, *are* thrown for a time out of the line, they ſhould always, if poſſible, move to the hand which carries them behind the line, and again re-enter it if they can; for which purpoſe an officer, or non-commiſſioned officer, ſhould be placed where they are to re-enter it. In marching in the alignment, the commanding officer ſhould frequently place himſelf in it, ſee with a glance of the eye whether his files preſerve it, and correct them if neceſſary.

As one field officer at a time muſt command the battalion, the others preſent can only act in aid of him, nor can their ſituation in all caſes be aſcertained; but ſhould the commanding officer not be at the head of the open column when it marches, and particularly when it halts, to correct if neceſſary the pivots in the general line, another field officer, or the leading officer, if no field officer is there, ſhould inſtantly attend to it, that the wheeling up may not be delayed. If in the courſe of exerciſe and inſtruction, the commanding officer is not behind the centre when the battalion marches in line or halts, another field officer from that ſituation can immediately give every proper aid in movement, or in lining as it ought when halted; and in every caſe it muſt be evident in what manner the commanding officer can be aſſiſted.

When the line is to break and wheel into open column of march, in almoſt all caſes it is better done by wheeling backward than forward, for the wheel is in this manner made on the pivot flanks; and although diviſions may be unequal, yet theſe flanks cover after the wheel, an advantage which is loſt if the wheels be made forward. When a battalion makes a retired echellon, or part of an echellon of a conſiderable line, the commanding officer muſt take great care to regulate his movements by thoſe of the one preceding him, viz. that he preſerves his parallelism, his ordered diſtance, his proper flank interval, and when the leading echellons halt, and that he is to move up into line, that the outward flank is not thrown too forward (which without great attention will happen), and thereby perhaps be expoſed to the enemy's enfilade.

Commanding officers of regiments, brigades, or larger bodies, are moveable according to circumſtances, and ſhould, by no means, conſider the centre of ſuch bodies as their general poſt in exerciſe or movements, or expect by the exertion of one voice, from one fixed ſituation, to command and direct the whole. Their preſence is more frequently required near one or the other flank. In general, they ſhould be at the conducting point of movement or formation, and to that addreſs their orders by voice or meſſage; for if that point is led or placed in the direction it ſhould take, there is little danger of the other parts of the corps not properly and ſucceſſively conforming to it. There are many ſituations in the movements of great bodies, where commands, that are not immediately to influence the whole, are not given loud, but quietly, to the directing body, to whoſe ſituation the reſt by the eye conform: as when the head of an open column is ordered to halt, that the reſt of the diviſions may move on, and ſucceſſively ſtop in cloſe column; and on all occaſions where parts only of a large body are to march, or halt, ſucceſſively. In theſe caſes, commanding officers of regiments ſhould have an attention to give their commands in ſuch manner as not to produce an alteration in thoſe points that are not meant to be influenced by them at that inſtant.

Where a large body is marching in column or columns, through a narrow ground, and when its parts are to be aſſembled beyond the defile in ſeveral lines, in a compact manner behind each other, ſuch parts are not to begin to aſſemble when the leading one does, but the head of each line is ſucceſſively firſt to come up to the ground on which it is to ſtand, and when it there halts, its proper followers, and not before, move into line with it; thus not impeding the diviſions that are ſtill behind them in the defile, and are to perform the ſame operation.

Preciſion of movement depends altogether on the inſtant circulation of commands of execution, and that on the attention of officers to the point they may be expected to come from. Unleſs the whole of a body, however large, is put in motion at the ſame inſtant, a column will be extended badly, and a line will be ill dreſſed, and with falſe intervals. Officers muſt particularly attend to the difference between changes of direction made by *wheel*, and by *ſhoulders forward*. In the firſt caſe, one flank remains fixed, while the other is on the wheel; in the ſecond, both flanks are in motion. *Shoulders forward* applies to a ſmall front, and to a column of march, where the change of direction is to be made gradually, without an alteration of the pace. In proportion to the front of the body ſo changing, muſt be the degree of ſweep made by both flanks; and in all caſes, the reverſe flank conforms to the pace of the pivot flank. In no caſe can it be made ſhort and quick, otherwiſe it becomes a wheel.

Regulations in Firing.

1. The advance of the battalion ſhould inſtantly ſucceed the forming of the line, and when it arrives and halts at the point where it is to fire, the firing ought inſtantly to commence at the word *Halt*, for the battalion having been apprized, during the march, of the nature of the required firing, no improper delay need therefore be made. The greateſt care ſhould be taken by the officers and non-commiſſioned officers in the rear (whoſe principal attention this is) that the rear ranks are well locked up in the firings, and that in loading they do not fall back.

2. The pauſe betwixt each of the firing words *Make ready—Preſent—Fire*, is the ſame as the ordinary time, viz. the 75th part of a minute, and no other pauſe is to be made betwixt the words.

3. In firing wings by companies, each wing carries on its fire independent, and without regard to the other wing, whether it fires from the centre to the flanks, or from the flanks to the centre. If there are five companies in the wing, two pauſes will be made betwixt the *fire* of each and the *make ready* of the ſucceeding one. If there are four companies in the wing, three pauſes will be made in the ſame interval. This will allow ſufficient time for the firſt company to have again loaded, and ſhouldered at the time the laſt company fires, and will eſtabliſh proper intervals between each. In firing by wings, one wing will make ready the inſtant the other is ſhouldering. The commanding officer of the battalion fires the wings.

4. In firing by grand diviſions, three pauſes will be made betwixt the fire of each diviſion and the make ready of the ſucceeding one. In platoon firing, two pauſes will be made. In firing by ſubdiviſions, when one *fires*, the next *preſents*, when one *preſents*, the next is *ready*: thus keeping up an inceſſant fire.

5. In firing companies by files, each company fires inde-

pendently; when the right files prefent, the reft make ready, and fo on. After the firft fire, each man as he loads comes to a recover, and the file again fires without waiting for any other. The rear rank men are to have their eyes on their front rank man, and be guided by, and prefent with them.

6. In general, after the march in front, and halt of the battalion, company, or platoon firing, fhould begin from the centre, and not from the flanks. In other cafes, and in fucceffive formations, it may begin from whatever divifion firft arrives, and halts on the ground.

7. The line, if retiring, *Halts, fires*, at one command, and inftantly begins firing, from the centre, and not from the flanks.

Objects of Fire.

I. *Againft Cavalry.* The chief object of the fire againft cavalry is to keep them at a diftance, and to deter them from the attack. As their movements are rapid, a referve is always kept up. But when fire commences againft infantry, it cannot, conffiftent with order, and other circumftances, be too heavy or too quick while it lafts, which fhould be till the enemy is beaten or repulfed, or till the conteft becomes too unequal. The fire of three ranks ftanding is hardly, with our prefent arms, to be required, efpecially if the ground fhould be broken, and the foldiers loaded with their knapfacks. The fire of the rear rank, therefore, is generally referved.

II. *Defenfive Fire.* Where infantry are pofted upon heights that are to be defended by the fire of mufquetry, the front rank will kneel, that one-third of the fire that may be given fhould not be loft; otherwife the rear rank in fuch a fituation could not fufficiently incline their pieces to raife the flope. As foldiers generally prefent too high, and as fire is of the greateft confequence to troops that are on the defenfive, and who are pofted if poffible on commanding grounds, the habitual mode of firing fhould therefore be rather at a low level than a high one; and the fire of the front rank kneeling being the moft efficacious, as being the moft rafant, fhould not be difpenfed with when it can be fafely and ufefully employed.

III. *In Line advancing.* When infantry marches in line to attack an enemy, and in advancing makes ufe of its fire, it is preferable to fire the two firft ranks only ftanding, than to oblige the front rank to kneel, thus firing the whole. But volleys, fired at a conffiderable diftance, or on a retiring enemy, may be given by the three ranks, the front one kneeling.

IV. *Platoon Firing.* A line pofted, or arriving at a fixed fituation, will fire by *platoons*, each battalion independent, and fuch firing generally commencing from the centre of each. The firft fire of each battalion will be regular, and eftabliffh intervals. After the firft, each platoon fhall continue to fire as foon as it is loaded, independent of any other, and as quick as it can, till the battalion or line is ordered to ceafe.

V. *Independent, or File Firing.* If behind a parapet, hedge, or abbatis, the two firft ranks only can fire, and fuch firing may be file firing, and may be made deliberate and cool, the two men of the fame file always firing together. It may begin from the right or left of platoons, and fhould be taught in fituations adapted to it, not in open ground. Should the parapet, hedge, or abbatis be but little raifed, platoon firing may be ufed.

VI. *Running Fire.* Troops fhould be often practifed in executing the *billebande*, or running fire. This fhould begin on the flank files, and when once commenced, continued without the foldier being fubject to any other rules than keeping filence. This fort of firing is the only one which infantry fhould make ufe of in engagements. It is the moft lively, and more flaughtering than any. It emulates and warms the foldier, and renders him inſenſible to danger. The grand point is to accuftom troops to leave it off when a fignal is given, and afterwards remain filent.

VII. *Oblique Firing.* Oblique firing by battalions is advantageous on many occafions. As when attacked in an oblique direction; when time does not allow to give an obliquity to a greater part of the line; and when their fire can in this manner be thrown againft the opening of a defile, the flanks of a column, or againft cavalry or infantry that direct their attack on fome particular battalion or portion of the line.

VIII. *Regularity of Firing.* As long as the fire by battalion, by wings, or by platoons, can be kept up regular, it is highly advantageous, and can at any time be ftopped; but fhould file firing be allowed, and one begun, unlefs troops are exceeding cool and well difciplined, it will be difficult to make it ceafe, and to make them advance and charge in order. When a line halts at its point of firing, no time is to be loft in fcrupulous dreffing, and the fire is inftantly to commence; but a line that halts, and is not to fire, or when its firing ceafes after the halt, may immediately be ordered to dreſs from colours to colours.

IX. *Street-Firing.* It is fo called from being obliged to engage in a ftreet, highway, lane, or narrow paffage, where no more than 10, 12, 16, or 20 files can march abreaft; fo that, according to the breadth of the place, the platoons muft be ftronger or weaker. When the column is in motion, and arrived where the firing is to begin, the commanding officer, from the rear, gives the word *Halt*. The officer commanding the platoon inftantly gives the words *ready, prefent, fire; recover arms, outwards face, quick march*. At the word *recover arms*, the platoon immediately in the rear of the one that has fired, recover their arms alfo, and cock, and when their front is open by the march of the others down their flanks, they march on with recovered arms, until they receive from their officer the words *halt, prefent, fire*, &c. As foon as the platoon has got down the flanks, it muft form inftantly in the rear, and immediately prime and load again without halting, keeping always their exact diftance from the diviſion before them, which would not be the cafe if they halted to load and fhoulder.

When this is to be put in practice on real fervice, the front of the platoons muft not be equal to the breadth of the place they are to engage in; but there muft be a fmall fpace of ground, or interval, left on the flanks, for thofe who have fired to have room to march back, and form in the rear. It is in this manner, when there is not time to raife a breaſtwork, that a paſs, bridge, road, or ſtreet is to be maintained againft the enemy, by the platoons fuftaining one another, and firing in their turn, which may be continued as long as there is occafion, almoft without intermiffion, by one battalion only. In firing as above deſcribed, the colours, &c. muft at the firft be placed in the rear, and kept there by the fubdiviſions, as they come down the flanks after firing, forming conftantly in their front, till the whole buſineſs is over.

There are, however, different methods of retiring the platoons from the front to the rear. Some are inſtructed, after the word *fire*, to recover their arms, and wheel out the platoon by fubdiviſions from right to left, load, and remain in that poſition till the laſt platoon paſſes them, when they wheel back, and form. Another method is, ſuppoſing the ſtreet to be filled by the platoon, and no room left on the flanks, then by throwing back or retiring a centre ſection

of each platoon, the retiring diviſion may paſs through the centre of the column to the rear. It looks well, and has a good effect on a day of parade; but it is too complicated to be attempted with ſafety in the preſence of an enemy.

General Obſervations.

There is no doubt but that the fire of the muſquetry may be reduced to a theory; but far from that being the caſe, the ſoldier has no principle given him, for at the diſtance or ſituation of the objects, be what they may, he fires at random. It is principally owing to the exerciſe of the target being ſo little practiſed, that this ignorance and deficiency of principle is ſo ſeverely felt.

In our firings, the ſoldier is inſtructed always to fire low, yet no reaſon is given him why it ſhould be ſo, but that the ball riſes. To conſider this a moment; the line of level [The line of level is the ſtraight line by which is ſeen the object on which the ball ſhould be carried to.] and the line of fire [The line of the fire is a ſtraight line which repreſents the axis of the muſquet.] are by no means parallel; for according to the different weights of metal which the barrel has at its breeching, and at its aperture, ſo they deſcribe an angle more or leſs acute beyond the tube. As the eye ſeeks its aim from the length of the line of level, it is therefore fixed at the *exterior* of the barrel. But entirely different to this principle, the motional body, the bullet, is impelled from the *interior* part of the inſtrument, and the length of the line of fire; therefore the line of fire and the line of level cut each other. From the law of attraction impoſed on all bodies obliquely thrown, at its delivery from the mouth of the cylinder, the bullet or ball deſcribes a curve, which riſing from the muzzle, cuts the line of level at a ſmall diſtance from the mouth of the barrel. It will, at about the diſtance of 60 toiſes, or 360 feet, be found to be at a foot and a half or two feet, its greateſt elevation above the line of level. From thence drawn to the earth by that gravitation to which all bodies are ſubjected, it again inclines to the former line, and at the diſtance of about 120 toiſes, cuts it a ſecond time. It is this ſecond point of interſection which is called the muſquet-ſhot, or point blank, after which the bullet finiſhes to deſcribe its parabola to the end of its fall. What is here ſaid is a common property to all fire-arms.

It follows, that to make the ball arrive at the mark intended, the ſight muſt not be always preciſely levelled at that mark. Suppoſe a mark ſix feet high, divided into three equal parts, if the diſtance from it is 50 or 60 toiſes, or 360 feet, then to ſtrike the upper dimenſion aim muſt be taken at the middle one, two feet under the mark. If meant to ſtrike the middle, aim muſt be taken at the lower dimenſion, &c.

If at 100 toiſes, the aim muſt be taken one foot below the mark in order to hit it. If the diſtance is more than 100 toiſes, to ſtrike any of the dimenſions, aim muſt be taken above the mark, and ſo keep raiſing in proportion to the diſtance.

Suppoſe a battalion of the enemy in front; if at 300 toiſes diſtance, aim ſhould be taken three feet over the battalion. If at 200 toiſes, about a foot and a half. If at 150, aim ſhould be taken at their hats. If at 100, at the middle of the body, &c. Although the horizontal ſhot of a muſquet may be computed at 180 toiſes, yet, where the fire of a line of infantry can have effect, it is ſeldom more than at 120 toiſes, or 160 yards.

We ſhall cloſe this article with ſome account of the form of a review of a battalion of infantry, and the method of performing the eighteen manœuvres, as practiſed by his majeſty's forces.

Receiving the General.

At the time appointed for the review, the battalion will, as directed above, draw up in *open order*. Four camp colours are to be placed ſo as to form a ſquare, round the angles of which the wheelings are to be made. A fifth camp colour is to be placed eighty or a hundred paces in front of the centre of the battalion, where the general is ſuppoſed to take his ſtation; and a ſixth at the ſame diſtance, in the rear of the battalion, and oppoſite to the one in the front; but although the general may chooſe to quit that poſition, ſtill the colour is to be conſidered as the point to which all movements and formations are relative. The colour muſt be ſo placed, that the right flank of the diviſions, when marching paſt in review, ſhall be about four yards diſtant from the general.

When the reviewing general is within fifty or ſixty paces of the centre, he will be received with a general ſalute; the colonel, with his back to the regiment, gives the word *preſent arms*. The men preſent arms, and the officers ſalute: the muſic will play, and the drums beat. The officers, in ſaluting, take their time from the flugel man; as he comes to the *poize*, they bring their ſwords to the *recover;* as he ſinks his firelock to the laſt motion of the *preſent*, they drop the points of their ſwords; when he comes to the ſhoulder, they bring their ſwords to the *recover;* and then, taking their time from the colonel, bring them gracefully acroſs their bodies to the port, and remain perfectly ſteady and ſquare to the front. The colours only ſalute ſuch perſons as, from their rank, and by regulation, are entitled to it.

The colonel then gives the word *ſhoulder arms*. While the general is going round the battalion, every perſon remains perfectly ſteady: no compliment is paid. The muſic will play, and the drums beat, but they will ceaſe as ſoon as the general has returned to the right flank of the battalion. While the general is proceeding to place himſelf in the front, the colonel turns to the regiment, and gives the word *rear ranks take cloſe order—march*. He will then, as alſo the lieutenant-colonel, mount on horſeback, in the rear of the centre, giving the words *companies, on the left backwards wheel—quick march*. Pioneers and muſic are ordered to the head of the column. Officers commanding companies muſt be very attentive when they give the words *halt—dreſs*, to ſee that they are well obeyed.

Column—March. The companies wheel ſucceſſively at the firſt and ſecond angles of the ground. When the leading company has made the ſecond wheel, it brings them on the line on which they paſs the general. Each leader of a company, when it has advanced ſix paces from the wheeling point, changes quickly by the rear to the right flank of his company, and gives the words *eyes right*, then *rear ranks take open order*. The muſic begins to play, the officers move three paces in front of the company, dividing the ground equally, the captain on the right, the lieutenant on the left, and the enſign in the centre. The captain's place is ſupplied on the right flank by his covering ſerjeant, who is reſponſible for keeping the company at the proper wheeling diſtance from the one preceding it. The colonel is at the head of the grenadiers, or leading company, with the major a little behind him on his left. The muſic are in two ranks, ſix paces before the colonel. The pioneers are in two ranks, ſix paces before the muſic, having a corporal at their head to lead them. The drummers and fifers are on the left flank of their reſpective companies, and the ſupernumerary ſerjeants three paces in the rear of their ſeveral diviſions. The lieutenant-colonel is in the rear of the light company; the adjutant a little behind him on his left. The colours are

three paces behind the fourth battalion company, covered by their ſerjeants. Staff officers do not march paſt.

The officers, when within ſix paces of the general, prepare to ſalute, by recovering their ſwords. They drop them when in a line with the general, and recover them when ten paces from him, bringing them afterwards to the port, without in the leaſt altering the rate of march, or impeding the front ranks of their companies. The commanding officer, when he has ſaluted at the head of the column, places himſelf near the general, and remains there till the rear has marched paſt. The drummers give a roll each, when the officers of their own companies ſalute. The officers commanding companies will, each ſucceſſively, when he has paſſed the general by thirty paces, give the words *rear ranks, take cloſe order*, and will immediately ſhift to the left, the proper pivot. Officers bring their ſwords to the advance, and each individual of the company reſumes the poſt which he held when the column was firſt put in motion.

When the third wheel is completed by all the companies, and the leading company is near to where the left of the battalion ſtood in its original poſition, the colonel gives the word *halt*. The whole halt, and the muſic ceaſes. At the words *ſupport arms—quick march*, the whole march off in quick time. No muſic. The column makes three ſeveral wheels; viz. at the point where the left of the battalion firſt ſtood, at the point where the firſt wheel was made, and juſt before the third wheel commences, the colonel gives the word *carry arms*.

When the third wheel is completed, which paſſes the column on the line of paſſing the general, the muſic begins to play. The leading officer of each company ſhifts to its right, by its rear, giving the word *eyes right*, and when he has paſſed the general thirty paces, he will reſume his proper pivot flank, giving the word *eyes left*. The ſupernumerary officers and ſerjeants march in a rank, in the rear of the ſeveral companies, at one pace from the rear rank; and officers' ſwords are carried ſteadily againſt the right ſhoulder. The colonel, lieutenant-colonel, major, and adjutant, are in the ſame places as in marching paſt in ordinary time; as alſo drummers, pioneers, and muſic. In marching paſt in quick time, no compliment is paid by officers.

When the head of the column approaches to the left of the ground on which it originally ſtood, the muſic will ceaſe. The colonel gives the word *halt*, and, after a pauſe, *march*. The men carry their arms, and the column takes up the ordinary march, for the purpoſe of moving on an alignment. When at the point on the left of the alignment, each officer gives the words *halt, left wheel, halt dreſs, march*. It is ſcarce neceſſary to obſerve, that theſe words are repeated at every wheeling point. The column prolongs the alignment, till arrived at the point where its head or right is to be placed, viz. where it originally ſtood. The colonel then gives the word *halt*. Pivots are corrected, if neceſſary, but ſhould be done inſtantly, and if poſſible, ought to be avoided, as nothing can more clearly point out how badly diſciplined, and how inattentive the commanding officers of companies muſt be, when this operation is neceſſary to be done in the face of the general. On the word, *companies, to the left, wheel into line*, pioneers and muſic go to their poſts behind the centre, officers move to the front of their companies, and at the word *quick march*, the battalion wheels up again into line.

When the line is formed, the colonel then cautions the battalion, that it will perform the manual and platoon exerciſe. He immediately goes to the rear, and the major, advancing to the front of the battalion, gives the commands *rear ranks take open order, march—order arms—unfix bayonets —ſhoulder arms—officers take poſt in the rear*. The officers recover their ſwords, and face to the right. On the word *march*, they, as well as the colours, &c. march through the ſeveral intervals occupied by the ſerjeants, three paces beyond the rear rank. At the word *front*, they face about, and bring their ſwords to the port. The colonel, lieutenant-colonel, adjutant, pioneers, muſic, ſupernumerary ſerjeants, drummers, and fifers, are at their poſts in the rear, as when the battalion is formed at cloſe order, where they remain perfectly ſteady.

The major proceeds with the manual as directed by regulation, obſerving only the front rank comes down to the laſt poſition of the *charge bayonet*, the others remaining ported. The ſerjeants who preſerve in the front rank the places of the platoon officers, remain there ſteady during the whole of the manual, except that they charge their pikes at the ſame time as the bayonets. When the manual is over, the major gives the words *rear ranks take cloſe order, march*, on which officers, ſerjeants, colours, and every other individual, take their places as when the battalion is at cloſe order. The major then gives the word *platoon exerciſe*, and proceeds with it, according to regulation. When finiſhed, the major goes to his poſt, the colonel comes into the front, and gives the word *with cartridge—prime and load*. The corps is now ready to commence the ordered movements. The flugel man ſtands oppoſite the centre of the battalion, with his front to the general, and goes through the motions as directed for the manual exerciſe, &c. Of courſe he is not to perform any of what are called the flugel motions.

Method of performing the EIGHTEEN MANOEUVRES.

FIRST MANOEUVRE. *Cloſe Column on a Rear Diviſion.*

The colonel gives the word *the battalion will form cloſe column of companies, in rear of the grenadiers. Remaining companies—right, face.* All the companies, except the grenadiers, face to the right. The captains and their covering ſerjeants poſt themſelves at the head of their files, ready to lead. Two or three leading files of each company diſengage a little to the right. The captain of the grenadier company, with his covering ſerjeant, ſhifts to the left of his company, the pivot flank. The colonel then gives the word *quick, march*. All the companies, except the grenadiers, ſtep off at once, and move on in file till they come near the company to be formed on, when the ſerjeants who were leading the files ſtep briſkly forward to mark the ſituation of their companies in the perpendicular of the front of the column. The covering ſerjeant of the firſt company halts one pace in the rear of the covering ſerjeant of the grenadier company, carefully covering him, and ſtanding perfectly ſquare in his own perſon. His own captain alſo halts cloſe to him, and allows his company to move on in the rear of the ſerjeant, taking care that the right hand, or leading file of the company, does not paſs beyond, but mark time when it comes up to the right hand file of the grenadiers. As ſoon, therefore, as the captain ſees that the left hand file of his company is in with his covering ſerjeant, he inſtantly gives the word *halt, front, eyes left;* and having dreſſed his company correctly on his covering ſerjeant, he gives the word *eyes, front*, takes his proper poſt, which his ſerjeant had kept for him, who immediately covers him, while the captain himſelf correctly covers the captain and covering ſerjeant of the grenadier company. In this manner each ſucceeding company proceeds till the column is completely formed. The colours precede the fifth company, and remain on its reverſe flank, covered by their ſerjeants.

The cloſe column being now formed, with the right in front, the colonel gives the word, *form column of grand diviſions.*

diviſions. At this caution, all ſupernumeraries, but not the colours, go to the rear of the column, if not there already. *Left companies, left face.* The left companies immediately face, always to the pivot flank, and their captains take one ſide ſtep to the right, ſo as to be clear of their rank. At the word *march*, the captain ſtands faſt, the ſerjeants conduct the diviſions, and the captain of each, when it has cleared the ſtanding diviſion, gives the word *halt, front, dreſs.* He then ſteps nimbly to the third file of the ſtanding company, and from that gives the word *march, halt, dreſs.* The captains commanding the right companies are now on the right of each grand diviſion. The captains commanding the left companies move to the left flanks of the grand diviſion, their intervals being kept by their ſerjeants. The colonel now gives the word, *the column will cloſe to the front, march.* All the diviſions ſtep off, except the front one, and each, when within one pace of the diviſion in its front, gets the word *halt, dreſs*, from the pivot captain of each diviſion. The cloſe column of grand diviſions is now formed, and ready to deploy. The colours are with their proper diviſion in the column, and that diviſion muſt, of courſe, out-flank on the hand, not the pivot. To obviate this inconvenience, ſome regiments leave a ſpace between the third and fourth grand diviſions, for the colours.

The colonel then gives the word, *the column will take ground to the right, and on its march deploy on the rear grand diviſion.* At this caution, a ſerjeant immediately ſteps out from the rear diviſion, and places himſelf on the pivot flank of the front grand diviſion, following it in file. When the rear grand diviſion is halted, this ſerjeant halts alſo, and inſtantly fronts, remaining perfectly ſteady to mark the ground for the rear grand diviſion to march up to. The colonel gives the word *right face, quick march*, and when the column, in obedience to theſe orders, has marched as far as he ſees neceſſary, generally twenty or thirty paces, he gives the word *rear grand diviſion, halt, front*, and when he ſees that the diviſion immediately before the rear one has cleared its front, he gives the word, *fourth grand diviſion, halt, front.* As ſoon as the rear diviſion, which has halted and fronted, finds its flank free by the *halt, front*, of the diviſion that was immediately before it, at that inſtant the captain on the *left* gives it the word *march.* The grand diviſion marches ſteadily till it places its pivot flank; the left, cloſe to the ſerjeant who had ſtepped out to mark the ground for it. It then receives the word *halt, dreſs*, from the captain on the *left.* He dreſſes the grand diviſion, from the ſtanding ſerjeant (the point of appui) to the camp colour (the point of formation) on the right. As ſoon as the dreſſing is finiſhed, he ſhifts to the right of his company. The rear grand diviſion being dreſſed, the fourth is marched up, and dreſſed on it, exactly as the rear one had dreſſed on the ſtanding ſerjeant, and ſo the third, ſecond, and firſt, till all are in line. If the deployment be correctly made, the firſt grand diviſion has only to *halt, front*, as it is already in the true line. Much of the exactneſs of this, and every deployment of the ſame kind, muſt depend on the accuracy of the mounted officer, who halts and fronts each grand diviſion. For this purpoſe he muſt be in the rear of the column. If he is confuſed, all will be deranged. Supernumerary officers and ſerjeants, drums, muſic, and pioneers, halt with their reſpective grand diviſions, and as they are halted and dreſſed, take their proper ſtations in the rear. The line is now formed to the general's left.

Obſerve, when the column deploys on the rear diviſion, it faces from the pivot flank, which then becomes the following one.

SECOND MANOEUVRE.—*Cloſe Column on a Front Diviſion.* The colonel gives the word, *the battalion will form cloſe column of companies in front of the right infantry: remaining companies—left, face.* The captains and their covering ſerjeants poſt themſelves at the head of their leading files. Heads of files diſengage. At the word, *quick—march*, the covering ſerjeant of the eighth company ſteps briſkly forward till he comes in front of the light infantry captain, and three paces from him he faces him. Then, being certain that he is in a true line with him, he immediately faces to the right about, and ſtands perfectly ſteady, and ſquare to his front. The captain of the eighth company leads on his company till he places his pivot man cloſe to the ſerjeant. He then gives the word *halt, front, dreſs*, replaces his ſerjeant (who immediately covers him), and gives the word *eyes front.* In this manner, each ſucceeding company proceeds, till the column is compleatly formed, with the grenadiers in front. The colours move in rear of the fifth company.

The column of grand diviſions is then formed, and cloſed up, exactly as directed in the firſt manœuvre.

The colonel then gives the words, *the column will take ground to the left, and on its march deploy on the front grand diviſion, left, face—quick, march.* When the column has marched thirty or forty paces, or as many paces as the colonel ſees neceſſary, he gives ſucceſſively, and in due time, to each grand diviſion the words *halt, front*, till all are halted, begining with the front diviſion. The inward captain of each grand diviſion (that is, the captain on the right,) when it has halted and fronted, gives his words, *dreſs, march, halt, dreſs*, and the outward captain (the captain on the left) remains on the flank of the diviſion in the line, till the ſucceeding captain, having ſo dreſſed his grand diviſion, comes to replace him. He then replaces his covering ſerjeant on the right of his proper company. In this manner, grand diviſion after grand diviſion comes up till the whole are in line, and the ſupernumeraries alſo take their places gradually in the rear.

Obſerve.—When the column deploys on a front diviſion, it faces *to* the pivot flank, which then becomes the leading one.

THIRD MANOEUVRE.—*Cloſe Column on a central Diviſion, facing to the Rear.*

The colonel gives the word, *the battalion will form cloſe column on the right centre company, facing to the rear. Right centre company, right, face. Right counter-march, quick march.* The captain at the head of his company, which has faced immediately on receiving the order, turns ſhort in file to his right hand, and leads his company till he places his front rank in line with the rear rank of the fifth and third companies. He next gives the word *halt, front*, and then *dreſs*, from the right of his company, where he remains. The colours and centre ſerjeants counter-march with this company. At the word *remaining companies, outwards, face*, the companies on the right of the right centre companies face to the right, thoſe on the left face to the left. Captains and their covering ſerjeants move to the heads of files. On the word *to the left counter-march—quick march*, the captains lead the files; the whole ſtep off at once. The companies of the left wing, No. 5, 6, 7, 8, and light infantry, file one after another in the front of the right centre company. The right wing, No. 3, 2, 1, and grenadiers, file one after another into the rear of the right centre company. The ſerjeants muſt be very careful to follow the inſtructions, as in the firſt and ſecond manœuvre. Each company, as it compleats its counter-march, receives the word, *halt, front, dreſs,*

right, from its own captain, who is now on the pivot flank, the right; the left of the column being in front.

At the word *column, left face.* The column immediately faces to the left, captains, &c. moving to the heads of files to lead them. All the covering ſerjeants ſtand faſt. At the word, *the left hand companies wheel backward, quick march,* the left, or alternate companies, that is, No. 1, 3, 5, 7, and the light infantry, march out in quick time, until their rear has cleared the ſtanding companies about four or five paces. The colonel then gives the command *halt, the whole will counter-march, right about face, counter-march, quick march.* The whole, except the covering ſerjeants, who face to the right about, inſtantly counter-march. The right companies, viz. the grenadiers, 2d, 4th, 6th, and 8th, counter-march on their own ground exactly. The left companies, i. e. the 1ſt, 3d, 5th, 7th, and light infantry, march on towards the column, until they fill the intervals they had quitted, and are again in column in their proper place. The captain of each company gives the words, *halt, front, dreſs,* as their companies finiſh the counter-march, which is compleated when the leading man of each front rank arrives at his reſpective ſerjeant. When the counter-march is finiſhed, the column ſtands with its right in front, as in the firſt manœuvre, and its centre oppoſite the general.

The colonel gives the word, *the column will deploy on the right centre company, remaining companies, outwards face.* The right centre company ſtands faſt. The companies on the right of the right centre company, face to the right; thoſe on the left of it, face to the left. At the word *quick march,* the covering ſerjeant of the right centre company ſteps up to the left flank of the grenadiers, and remains there. As ſoon as the flanks of the right centre company are clear, its captain gives it the word *march,* and when he arrives cloſe to his covering ſerjeant who occupies the exact ground quitted by the grenadier captain, he then, with great correctneſs, *halts,* and *dreſſes* his company on the ſerjeant (the point of appui) to the point of formation on the right, and then, giving the word *eyes front,* ſhifts to his poſt, the right of his company. When the remaining companies are clear of each other's flanks, they get the words *halt, front, march,* from their own captains. The third company dreſſes from the right of the right centre company, its point of appui, to the diſtant point of formation on the right. The other companies of the right wing dreſs in the ſame manner on the ſtanding companies as they ſeverally come up into line. When the fifth, or left centre company, has marched up to its point of appui (the left flank of the right centre company), its captain from that point dreſſes his company to the point of formation on the left. In this manner each company proceeds, till all are in line on their original ground, the centre oppoſite the general.

Fourth Manœuvre.—*Change of Poſition in open Column.*

On the word *by companies on the left backwards, wheel,* left hand men of companies face inwards to their companies. Captains ſtep nimbly to the front of their diviſions. The ſerjeant of the right company ſteps back, and remains to mark the ſpot where the wheeling man of his company is to reſt when the quarter circle is compleated. The other companies conform to this, each ſtanding perpendicular to the baſe line on which its pivot is placed. At the word *quick march,* all the companies wheel back the quarter circle on the principle already laid down. Captains *halt, dreſs,* their companies, and then giving the words *eyes front,* remain on the pivot flank of their companies. The battalion is now in open column of companies, the right in front.

The colonel gives the word *column march.* The column marches thirty or forty paces in ordinary time. The adjutant, having been apprized by the commanding officer, that the battalion is to change its direction to the left, and having the ſpot pointed out to him where the change is to commence, and alſo the direction which the column is to take, will immediately move forward, and place a camp colour at the ſpot where the leading company is to wheel. He will place a ſecond colour as the point of direction on which the leading flank of the column is to move in the new alignment; and he will place a third camp colour, the point of formation, oblique to the right of the column, covering exactly the other two colours, ſo that a line drawn from the ſecond colour to the firſt, and continued to the third, will be a right line, which line will be oblique to, and cut the original line on which the column was marching at the point where the leading company began its wheel, which point is on the new alignment. Theſe matters being all quickly arranged, when the colonel ſees that the leading company is near the point of wheeling, he will give the words

The column will change its direction to the left. The captain of the leading company, on the principle of the moveable pivot, gives the words *right ſhoulders forward,* and when the company has made the required wheel, he gives the word *forward,* and keeps his eyes fixed on the diſtant camp colour, to which he ſteadily marches. Each company as it approaches the wheeling point (the firſt camp colour), conforms exactly to what has been done by the leading company. When the colonel ſees as many companies wheeled into the new direction as he judges to be ſufficient, generally three, he gives the word *halt.* The leading companies, and ſuch others as have already wheeled into the alignment, being now at their proper points, remain ſo.

The rear companies will file into the new alignment. Rear companies, right, face. At this word, all the companies who are ſtill in the old direction face to the right, i. e. to the flank which conducts to their place in the new line. Captains and their covering ſerjeants ſhift to the heads of files, to lead them. At the word *quick march,* the ſerjeants ſtep briſkly forward, to mark their points in the line where the pivot flanks are to be placed. Each captain leads his company to his covering ſerjeant, where he halts, and lets his company paſs in rear of the ſerjeant, till its left flank is in with him, and he then gives the word, *halt, front, dreſs.* At the word, *column, to the left wheel into line, quick march,* the ſerjeant of the grenadiers moves quickly to the right, and places himſelf in line with the pivots. The reſt of the covering ſerjeants go as uſual to their right flanks, to keep the place for their captains. When the wheel is compleated, the captains give the word *halt, dreſs,* from the file on their right to the camp colour on the left, and immediately replace their covering ſerjeants.

Fifth Manœuvre.—*Wing thrown back.*

The colonel gives the following words of command; *the left company will wheel four paces backwards on its left. The remaining companies will face to the right about, and wheel two paces to their right.* The covering ſerjeant of the left company, now on the circle, ſteps to the rear, and on the eighth file from the pivot marches the named number of paces, and comes to the right about, lining himſelf with the camp colour, placed by the adjutant on the right, to mark the new line, which is to be parallel to the original line of formation. The command is then given, *left company, four paces on the left back wards wheel, quick march.* The company's ſerjeant halts the company in a low tone of voice, and the captain accurately dreſſes it on the colour to the right. At the

the word, *wheeling companies, to the right about face*, they face accordingly. On that of, *two companies on the right wheel, march*, each covering ſerjeant ſtep out two wheeling paces on the circumference of the circle, and when the men wheel up to him, he halts them in a low tone of voice. The captain dreſſes the company. The battalion now ſtands in echellon, with its rear ranks in front, the captains having ſhifted to the inner flanks of their reſpective companies, and their covering ſerjeants to the outſide flanks.

The battalion will march in echellon, and form line on the left company, march. The companies march with their rear ranks in front. The captain of the company next to the formed one, gives the word *left shoulders forward*, and then having diſengaged himſelf from his diviſion, the moment his leading flank man of his (now) front rank touches the flank of the company that is already formed, he will give the word, *halt, front, dreſs back*, on which his company fronts, and, without hurry, dreſſes back on his and the formed part of the line, he conducting them on the more diſtant given point, the camp colour on the right, which having done, he goes to his poſt, the right of his company. Every other captain does the ſame, till the line is formed. It is then parallel to its original line of formation, but more retired by the length of ſeven companies, ſuppoſing that three wheeled into the oblique alignment. The battalion is now to the general's left. It is to be obſerved, that the greateſt activity muſt be uſed by each captain in this dreſſing, otherwiſe the point of appui will not be ready for the next company, and the diſtant point will be obſcured; whereas it muſt be left open and diſtinct, ſo that the direction of the line may run at the diſtance of one file from the given object of dreſſing.

To follow the plan as laid down in the rules and regulations, the battalion ſhould now go to the right about, retire fifty or ſixty paces, and then halt, front.

Sixth Manoeuvre. — *Counter-march, ſolid ſquare, and change of poſition.*

On the word, *battalion, by companies on the left backwards wheel, quick march*, the battalion breaks into open column of companies, the right in front. The colonel then gives the word, *the column will change its front by the counter-march of companies to the right, companies, right face.* At this word, the whole face to the right. Each captain will immediately quit the pivot, and place himſelf on the right of his company, and his covering ſerjeant will advance to the ſpot which he has quitted, and face to the right about. At the word, *right counter-march, quick march*, the whole move. Each captain wheels ſhort round to the right, and proceeds, followed by his files of men, till he has placed his pivot front rank man cloſe to his ſerjeant, who remains immoveable. Each captain inſtantly gives the words, *halt, front, dreſs*, to his company, ſo as to have it ſquared, and cloſed to the right, which is now the pivot flank. The captain replaces his ſerjeant, who falls back behind the rear rank. The column now ſtands faced to its former rear, with the left in front.

Column march. The column marches thirty or forty paces. At the word *column will cloſe to the front*, the leading company immediately halts, and the remaining companies each halt within one pace of the company in its front. Captains muſt be very careful to *halt dreſs* their companies correctly, as this is preparatory to forming the ſolid ſquare. Obſerve, that the column may be cloſed at the option of the chief, either in this manner, or by the head diviſion continuing its march, and the rear ones being ordered to march quick into cloſe column, and ſucceſſively to reſume the ordinary march.

Form ſolid ſquare. All the companies compoſing the front half of the column, i. e. the left wing, take one pace forward, except the light infantry, which ſtands faſt. The two laſt companies cloſe up one and two paces to the company before them. At the word, *ſolid ſquare, one pace to the right and left, march*, the whole companies make an interval of two paces in the centre, by their ſubdiviſions taking each one pace to the flanks. Two captains, with their ſerjeants, place themſelves on each of the front and rear intervals. Two captains, with their ſerjeants, alſo take poſt in each of the increaſed intervals in the centre of the ſides. A ſerjeant takes the place of each flank front rank man of the firſt diviſion, and of each flank rear rank man of the laſt diviſion. All the other officers, ſerjeants, the four diſplaced men, drummers, &c. aſſemble behind the centre of the companies which are to form the flank faces.

N. B. The remainder of this manœuvre cannot be correctly performed, unleſs each company conſiſts of at leaſt twelve files, formed three deep.

Four files, outwards, face. The two rear companies face to the right about, and four files on each flank of all the companies, except the grenadiers and light infantry, face outwards, the whole lining with the flanks of the front companies, and dreſſing in ranks from front to rear. On the word *quick march*, the fifth file from each flank of all the companies, except the firſt and laſt, followed by the front rank man of the ſixth file, move up to right and left, and reſpectively fill up the interval between their own and the preceding diviſion. The remainder of the men of the ſide diviſions arrange themſelves to their right and left, forming cloſe in the rear of their own diviſions reſpectively. The whole thus ſtand faced outwards, and formed at leaſt four deep, with two officers and their ſerjeants in the middle of each face to command. The captains may fill the intervals as follows: The grenadier and firſt company in the rear face; the light infantry and eighth company in the front face; ſecond and third in the right face; fourth and fifth in the left face; each covered by his ſerjeant. All the other officers, as well as ſerjeants, diſplaced men, the colours, &c. are in the void ſpace in the centre behind their companies; and the files of the captains in the faces may be compleated by ſerjeants, &c. from the interior, in ſuch manner as the chief may direct. The mounted officers paſs into the centre of the ſquare by the rear face. Whatever is the ſtrength of the companies which compoſe the flank ſides, the whole of them will face outwards, except their four centre files, which are always reſerved for filling up the intervals.

Prepare for firing. The two firſt ranks all round kneel, and ſlope their bayonets. The two next ranks fire ſtanding, and the others, if any, remain in reſerve. The file coverers behind each captain in the ſides give back, and enable the captains to ſtand in the third rank. They are replaced by their ſerjeants, who, with the ſerjeants in the angle, ſlope forward their pikes, at the ſame time that the men ſlope their bayonets. The colonel then gives the word *commence independent firing*, and, on the cloſe of the preparative, the two ſtanding ranks commence file firing from the right of each face. This ceaſes on the beat of the general, and the colonel gives the word, *kneeling ranks, preſent, fire.* If ordered, the kneeling ranks may load again without riſing up. Otherwiſe they immediately recover their feet after firing, and the word *prime and load* is given.

When the colonel ſees it proper to reduce the ſquare, he gives the words *form cloſe column.* The files that faced outward, come to their proper front. Thoſe in the intervals, i. e. the fifth file, and front rank man of the ſixth, face about. At the word *quick march*, the front company takes

one pace forward, and the two rear companies, i.e. the grenadiers and firſt company, one and two paces forward, and then face about. The files from the intervals take their proper places. Officers, ſerjeants, diſplaced men, &c. will quit the interior, move to their ſeveral ſtations, and the companies that compoſed the flank faces will be compleated. Not to multiply words of command, the beſt method to cloſe the ſubdiviſions, &c. is to move the column immediately, by giving the word, *column, march*, either in quick or ordinary time, as the colonel thinks proper.

When the column has marched as far as the commanding officer judges neceſſary, he gives the words, *column will open from the rear*, on which the captain commanding the rear company gives the word to his company, *grenadiers, halt*, and immediately the caution *firſt company*, to the company in his front. When he ſees it exactly at a proper wheeling diſtance from him, he gives it the word *halt*. The captain of the firſt company, when he has halted, gives the ſame caution and command to the ſecond; the ſecond to the third, and ſo on in ſucceſſion, till the column is opened out.

The colonel now gives the word, *the column will change its head by the counter-march of companies from the rear. Right wing, to the front.* The grenadier captain gives the words, *grenadiers, left face.* He and his covering ſerjeant immediately ſhift to the left to lead the files. He then gives the word *quick march*, till his *right* flank can freely paſs near the *left* flank of the others. He then gives the word, *halt, front, march* (in ordinary time) cloſe by the left flank of the firſt company. The captain of that company, while the other is approaching, gives the word, *left, face;* and as ſoon as the grenadiers have cleared his flank, *quick march*, leading his company into the rear of the now leading one. He gives the word *halt, front*, when he covers, and *march*, when at the due wheeling diſtance. All the other companies ſucceſſively perform the ſame operation; and when the light company has taken its place in the rear, the whole column is in perfect order.

Column, halt, left wheel into line, quick, march. When the battalion has wheeled into line, it is conſiderably to the general's right, and with its rear to him. Obſerve, That ſome regiments at review, in this counter-march from the rear to the front, face their companies to the *right*, and bring them out on that ſide, contrary to the general principle. The diviſions which advance come out always on the ſide to which front is to be made, and on which the enemy is placed; becauſe then, with the diviſions that are free, he can be oppoſed, while the others are moving behind the line.

SEVENTH MANOEUVRE.—*Countermarch by Files on the Centre of the Battalion.*

This brings back the battalion to its original front. The colonel gives the following words: *the battalion will countermarch from its centre, and on its centre, by files—wings—inwards—face.* The whole face to the colours, which ſtand faſt; and a ſerjeant remains to mark each flank of the battalion. The word is given, *wings—three ſide ſteps to the right—march;* if the battalion is only two deep, two paces to the right is ſufficient. Each wing takes the named number of paces to its flank, that they may be diſengaged from each other. At the ſecond word *march*, or *quick march*, the whole move on, and each file wheels ſucceſſively into the centre, as it arrives at and beyond the colours. As ſoon as each company is in the line from the colours to the flank ſerjeant, the captain fronts it. When the whole is formed, the colours countermarch, and if neceſſary, the dreſſing of the line is corrected.

EIGHTH MANOEUVRE.—*March in open Column.*

The battalion will form open column in rear of the left company—Remaining companies on the right backwards wheel—quick march. All the companies wheel backwards on their right, except the light infantry, which ſtands faſt. On the word *left face*, they all face to the left, except the light company; and the captains place themſelves to lead the files. At the word *quick march*, the whole will lead to the rear, and the covering ſerjeants will ſucceſſively, as before, take up their points on the new line. The captain conducting each platoon, when he arrives at his ſerjeant, will ſtop directly before him, allow his platoon to move on behind the ſerjeant, till the rear file comes cloſe to, but beyond him. The captain will then *halt, front*, and *dreſs* his platoon, with his front rank cloſed in to the ſerjeant. He will himſelf take the place of the ſerjeant, and remain ſteady on the pivot flank.

As ſoon as the third company has taken its place in the column, the colonel gives the word *march*. The head of the column moves on in ordinary time, and the remaining companies follow, preſerving the proper wheeling diſtance between each. When the leading company arrives within 12 or 15 paces of the point where it is neceſſary to diminiſh its front, the colonel will give a loud caution, that the ſubdiviſions are to double, either by companies ſucceſſively, or the whole battalion at once. If at once, as is ordered in this manœuvre, then he gives the words *form column of ſubdiviſions—right ſubdiviſions—mark time.* Each right hand ſubdiviſion marks time, till its left hand ſubdiviſion, which marches on ſteadily, has opened or cleared its flank. At the words *quick oblique* or *left oblique*, the right diviſions immediately oblique to the left, and cover the left ones correctly. The captains move to the right flank of the left ſubdiviſions. Their covering ſerjeants lead the right ſubdiviſions.

When the column of ſubdiviſions has marched as many paces as the colonel ſees proper, he gives the word *form companies, right ſubdiviſions—quick oblique.* As ſoon as each right ſubdiviſion has cleared the right flanks of the left, by the quick oblique, it immediately receives the word *forward*, and when in line with the left ſubdiviſion, each receives the word *ordinary* from the captain, who had ſhifted to its right. It may be obſerved, that the above is in conformity to the general rule, whether the column be halted or in motion, that the ſubdiviſion or ſection on the reverſe flank is the one behind which the other ſubdiviſion or ſection doubles. But in this caſe, were the left ſubdiviſions to double in front of the right ones, the pivots would be better dreſſed, as the right ſubdiviſions, which were marching correctly in the alignment, would not be diſcompoſed. The colonel gives the words *column halt—right wheel into line—quick march.*

NINTH MANOEUVRE.—*Echellon Change of Poſition.*

The colonel gives the words, *companies on the right backwards wheel—quick march.* The battalion breaks into open column, the left in front, each company getting the *halt—dreſs* from its own captain, as uſual. The colonel continues: *The ſeventh company* (the third, reckoning from the left) *will wheel four paces, the remaining companies ſix paces, on the left backwards—quick march.* The companies are dreſſed by their captains, who are now on the inſide flanks of the echellon. The colonel orders *eighth and light company right about face.* Two camp colours are ſent to the right and left in a correct line with the ſeventh company. At the word *the column will march in echellon, and form line on the ſeventh company—march*, the captain of the ſeventh company ſhifts to its right flank. Each company on the right of the ſeventh, viz. Nos. 6, 5, 4, 3, 2, 1, and grenadiers, as it comes ſucceſſively into line, receives from its captain the word *halt—dreſs*

—*dreſs* on the camp colour to the right. The captain then ſhifts to the right of his company. The companies on the left of the ſeventh, viz. N° 8. and the light infantry, receive the words from their captains *halt, front, dreſs up.* They are dreſſed on the camp colour to the left.

TENTH MANOEUVRE.—*Echellon Change of Poſition.*

The colonel gives the words *the light infantry will wheel four paces, the remaining companies two paces to the left.* When the covering ſerjeants have taken the named number of paces from the front of the eighth file from the left of their companies, the colonel gives the word *quick—march.* The captain commanding the light infantry immediately ſhifts to its left flank. When the company has wheeled up, he gives the word *halt, dreſs,* dreſſing it correctly on the camp colour, which the adjutant had previouſly ſent to the right for this purpoſe. The captain, when his company is correctly dreſſed, gives the word *eyes front,* and reſumes his place on the right of his company, taking care that his men ſtand perfectly ſteady, and with carried arms, until the next company has dreſſed on them; his right flank being the point of appui. When the colonel ſees that every diviſion is ready, he gives the words *the battalion will march in echellon, and form line on the left company—march.* All the companies march in ordinary time. As they arrive in line ſucceſſively, they are dreſſed by their captains from the ſtanding companies to the camp colour on the right. Each captain, when he has ſo dreſſed his company, gives the word *eyes front,* and then ſhifts to the right of his diviſion. The whole are now formed in line, parallel to their original front, and conſiderably to the general's right.

ELEVENTH MANOEUVRE.—*Change of Poſition.*

The colonel gives the words *the battalion will form open column of companies in the march—right face—march.* When the battalion has marched in file as far as is judged neceſſary, he gives the word *form companies.* The files inſtantly make a half face, each marching up quick and *diagonally* to their reſpective leading men, who do not alter their pace. As the pivots are in the rear of companies, when they come up, the companies dreſs to them by their captain giving the word *eyes left;* and they take up as they form, the ordinary ſtep. The column marches; and when the colours are oppoſite to the general, the colonel gives the word *halt,* and then *to the left wheel into line, quick march.*

TWELFTH MANOEUVRE.—*Retreat in Line.*

The colonel gives the word *the battalion will retire—right about face—march.* It marches fifty or ſixty paces in ordinary time, dreſſing by its centre. No muſic plays during the retreat of the battalion. The colonel gives the word *halt front,* and directly after *the battalion will fire twice by companies, from centre to flanks.* On the laſt ſtroke of the preparative, the captains on the right of companies ſtep out one pace, and give the word of command *platoon, ready—preſent—fire—load.* When the firſt part of the general is beat, the captain falls back into the front rank. The colonel then gives the word, *the battalion will retire by alternate companies—right companies, right about face—march.* After marching in ordinary time about fifty paces, they receive the word *halt, front.* In marching, one colour remains on the flank of its proper company in each line. The king's colour with the right centre, and the other colour with the left centre company. A ſerjeant will advance ſix paces before each colour during the march. Each line directs its movements by its colour; diſtances are preſerved from that colour, and to it the men's eyes are turned during the march. Each line has a commander. Captains are ordered to be on the inward flanks of their companies, but this makes a perpetual ſhifting of poſitions, and is better omitted.

The colonel gives the word *left companies, make ready—preſent—fire.* Immediately after firing, the men come to the recover, half cock, and ſhoulder arms. At the word *right about face—march,* the left companies march ſteadily on, dreſſing by their colour. They paſs through the intervals of the right companies, and continue marching until they receive the word from the colonel, *halt front—prime and load.* If the chief fires the left companies, the next in command fires the right companies, exactly as the left companies were fired. They retire in the ſame manner through the intervals of the left companies. The colonel then fires the left companies, and retires them as before, and ſo on till he thinks it expedient to form line.

The left companies will form line on the right companies—march. When they have marched and filled up the intervals, the word *halt* is given by the colonel, and *dreſs* by the captain of each company. The right companies may form line on the left in the ſame manner. Sometimes the right companies are fired in battalion previous to their retiring. The words of command are the ſame as if they had been ſeparated from the left companies. The light infantry may be divided in the intervals of the firſt line, retire with it, and charge to the other line, whenever it becomes the advanced one. In this ſituation, they cover the retreat, and may occaſionally fire; and when the line is formed, they reſume their poſt on the left. Unleſs, however, the battalion is very ſtrong, the light infantry remain in their uſual poſition as a company. When the line is formed, the colonel gives the word *the battalion will retire in line—right about face—march.* When it has retired as far as he chuſes, he gives the word *halt, front.*

THIRTEENTH MANOEUVRE.—*March to a Flank in Echellon.*

The colonel gives the word *battalion, by companies four paces to the right wheel, and form echellon.* Covering ſerjeants take the named number of paces as uſual. The pivots make a half face to the right, the ſerjeants dreſſing by them. On the word *quick march,* captains on the right of their companies give the word *halt, dreſs.* Covering ſerjeants go to the reverſe flank. The colonel then gives the word *the battalion will advance in echellon—march.* The whole advance to the flank in echellon about two hundred and fifty paces. At the word *wheel back into line,* the three centre ſerjeants inſtantly ſtep out into the front, and mark the time for the battalion. The pivots mark time, gradually turning to their proper front, while the reſt of the diviſions wheel back the four paces they had advanced. When the fourth pace is completed, the colonel gives the word *forward:* and the whole, dreſſing by the centre, ſtep out their full pace, till they receive the word *halt.* The line is then conſiderably to the general's left, and parallel to its original front. In this ſituation, the colonel commands *fire three rounds by companies from centre to flanks.* Each captain gives the words *platoon, ready, preſent, fire, load.*

FOURTEENTH MANOEUVRE.—*The Hollow Square, and its Movements.*

The colonel gives the word *the battalion will form a hollow ſquare on the three centre companies* (viz. the fourth, fifth, and ſixth), *remaining companies—four paces on the right and left backwards wheel—quick march.* The companies on the right each wheel back the eighth of the circle on their left, and the companies on the left wheel the ſame number of paces backward on the right. The colours, at the ſame time that the companies are forming their echellons, move back three paces into the rear. The fourth company by the flue

ſtep inclines to the fifth company, to cloſe the interval that was made by the falling back of the colours. At the word *right about face*, the companies that were in echellon face accordingly. The colonel then gives the word, *in echellon, march to form ſquare—march.* Two ſerjeants or camp colours ſhould be placed in the rear, in a perpendicular line with the outſide flanks of the front face, marking out a perfect ſquare. The companies now march in echellon, and by the turning of the left ſhoulders of the right companies, and the right ſhoulders of the left companies, they wheel in to form ſquare. Their captains halt and front them in a correct line. The firſt company will wheel round the ſerjeant placed to mark the angle, and the grenadiers round the proper right of the firſt company; the light infantry at the ſame time wheeling round the ſerjeant on the oppoſite angle, till its right flank touches that of the grenadiers. They then, as alſo the firſt company, get the words *halt, front, dreſs*, from their captains. They have then formed the rear face of the ſquare, and in this manner the proper front rank of the rear face will be outward. The ſquare is now perfectly formed, and compoſed of four faces. The front face conſiſts of the fourth, fifth, and ſixth companies; the right face of the third and ſecond; the left face of the ſeventh and eighth; and the rear face of the firſt company, the grenadiers, and light infantry. The mounted officers, colours, muſic, drummers, &c. and the battalion guns, are all within the ſquare.

The colonel then gives the words *the ſquare will march by the right angle of the front face, left and rear faces—right about face.* The two ſides that form the right angle, that is, the front face and the right face, ſtand faſt; the other two ſides, viz. the left face and the rear face, go to the right about. At the word *by ſubdiviſions four paces to the right and left wheel—march*, the whole by ſubdiviſions wheel up one eighth of the circle, two ſides to the right and two ſides to the left, and are thus parallel to each other, and perpendicular to the direction in which they are to move. The pivot flanks are in this manner placed on the ſides of the ſquare, each ſide being thus in echellon, and the colours behind the leading angle. At the word *march*, captains, who are on the inward flank of their leading ſubdiviſions, carefully preſerve the diſtances they wheeled at, and from the flanks to which they wheeled. At the words *halt, front ſquare*, or *reform ſquare*, the whole wheel back into ſquare; and the two ſides that require it, that is, the left and rear faces, go to the right about. Captains dreſs their diviſions as uſual, in the ſame manner as is deſcribed for the ſquare. The directions given for the march of the ſquare by the right angle of the front face, will equally apply, ſhould it be found neceſſary to march the ſquare by any of its other angles.

The colonel then gives the words *the ſquare will march by the right face.* The colours move up behind the centre of the named face, as do the mounted officers, &c. At the word *front and rear faces, by ſubdiviſions to the right and left wheel—quick march*, the oppoſite ſide, that is, the left face, faces about; and the two flank ſides wheel up by ſubdiviſions, ſo as to ſtand each in open column. At the word *by right face—march*, the ſquare marches two ſides in line and by their centre, and two ſides in open column, which cover and dreſs to their inward flanks on which they wheeled up, carefully preſerving their diſtances. The ſame directions that are given for marching by the right face, will apply to the march by any of the other faces. The colonel, when the ſquare has marched as far as he ſees neceſſary, gives the word *halt, reform ſquare.* The ſquare halts, the ſubdiviſions in column immediately wheel back, and form their ſides, and the ſide which faced about again faces outwards. The captains give the words *halt, dreſs.*

On the word *prepare for firing*, the front rank kneel and preſent their bayonets ſloped. The ſquare is then ordered to fire in whatever manner may be judged proper; the two rear ranks to fire ſtanding; or companies by ranks ſucceſſively; or by companies independent of each other; or by ſubdiviſions, one firing when the other has loaded; or companies by files; as ordered. The front rank remains as a reſerve. Should the battalion be formed only two deep, the front rank will remain kneeling, and the other rank will fire by files. The word is now given *ſquare will fire by companies, beginning on the right.* When the firing by companies has ceaſed, the command is given by the colonel *kneeling ranks, make ready, preſent, fire* (the men riſe up after firing) *prime and load.* The word is then given *the ſquare will form line on the three centre companies—ſide and rear faces—by companies, ſix paces to the right and left wheel, quick march.* The captains, as uſual *halt—dreſs* their companies. The words are then given *in echellon march and form line, march.* The whole march in echellon, except the three centre companies, the outward companies taking care not to impede the inner ones, which muſt form before them. This may be done by the facing and filing of each diviſion from its inward flank to its point in the new line, where it will form up. Captains *halt—dreſs* their companies, as in the third manœuvre.

If the ſquare is compoſed of the eight battalion companies only, then the grenadier and light company may be placed as a reſerve in the rear, ready to be applied according to circumſtances. In marching the ſquare by any of its faces, ſome regiments have been inſtructed to march two ſides in file inſtead of open column; and if the men march tolerably in file, there can be no queſtion but that it is the beſt method.

FIFTEENTH MANOEUVRE.——*Retiring and filing to the Rear.*

When the battalion is to retire, it ought to be previouſly dreſſed with the ſame exactneſs as when it is to advance, and the ſame care in aſcertaining the direction of its march muſt be taken. Therefore, before the retreat is to begin, an officer or ſerjeant will have placed himſelf thirty paces in the rear, ſo as to ſtand perpendicular to the front directing ſerjeant; and of courſe he will be in the line, or nearly ſo, of the directing ſerjeant. Whenever the battalion marches to the rear, it muſt cover its proper extent of ground. The rear muſt therefore avoid cloſing their files more than uſual; otherwiſe the front rank men, who are in general larger, will be crowded in their rank. Muſic, drums, ſupernumerary officers, &c. will take to care march with exactneſs, and not to interrupt, but rather aſſiſt the battalion.

The colonel gives the word *the battalion will retire.* As ſoon as this caution is given, the three directing ſerjeants face about. The ſame centre ſerjeant that directs to the front, directs alſo to the rear. He moves on in the line of the advanced officer, ſix paces beyond the rear rank, and halts. The two other ſerjeants move up on each ſide of him. When the line is retiring, muſic is *never* to play. On the word *right about face*, the whole face; and the ſupernumerary officer, who had replaced the directing ſerjeant, moves up into the leading rank. A mounted field officer paſſes through to the rear, and the directing ſerjeant in the interior prolongs his line, and takes his object betwixt the feet of the poſted officer. Immediately after facing about, the word *march* is given by the colonel. The whole battalion inſtantly ſteps off. The replacing officer betwixt the colours preſerves, during the movement, his exact diſtance

of ſix paces from the advanced ſerjeant, and is the guide of the battalion, the directing ſerjeant conducting on his points under the correction of the colonel, who is ten or twelve paces behind the centre of the battalion. In this retreat, if the light infantry act ſeparate, and not as a company of the battalion, at the word *march* they move quickly round by the flanks, and form in the rear of the centre, extending ſo as to cover it during the retreat, and following at the diſtance of fifty or ſixty paces.

The colonel gives the words *the battalion will, from the proper right of companies, file to the rear—paſs companies by files.* Each captain inſtantly gives the word *left, turn—quick march,* and wheels out his leading file, the reſt of the files following in ſucceſſion. The heads of companies muſt obſerve the proper diſtance from each other, and are regulated from the left. Circumſtances may require that the companies ſhould paſs from their proper left, inſtead of the right, in which caſe the leaders will ſhift and conduct ſuch left until the line is formed, when they will again reſume their proper places. When the companies in file have marched as far as is neceſſary, the colonel gives the word *halt, front.* The whole now ſtand in open column of companies, the right in front. When the column is ordered to halt, the light infantry paſs quickly through it, and take poſt thirty paces in the rear of the intended line. On the word *by companies, left, wheel into line—quick march,* captains, as uſual, *halt, dreſs* their companies. When the line is formed, its centre is oppoſite to the general.

Sixteenth Manoeuvre.—*Filing, advancing, and charging to the Front.*

The colonel, having previouſly placed himſelf ten or twelve paces behind the exact line of the directing ſerjeant, will remark the line of its prolongation, and thus aſcertain the direction in which it ſhould march, and in doing this, he will not at once look out for a diſtant object, but will hit on it by prolonging the line, from the perſon of the directing ſerjeant to the front. Or he will order the covering ſerjeant to run out twenty paces, and will place him in the line in which he thinks the battalion ought to advance. The directing ſerjeant then takes his direction along the line which paſſes from himſelf, betwixt the heels of the advanced ſerjeant, and remarking his object, preſerves ſuch line in advancing. The colonel then gives the words *the battalion will advance.* Before the line ſo advances, the light company quickly forms, in extended order, thirty paces before the centre, and preſerves that diſtance in advancing. The front directing ſerjeant of the battalion moves ſix accurate and exact paces in ordinary time, and halts. The two other ſerjeants that were behind him, move up on each ſide of him, and an officer from the rear replaces in the front rank the leading ſerjeant. The centre ſerjeant, in moving out, marches and halts on his own obſerved point, and the two other ſerjeants dreſs and ſquare themſelves exactly by him. The directing ſerjeant, after being aſſured that he himſelf is perfectly and ſquarely placed in the rank, by caſting his eyes down the centre of his body, from the junction of his two heels, and by repeated trials to take up or prolong a line perpendicular to himſelf and to the battalion, will obſerve and take up any accidental ſmall ſpot on the ground, and within 100 or 150 paces, intermediate ones cannot be wanting, nor the renewal of ſuch as he afterwards ſucceſſively approaches to in his march. In this manner he is prepared, under the future correction of the colonel from behind, to conduct the march.

The line of direction being thus aſcertained, the colonel gives the word *march.* The whole inſtantly ſtep off, and without turning the head, eyes are glanced towards the colours in the front rank. The replacing officer betwixt the colours preſerves, during the movement, his exact diſtance of ſix paces from the advanced ſerjeant, and is the guide of the battalion. The centre advanced ſerjeant is anſwerable for the direction, and the equal cadence or length of ſtep. To theſe objects he alone attends, while the other two, ſcrupulouſly conforming to his poſition, maintain their parallelism to the front of the battalion, and thereby preſent an object to which it ought to move ſquare. They are to allow no other conſideration to attract their attention, and will notice and conform to the direction of the commander only. If any ſmall alteration in their poſition is ordered, it muſt be gradually and coolly made. When the battalion is advancing in line for any conſiderable diſtance, the muſic may be allowed at intervals to play for a few ſeconds only, and the drums in two diviſions to roll; but it is the wind inſtruments only which play. The large drum, or any other inſtrument whatever, which marks time by the ſtroke, is not permitted.

When the battalion advances fifty paces, the colonel gives the words *the battalion will file from the right of companies—paſs files to the front.* Each captain immediately gives the word *right, turn—quick, march,* wheels out his leading file, and paſſes on direct to the front, preſerving a relative diſtance from the left, as being the head of the column, or from the other flank, if particularly ſo ordered. When the column has marched fifty paces, the colonel gives the words *halt, front.* The whole now ſtands in open column, the left in front.

The light company paſſes quick to the rear, aſſembles half of it behind each flank, and moves relatively with the flank companies.

The words now given in ſucceſſion are *column, right, wheel into line, quick, march. The battalion will advance—march.* The battalion marches fifty paces. *The battalion will advance by alternate wings, and fire four times—Left wing, halt.* The left wing halts, and the right wing continues to move on fifteen paces. *Left wing, march. Right wing, halt, ready, preſent, fire, load, march.* The left wing marches paſt them till the right wing, being loaded and ſhouldered, receives the order to march. *Left wing—halt, ready,* &c. as directed for the right wing, and thus they alternately proceed, till each wing has fired twice. *The left wing will form line on the right—right wing, halt.* When the line is formed, *the battalion will advance, march.* After marching fifty paces, *halt. The battalion will fire a volley—front rank kneeling, make ready, preſent, fire, prime and load. The battalion will advance—march.* When it has advanced twenty paces, it receives the command *halt. The battalion will fire a volley, and port arms;* when the battalion has fired, it immediately ports arms. *Quick march;* the battalion advances firm, dreſſing by the centre. When it has advanced fifty paces, *halt;* the front rank comes down to the charging poſition. *Shoulder arms—prime and load.* The light company, iſſuing from behind the flanks, purſue, return, and aſſemble and join on the left of the battalion. The battalion is now advanced near the general, and with its centre oppoſite him.

If the battalion is not very ſtrong, the light infantry ſhould not act as ſuch, but only as a company in battalion. In firing by wings, that is, by half battalions, the colonel generally fires the right wing, and the next in command the left. When the battalion has charged bayonets, they may be ordered to move forward on the charge at a very quick ſtep; but by no means to run. A very few paces only can be neceſſary. Care muſt be taken that the battalion moves in perfect dreſs, which it cannot do if it run. The flugel man gives the time for each wing to caſt about, and ſhoulder.

Seventeenth Manœuvre.—*Retiring in Line.*

The colonel gives the words *the battalion will retire—right about, face—march.* While it is retiring, he gives the caution *the battalion will fire twice by alternate wings—I mean the firſt ranks ſtanding.* He then gives the words *right wing—halt, front.* The light infantry are not ordered by the rules and regulations for the infantry formation, to cover the regiment in this manœuvre; but it appearing to be as requiſite as in advancing, they will be formed ſeparately. On the halt of the right wing, they file round the left flank, and cover the left wing at ſix paces in front, firing and retiring till they occupy the ground quitted by the left wing, dreſſing by the right. When the left wing has gained fifteen paces, it receives the word from the lieutenant-colonel, *halt, front.* The light infantry ceaſe firing. The colonel orders *right wing—ready, preſent, fire* (the men after firing immediately come to the port, or to the recover, as may be ordered). The light infantry face to the right, and cover the right wing at ſix paces. On the words *right about, face—march,* the light infantry fire retiring, till they come into line with the left wing by which they dreſs, and continue firing. When the right wing has marched fifteen paces beyond the left, it receives the words *halt, front—prime and load.* When loaded, the ſignal ſounds for the light infantry to ceaſe firing. The inſtant the lieutenant-colonel ſees that the right wing has fronted, he immediately gives the word of command, and conforms in every particular to what the right wing has done. The light infantry face to the left, and cover the left wing as they did the right, dreſſing by the right. In this manner each wing alternately proceeds, every due diſpatch being made in reloading. When the wings have each fired twice, the colonel gives the words *the left wing will form line on the right wing—march—halt, front—prime and load.* When loaded, the light infantry ceaſes firing, and the ſignal is given by the bugle for it to form company in the rear of the centre. The colonel gives the word *the line will retire;* and when it has marched a hundred paces or more, covered by the light infantry, who file round the flanks, *halt, front.* The light infantry, upon ſignal, form company in the rear of the centre and afterwards reſume their poſt on the left of the battalion.

In retiring by alternate wings, one colour remains on the inward flank of each half battalion, to which the men continue to look when they move, by which they dreſs, and before which a directing ſerjeant advances ſix paces. The *make ready—preſent—fire* of the advanced wing is inſtantly to ſucceed the *march* of the other advancing wing or the *halt, front,* of the retiring one. In the half battalion firing, advancing, and retreating, if formed two deep, both ranks will fire ſtanding. If formed three deep, the front and centre ranks will fire ſtanding, and the rear rank will remain ſhouldered in reſerve.

Eighteenth Manœuvre.—*Advancing in Line.*

The colonel gives the word *the battalion will advance—march.* It marches a hundred paces, and receives the *halt.* At the words *fire a volley obliquely to the right,* the men of the front rank turn one-eighth of a circle to the right; thoſe of the rear ranks take a pace to the left, and cover their proper file leaders. The words are then given *make ready, preſent, fire, load. Fire a volley obliquely to the left—make ready, preſent, fire, load* (the ranks execute the reverſe of what is directed in the firing to the right). *The battalion will advance—march.* When it has advanced a hundred paces, *halt. Fire two volleys to the front—after the laſt, the men will port arms, and half cock. Battalion—ready, preſent, fire, load.* Battalion—*ready, preſent, fire*—the men will port arms, and half cock. *Shoulder arms—ſhut pans—rear ranks, take open order—march.* The colonel and lieutenant-colonel now diſmount, and come through the centre into the front, as do the muſic. Every one takes his ſtation exactly as they had been placed when receiving the general. The colonel, with his back to the regiment, gives the words *the battalion will advance—march.* The muſic plays, and when the line has advanced within fifty paces of the general, the colonel gives the word *halt—general ſalute—preſent arms.* The muſic plays God ſave the King, and the drummers beat a march. When the muſic ceaſes, the colonel, turning the battalion, gives the words *ſhoulder arms—rear ranks, take cloſe order—march,* and the review is ended.

Light Infantry. The following is the method uſually obſerved by the light infantry when required to form in extended order, as commenced at the twelfth manœuvre. Previous to the retreat in line, the colonel directs the horn to ſound the ſignal for their forming company, when the officer commanding it gives the words *right face—quick march* (in double quick time, to ten paces in the rear of the ſupernumerary rank, its centre covering the colours)—*halt, front—order arms—unfix bayonets—form two deep* (the left ſubdiviſion of the rear rank ſteps back one pace) *rear rank, to the left face—quick march* (its left ſubdiviſion arrives between it and the centre rank, when the whole moves forward)—*halt, front, dreſs,* is then given by the ſenior ſupernumerary officer. The light infantry being divided into ſubdiviſions, the right is commanded by the captain, and led by his covering ſerjeant; the left by the ſenior lieutenant, and led by the ſecond ſerjeant; the ſecond lieutenant attends the right ſubdiviſion. On the retreat of the line, at ſignal from the horn, the ſubdiviſions face outward, and file, in quickeſt time, round the flanks of the line, forming (when the retreat is made by alternate companies) at ten paces in front. The right ſubdiviſion covering at equal diſtances the right wing, except the grenadiers, and the other the left wing in the ſame manner, dreſſing to the centre. When the word *march* is given to the line, the light company, at the ſound of the bugle, commence firing for the firſt round from centre to flanks. Each man, when he has fired, retires the ordered number of paces, generally four, by the left of his file comrade, and reloads. On the fronting of the battalion, they form company, as before mentioned, round the flanks, in rear of the line, where they divide into ſections. The two ſections of the right ſubdiviſion form in rear of the firſt and third companies: thoſe of the left in the rear of the fifth and ſeventh. All the ſections are faced to the left, and on the retreat of the alternate companies, ſuppoſe the left move inſtantly into the intervals, and form as much extended as is neceſſary, in line with the right companies, who ſtill remain ſtationary, firing independently till the companies in line receive the order to make ready. When the right companies retreat, the light infantry move to the right, cover them as they had before done the left, and fire retiring till they arrive at the intervals between the left companies, upon whom they dreſs. Thus they alternately continue to occupy the intervals, till the line being formed, they wheel round the reſpective flanks, form ſubdiviſions in rear of the ſecond and ſeventh companies, form again in front on the retreat of the whole line, in extended order, and at its halt, aſſemble again in company behind the centre. In advancing in line, and by wings, the movements are ſimilar to thoſe already explained in the ſeventeenth manœuvre, with this difference, that the company moves forward inſtead of retiring. To re-form three deep, when re-aſſembled in company behind the centre of the line, the officer gives the words *form three deep* (the third ſection, or the whole of the proper rear rank, ſteps back one pace) *rear rank, to the right face—quick march* (the rear

rear rank of the ſection marks time till the front rank has paſſed it, and then moves on) at the word *halt, front*, they cover the centre rank correctly, at one pace diſtant from it. The company then fixes bayonets, faces to the left and reſumes its proper poſition in line.

Obſervations.

The number of paces mentioned in the ſeveral movements are not poſitively preſcribed, but are ſuppoſed to be nearly ſuch as will give the intended relative ſituations. If the ground allows the marches to the rear and front to be longer, it will be ſo much the better.

The colonel ſhould give all his commands from the rear of the battalion. No commanding officer ſhould attempt, in the face of the general, to put the regiment through any of the manœuvres without being himſelf perfectly and minutely acquainted with the principles on which each is performed. He will thus avoid the diſgrace of calling to his adjutant for inſtruction, or galloping full ſpeed to the flank of the battalion by way of rectifying a miſtake which his ignorance and temerity has brought him into, and which he cannot remedy but by recurring for advice either to the other mounted officers, or to the ſerjeant-major in the rear.

When the reviewing general has ſeen the battalion go through ſuch of the ordered manœuvres as he judges neceſſary, he will, that he may be able to report on the merits of its performance, among other circumſtances, particularly obſerve and ſpecify, whether or not the original formation of the battalion is according to order.

The marches are made with accuracy, at the required time and length of ſtep, and on ſuch objects as are given. The proper diſtances in column and echellon are at all times preſerved. The wheelings are made juſt, and in the manner preſcribed. The formations in line are made true, without falſe openings, or neceſſity of correction. The officers are alert in their changes of ſituation, exact in their own perſonal movements, and loud, decided, and pointed in their words of command. The march in line is uniformly ſteady, without floating, opening, or cloſing. The march in file cloſe, firm, and without lengthening out. The officers, and ſupernumeraries give the aids required of them with due quickneſs and preciſion. Hurry and unneceſſary delay in the movements, are equally to be avoided. In the firings, the loading is quick, the levelling juſt, the officers animated and exact in their commands.

Form of ſending for, and lodging the colours. The battalion being in line, the commanding officer orders the grenadier drummers to beat the drummer's call; on which the two youngeſt enſigns recover their ſwords, face to the right, and march between the line of officers and the front rank, till they come to the head of the grenadiers, where they halt, front, and bring their ſwords to the port. The drum-major, with a party of drummers and fifers, will likewiſe face to the right, and march to the head of the grenadiers, placing themſelves between the enſigns and the front rank. The grenadier captain then makes his company take cloſe order, and will either wheel them by ſubdiviſions, or march them in one. If by ſubdiviſions, he places himſelf on the pivot flank of the firſt, the eldeſt lieutenant on that of the ſecond, and the other lieutenant in the ſupernumerary rank of the firſt; but if the company is marched in one diviſion, the two lieutenants are in the ſupernumerary rank. The company then marches, in ordinary time, to the quarters where the colours are lodged, when it halts, and rear ranks take open order. The drum-major unfurls the colours, and gives them out of a window to the enſigns, who on halting had ſheathed their ſwords. The captain then orders his men to preſent arms. Officers ſalute, and the drummers beat a point of war, which finiſhed, he ſhoulders arms, cloſes the ranks, and marches them off in ordinary time, the drummers beating the grenadier's march. On arriving at the left flank of the regiment, the company faces to the right, the enſigns with the colours march in front of the line of officers, the grenadier officers between them and the front rank, as alſo the drums and muſic, and the grenadiers in files, between the other ranks. The commanding officer of the regiment, as ſoon as the colours arrive on the left flank, orders the battalion to preſent arms, the officers ſalute; the muſic plays God ſave the king, and the drummers beat the troop. On the colours arriving in the centre of the battalion, the enſigns halt and front, and, when the grenadiers have taken poſt on the right, the battalion is ordered to ſhoulder arms.

When the colours are to be *lodged*, on the drummer's call being beat, the enſigns, the drum-major, and a party of drummers and fifers, march and take poſt in the front of the grenadiers. The battalion preſent arms, officers ſalute, muſic plays, and drums beat. On the captain of grenadiers marching off with the colours, drummers beat the troop. When they arrive at the houſe, or place where they are to be lodged, the drum-major receives them at a window, the grenadiers preſent arms, officers ſalute, and drummers beat a point of war. The enſigns on quitting the colours, draw their ſwords, and ſalute with the other officers. The captain will either march his company back, or diſmiſs them, as he may be ordered by the commanding officer.

When the colours are not to be received, or lodged in form, the ſerjeant-major, with four ſerjeants in the centre of the battalion, will take the colours caſed, from, or to the place where they are kept, in the following manner. Serjeant-major, the two front rank ſerjeants carrying the colours on their ſhoulders, covered in the rear by the two other ſerjeants and the drum-major, who is to receive them when they arrive at the place of their deſtination. No compliment is paid by the battalion in this caſe, and they are generally ſent away when the ranks are cloſed. When the regiment is ordered for a field day, the colours ſhould never be received or lodged in form, as it takes up too much time.

The following is at preſent the *detail* of the battalion. Field officers—one colonel, one lieutenant-colonel, one major, (by a late regulation field officers have no companies,) ten captains, twelve lieutenants, and eight enſigns. There is no captain-lieutenant. Staff officers—one adjutant, one pay-maſter, one quarter-maſter, one ſurgeon, one aſſiſtant-ſurgeon. Non-commiſſioned officers—one ſerjeant-major, one quarter-maſter ſerjeant, thirty ſerjeants, thirty corporals. Drummers—one drum-major, twenty-one drummers and fifers. Privates—five hundred and ſeventy.

Rules and regulations for his Majeſty's forces. Ruſſell's Inſtructions for the Drill, London, 1803, &c. &c.

BATTARDEAUX, in *Bridge-building*. See Coffer-*dams*.

BATTATA, in *Botany*. See Dioscorea.

BATTATAS. See Helianthus.

BATTAWAY, in *Geography*, a town of Africa on the Grain Coaſt, eaſily known at ſea by two large rocks, two miles diſtant from the ſhore to the weſt, and alſo by ſome high mountains behind the town. This is one of the beſt built places on the coaſt; populous and rich, and trades extenſively in pepper and ivory. The people, however, are addicted to thieving.

BATTEAU. See Bateau.

BATTEL, in *Geography, Law, &c.* See Battle.

BATTEN, in *Carpentry*, a name which the workmen give to a ſcantling of wooden ſtuff from two to four inches broad,

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and about an inch thick; the length being pretty conſiderable, but undetermined.

The term is chiefly uſed in ſpeaking of doors, &c. which are not framed of whole deal, &c. with ſtiles, rails, and pannels like wainſcot, but are made to appear as if they were, by means of theſe pieces, or battens, bradded on the plain board round the edges, and ſometimes croſs them, and up and down.

Hence batten doors, or windows, are ſuch as ſeem to be wainſcot ones, but are not. Theſe are ſaid to be either ſingle or double, as the battens are fitted on to one ſide, or to both.

Battens *of the hatches*, in *Sea-language*, are nailed along the tarpaulings, and ſerve to keep their edges cloſe down to the hatches, in order to prevent the water which waſhes over the deck from penetrating into the lower apartments of the ſhip.

Batten, in *Geography*, a town of Germany, in the circle of the Upper Rhine, and principality of Upper Heſſe, 16 miles ſouth weſt of Waldeck, and 16 north weſt of Marburg.

BATTENBURG. See Batenbourg.

BATTEN *Kill*, a ſmall river of America, which riſes in Vermont, and after running north and north-weſterly about 30 miles, falls into Hudſon, near Saratoga.

BATTERBURY, or Batterby *bay*, lies on the weſt coaſt of Ireland, about two miles north eaſt from Convitt iſlands. It has a narrow entrance, but is above 4 miles broad. N. lat. 53° 19′. W. long. 10° 22′.

BATTERIE, is a French term in *Muſic*, for that kind of *arpeggio*, or breaking of chords in a diſtinct and detached manner, different from common *arpeggios*, in the execution of which on keyed-inſtruments, no finger is taken off till the note aſſigned it is again wanted; and when, on the violin the notes of a chord are not, as uſual, ſwept up and down in one bow, but either all to be bowed or ſeparated by a tremulous motion of the bow.

In this article of the Encycl. Meth. after the definition of the term Batterie, and a neceſſary addition by M. Framery, are inſerted, the Abbé Feytou takes the pen, and in treating the ſubject metaphyſically, manifeſts deep reflexion and ſcience in the theory of ſound; but with a total diſregard to the practice of the greateſt compoſers and performers, who have produced pleaſing effects by the very means which he prohibits.

BATTERING-Ram. See Aries.

Battering-*Rams*, in *Heraldry*, a bearing or coat of arms reſembling the military engine of the ſame name.

Battering, the attacking a place, work, or the like, with heavy artillery. See Battery.

To Batter *in Breach*, *battre en breche*, is to play furiouſly on a work, as the angle of a half moon, in order to demoliſh and make a gap or breach in it.

In this, they obſerve never to fire a ſingle piece againſt the top of the wall, but all towards the bottom, from three to ſix feet from the ground; they alſo fire *par camarade*, all together, till they perceive the earth fall from behind the lining of the rampart.

Battering *Pieces*, or pieces of battery. See Cannon.

BATTEROW, in *Geography*, lies on the weſt coaſt of Africa, 2 leagues from Dixcove, and 5 leagues more from cape Three points to the north of the eaſt.

BATTERSEA, a village and pariſh near London, in the county of Surry; where above 300 acres of land are occupied by the market gardeners, of whom there are about twenty, who rent from 5 or 6 to nearly 60 acres each. The gardens at Batterſea pay ſeven ſhillings and ſixpence per acre for tythes to their vicar. Lyſons's Environs of London, vol. i. p. 27.

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